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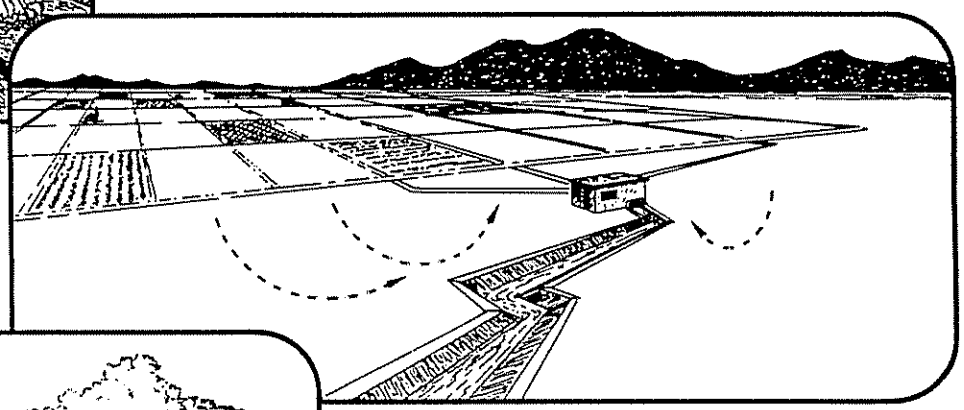

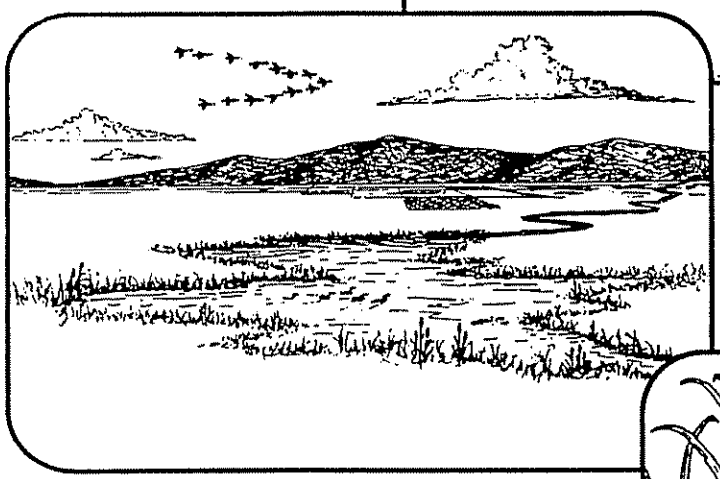

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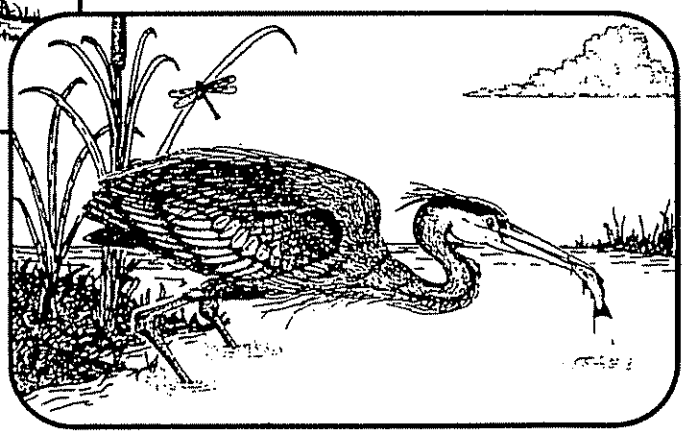

U.S. Geological Survey
Open File Report 93-83

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DATA FROM FEDERAL STUDY OF SALTON SEA AREA RELEASED

A new report by the U.S. Department of the Interior contains data that support earlier evidence of potential toxic contaminants in the Salton Sea area. These contaminants, including selenium, are associated with irrigation drainage at concentrations that could pose a threat to human health, fish, and wildlife. A reconnaissance investigation of the area in 1986-87 led to a decision to do a more detailed study. This new report, released by the U.S. Geological Survey (USGS), presents data collected for the detailed study by the USGS and the U.S. Fish and Wildlife Service, in cooperation with the California Regional Water Quality Control Board (Colorado River Basin Region), Imperial Irrigation District, the U.S. Bureau of Reclamation, and the U.S. Bureau of Indian Affairs.

(more)

Copies of U.S. Geological Survey Open-File Report 93-83, "Physical, Chemical, and Biological Data for Detailed Study of Irrigation Drainage in the Salton Sea Area, California, 1988-90," by Roy A. Schroeder, Mick Rivera, and others, are available for purchase from the U.S. Geological Survey, Earth Science Information Center, Open-File Reports Section, Box 25286, MS 517, Denver Federal Center, Denver, CO 80225. The price of the paper copy is $27.75; microfiche is $4.00. When ordering, please mention the Open-File Report number and the full title of the report. Prepayment is required. Check or money order, in the exact amount, should be made payable to U.S. Geological Survey, Department of Interior. The report is available for inspection at the following offices and libraries:

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****USGS****

PHYSICAL, CHEMICAL, AND BIOLOGICAL DATA FOR DETAILED STUDY OF IRRIGATION DRAINAGE IN THE SALTON SEA AREA, CALIFORNIA, 1988-90

By Roy A. Schroeder[1], Mick Rivera,[2] *and* others

[1]U.S. Geological Survey
[2]U.S. Fish and Wildlife Service

U.S. GEOLOGICAL SURVEY

Open-File Report 93-83

U.S. GEOLOGICAL SURVEY
U.S. FISH AND WILDLIFE SERVICE
U.S. BUREAU OF RECLAMATION
U.S. BUREAU OF INDIAN AFFAIRS

and in cooperation with
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD--COLORADO RIVER BASIN REGION

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Sacramento, California
1993

U.S. DEPARTMENT OF THE INTERIOR
BRUCE BABBITT, Secretary

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PREFACE

The following individuals (agency affiliations are at the time of this study) participated in the collection and analysis of samples, compilation of data, and preparation of this report.

Roy A. Schroeder, U.S. Geological Survey, San Diego, California, participated in most field operations for the geochemical aspects of the study, did the laboratory experiments for tables 17 and 18, and prepared that part of this report related to tables 1-18 done by the U.S. Geological Survey.

Mick Rivera, U.S. Fish and Wildlife Service, Carlsbad, California, participated in field operations for the biological aspects of the study and prepared that part of this report related to tables 19-24 done by the U.S. Fish and Wildlife Service.

Brenda J. Redfield, U.S. Geological Survey, San Diego, California, compiled and reformatted data tables received in various forms from other agencies, offices, and individuals and assisted in the data-table verification process.

Jill N. Densmore, U.S. Geological Survey, San Diego, California, collected surface-water and ground-water quality data that are presented in tables 2, 4, 5, and 10 and that also were used by her to prepare an M.S. thesis at San Diego State University.

Robert L. Michel, U.S. Geological Survey, Reston, Virginia, obtained the tritium data presented in tables 6 and 16 and included elsewhere with additional water-quality data in various other tables.

Daniel R. Norton, U.S. Geological Survey, Denver, Colorado, analyzed soils and soil extracts that provided the data presented in tables 11-15.

Daniel J. Audet, U.S. Fish and Wildlife Service, Carlsbad, California, was the co-principal investigator with the project chief (Steven L. Goodbred) for collection of the biological data presented in tables 22 and 23.

James G. Setmire, U.S. Geological Survey, San Diego, California, served as project chief for the U.S. Geological Survey's part of this study, collected sediment and water-quality data from the Alamo River delta presented in table 7 and figure 4, and had primary responsibility for preparation of that agency's contribution to the interpretive report.

Steven L. Goodbred, U.S. Fish and Wildlife Service, Carlsbad, California, was project chief for the U.S. Fish and Wildlife Service's part of this study and had primary responsibility for preparation of that agency's contribution to the interpretive report.

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Conversion Factors, Vertical Datum, and Abbreviations

Conversion Factors

Multiply	By	To obtain
acre	0.4047	hectare
acre	4,047	square meter
cubic foot per second (ft^3/s)	0.02832	cubic meter per second
foot (ft)	0.3048	meter
gallon (gal)	3.785	liter
gallon per minute (gal/min)	0.06308	liter per second
inch (in.)	25.4	millimeter
mile (mi)	1.609	kilometer

Temperature is given in degrees Celsius (°C), which can be converted to degrees Fahrenheit (°F) by the following equation:

$$°F=1.8(°C)+32$$

Isotope composition is expressed in permil (parts per thousand).

Vertical Datum

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929--a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

Abbreviations

L/min - liter per minute
L/hr - liter per hour
µg/L - microgram per liter
µg/g - microgram per gram
µS/cm - microsiemen per centimeter at 25°C
µm - micrometer
mg/L - milligram per liter
mL - milliliter
mm - millimeter
PCB - polychlorinated biphenyl
pCi/L - picocurie per liter
PVC - polyvinyl chloride

PHYSICAL, CHEMICAL, AND BIOLOGICAL DATA FOR DETAILED STUDY OF IRRIGATION DRAINAGE IN THE SALTON SEA AREA, CALIFORNIA, 1988-90

By Roy A. Schroeder,[1] Mick Rivera,[2] *and* others

Abstract

This report contains physical, chemical, and biological data associated with irrigation drainage in the Salton Sea area collected during the late 1980's. The data were collected in support of the U.S. Department of the Interior's National Irrigation Water Quality Program in the Western United States to evaluate effects on the environment from potential toxins in irrigation-induced drainage. The data have been used to support interpretations in several recent publications. This data report is the companion to a comprehensive U.S. Geological Survey interpretive report that describes the geochemical and biological pathways of potential toxins, especially selenium, in the study area.

The report contains data on concentrations of a broad suite of trace elements in soil, irrigation (Colorado River) water, drainwater, surface water (including the Salton Sea), ground water, aquatic plants, invertebrates, amphibians, reptiles, fish, birds, bird eggs, and turtle eggs. Included, also, are light stable isotope (hydrogen, oxygen, carbon, nitrogen, and sulfur), tritium, and radiocarbon data for selected aqueous samples and organochlorine-pesticide concentrations in biota.

Geochemical samples were collected from more than 100 drainwater-collection sites, several surface-water locations, 15 fields, 3 multiple-depth lysimeter and piezometer installations, and the Alamo River delta on the southeastern shore of the Salton Sea, and from laboratory evaporations of Colorado River water.

Biological samples were collected from 39 sites, including 16 Salton Sea shore locations, 5 streams, 7 freshwater impoundments, 11 drainwater ditches, and 2 additional locations in the Imperial Valley.

INTRODUCTION

In response to concerns about irrigation-induced water-quality problems and their potential effects on biota, the U.S. Department of the Interior (DOI) began a study in the Salton Sea area, California, in 1986. The study was part of the DOI National Irrigation Water Quality Program (NIWQP). The initial phase of the Salton Sea area investigation was a reconnaissance, completed in 1987, that led to a decision to do a more detailed study in the Imperial Valley. The results of the reconnaissance were reported by Setmire and others (1990b).

This report presents the data from a detailed study done during 1988-90. The detailed study was a joint effort conducted by scientists from the U.S. Geological Survey (USGS) and the U.S. Fish and Wildlife Service (USFWS). The USGS was responsible for determining the hydrologic and geochemical factors affecting concentrations of irrigation-induced contaminants, particularly selenium, and the USFWS was responsible for identifying pathways of contaminant accumulation in biota. Results of the detailed study will be used as part of the information needed for

[1]U.S. Geological Survey
[2]U.S. Fish and Wildlife Service

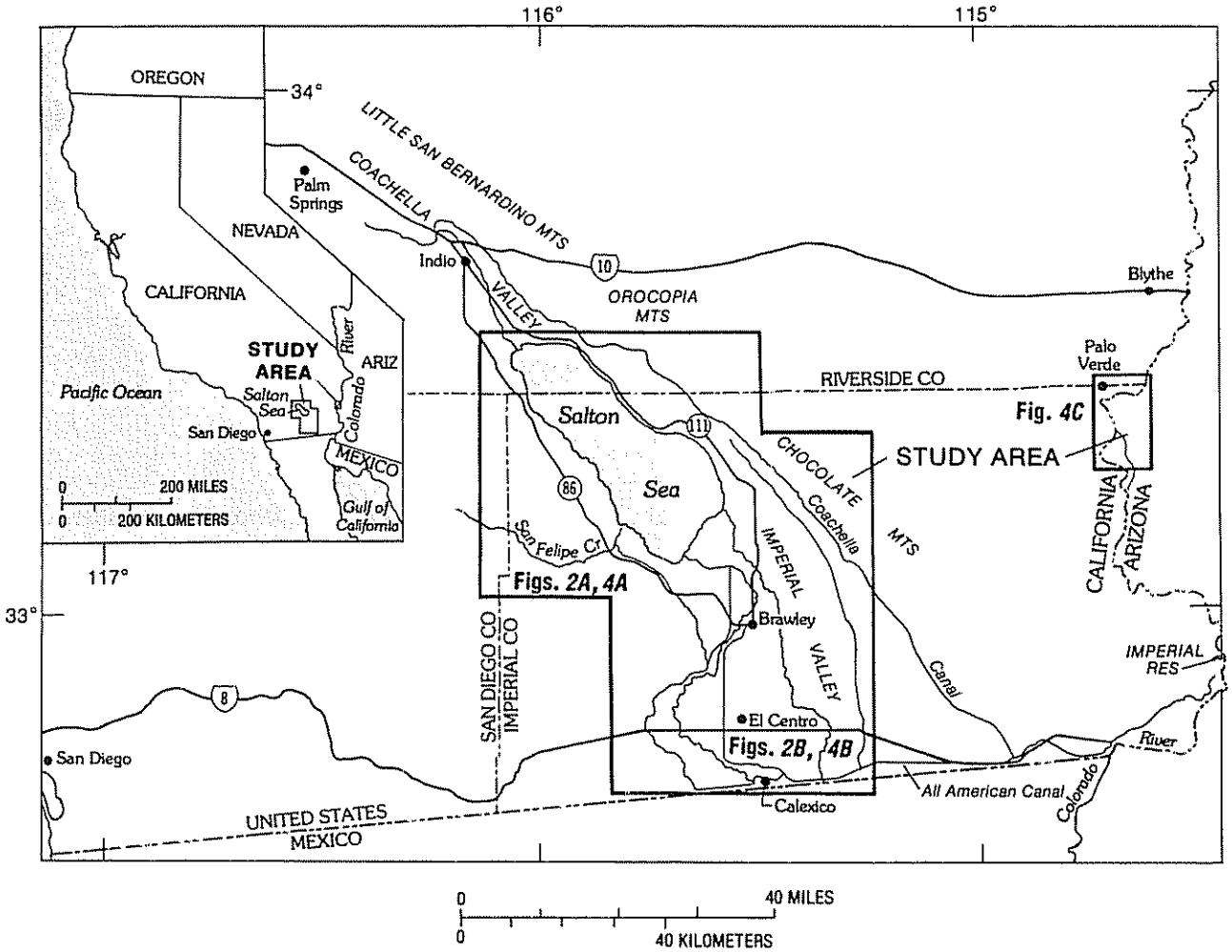


Figure 1. Location of study area.

planning and conducting remediation efforts under direction of the U.S. Bureau of Reclamation.

IRRIGATION AND DRAINAGE SYSTEMS IN THE IMPERIAL VALLEY

The central part of the Imperial Valley consists of 500,000 acres of irrigated and drained farmland in the desert area of southeastern California (fig. 1). Irrigation water is obtained by gravity diversion of water from the Colorado River, via the All-American Canal, to (from east to west) the East Highline, Central Main, and Westside Main (and its Trifolium Extension) Canals (fig. 2*B*). These canals supply numerous smaller canals throughout the valley. Drains at a depth of 6 to 10 ft carry subsurface water containing dissolved salts to sumps at the tail end of selected fields or discharge directly to drainage ditches. All drainwater ultimately is discharged to the Salton Sea, either directly from drainage ditches or by way of the New and Alamo Rivers.

The Alamo River discharges to the Salton Sea at the northern unit (Unit 2) of the Salton Sea National Wildlife Refuge (SSNWR), and the New River and Trifolium Drain 1 discharge at the southern unit (Unit 1) of the refuge (fig. 2*A*). The proportions of total discharge that originates from use within the Imperial Valley—for the New River, Alamo River, and Trifolium Drain 1—are about 50, 99, and 100 percent, respectively. Sources of discharge to San Felipe Creek (fig. 2*A*) are precipitation in mountains to the west and ground water.

PURPOSE AND SCOPE

The purpose of this report is to present all data collected during the 1988-90 U.S. Department of the

Interior detailed study of irrigation-induced contamination problems in the Salton Sea area, along with a brief description of methods, principal reasons for collecting each of the various kinds of data, and unusual or special field observations. Also included are the results from pesticide and polycyclic aromatic hydrocarbon analyses of biological tissues collected during 1986-87 that were not published (analyses had not been completed) in the reconnaissance (Setmire and others, 1990b) report. This report is intended to serve as a companion and supplement to the interpretive report of the detailed study by Setmire and others (1993) that is based on these data. Other reports and abstracts published to date on this study include Schroeder and others (1988, 1989, 1991), Michel and others (1988), Michel and Schroeder (1989), Setmire and others (1990a, b), and Densmore (1991).

TYPES AND NUMBERS OF SAMPLES

Analytical data for the detailed study (sampling-site locations shown in figs. 2, 3, and 4) include the following:

1. A single synoptic sampling of drainwater from 108 sites in May 1988.
2. Monthly monitoring at 15 of the 108 drainwater sites for 1 year.
3. Monthly monitoring at six surface-water locations for 1 year.
4. Single collections of surface-water samples from several sources, including the Salton Sea.
5. Ground water from multiple-depth lysimeters and piezometers at three sites.
6. Soils and water extracts of soils (soil extracts) from fields at the 15 drainwater-monitoring sites and from cores at the 3 ground-water monitoring sites.
7. Evaporation and dilution laboratory experiments.
8. Collection of 276 biological samples from 29 sites for analysis of 67 organic analytes.
9. Collection of 363 biological samples from 36 sites for analysis of 23 inorganic analytes.

ANALYTICAL LABORATORIES AND METHODS

Aqueous chemical analyses were done at the USGS National Water Quality Laboratory (NWQL) in Arvada, Colorado, using methods described by Fishman and Friedman (1989) and Pritt and Jones (1989). These references also give general information on analytical sensitivity and precision for the laboratory analyses. Stable hydrogen- and oxygen-isotopes and tritium were analyzed at the USGS Isotope Laboratory in Reston, Virginia. The stable-isotope ratios were determined by mass-spectrometry, as concentration ratios for hydrogen and as activity ratios for oxygen. Tritium was analyzed by liquid-scintillation counting following electrolytic enrichment. Other isotopes of carbon, nitrogen, and sulfur were analyzed by NWQL-contract laboratories. Precision (1σ) is 0.1 to 0.2 permil for $\delta^{13}C$, $\delta^{15}N$, and $\delta^{18}O$; 1 to 2 permil for δD and $\delta^{34}S$; about 1 percent modern carbon for ^{14}C near the reporting limit; and ranges from about 1 pCi/L for ^{3}H at concentrations near zero to about 3 percent on the basis of counting statistics at concentrations above ambient irrigation-water (Colorado River water) concentration. Stable-isotope ratios are reported in standard notation relative to ratios in commonly used standards (Fritz and Fontes, 1980).

Chemical analyses of soils and soil extracts were done by the USGS Branch of Geochemistry in Denver, Colorado. Methods for analysis of soil extracts were similar to those used by the NWQL. Analysis of extractable (readily soluble) salts was done by overnight extraction with a 5-to-1 weight ratio of deionized water to soil. Shallow-soil and core samples were stored and shipped in wide-mouth plastic containers to the laboratory, where they were prepared for analysis by drying and grinding (to pass an 80-mesh [0.18-mm] sieve), followed by complete dissolution with an oxidizing agent and strong mineral acids. Methods for analysis of soils were identical to those used by Severson and others (1987) in the reconnaissance phase of this study, and quality-assurance and analytical precision standards are given by Arbogast (1990). Forty-element scans were done by inductively coupled argon-plasma atomic emission spectrometry (ICP). Arsenic and selenium were analyzed by hydride-generation atomic absorption, and boron concentrations were determined in hot-water extracts.

Grain-size analyses of cores and shallow soils were done at the USGS Sediment Laboratory in Salinas, California, using sieves for the coarse fraction and hydrometers for the fine fraction as described by Guy (1969).

Chemical analyses of biological samples were done at contract laboratories. The contract was administered by the USFWS Patuxent Analytical Control Facility in Laurel, Maryland, which also was responsible for ensuring quality control and quality assurance. Methods used for analysis of biological samples are those prescribed in a USFWS procedures

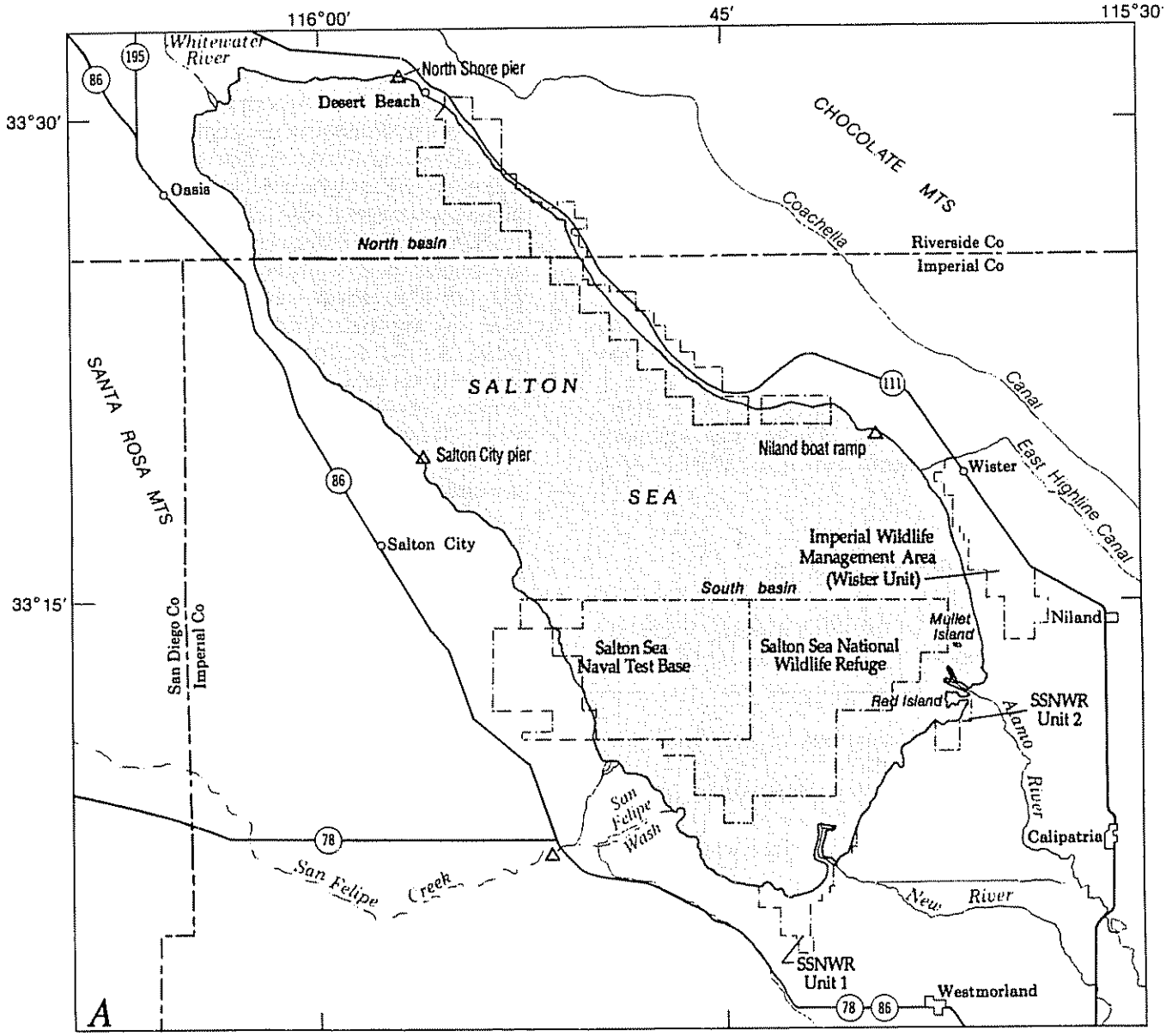


Figure 2. Water-sampling sites in the study area. ***A,*** San Felipe Creek and Salton Sea (August 1988 sampling). ***B,*** Imperial Valley. Location of map areas shown in figure 1.

manual (USFWS, 1985a). Instruments and methods used for trace-element analysis (Lowe and others, 1985) are the same as those used by the USGS (Fishman and Friedman, 1989). Mercury, which was determined in biological tissues only (not in soil and water) for this study, was analyzed by cold-vapor atomic absorption. Gas-liquid chromatographic methods used to analyze organochlorine compounds also are similar to those in use by the USGS (Wershaw and others, 1987). Polycyclic aromatic hydrocarbons on crayfish and tilapia collected in 1987 during the reconnaissance were analyzed by gas chromatography-mass spectrometry. Concentrations of constituents in biota are reported on a dry-weight basis for trace elements

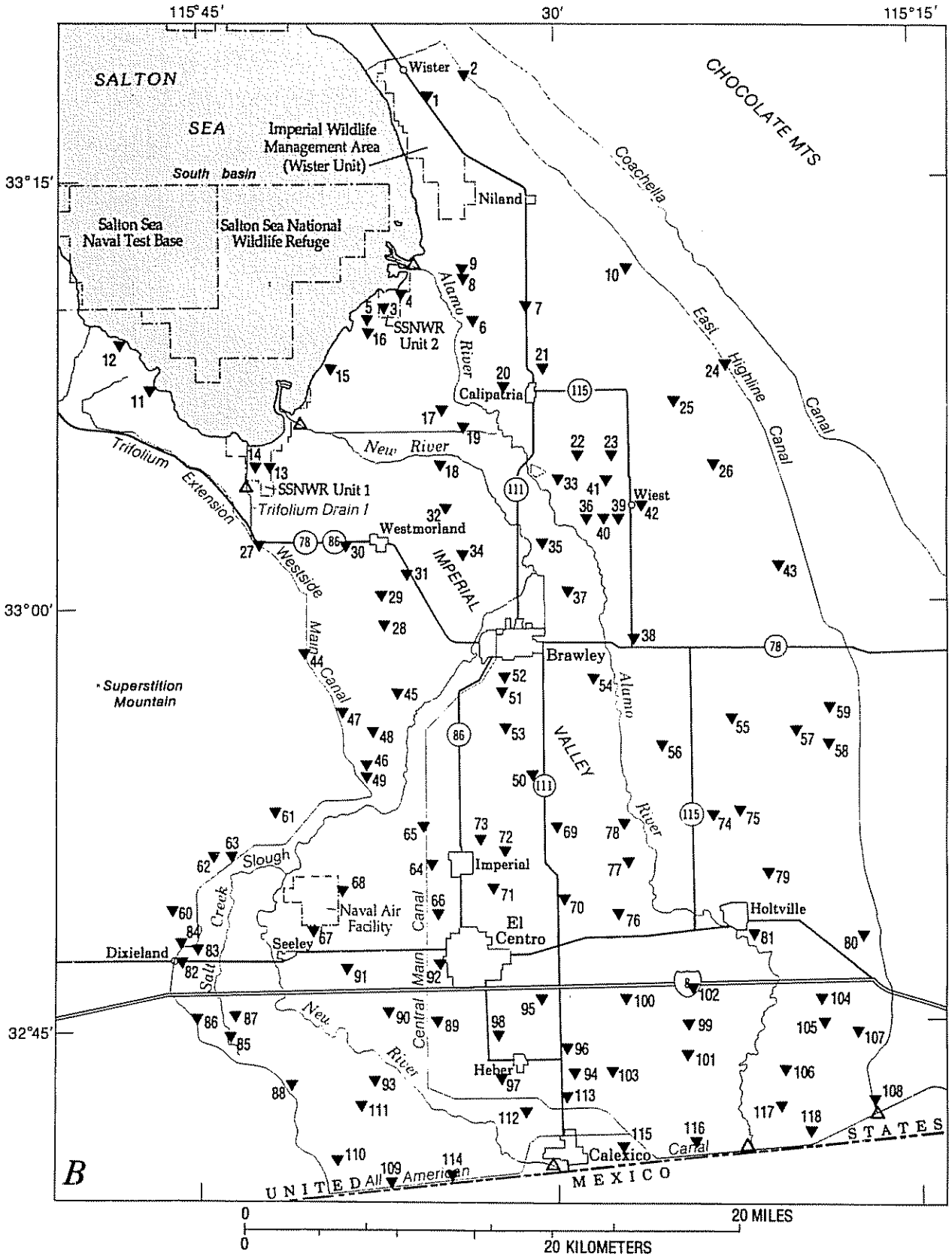
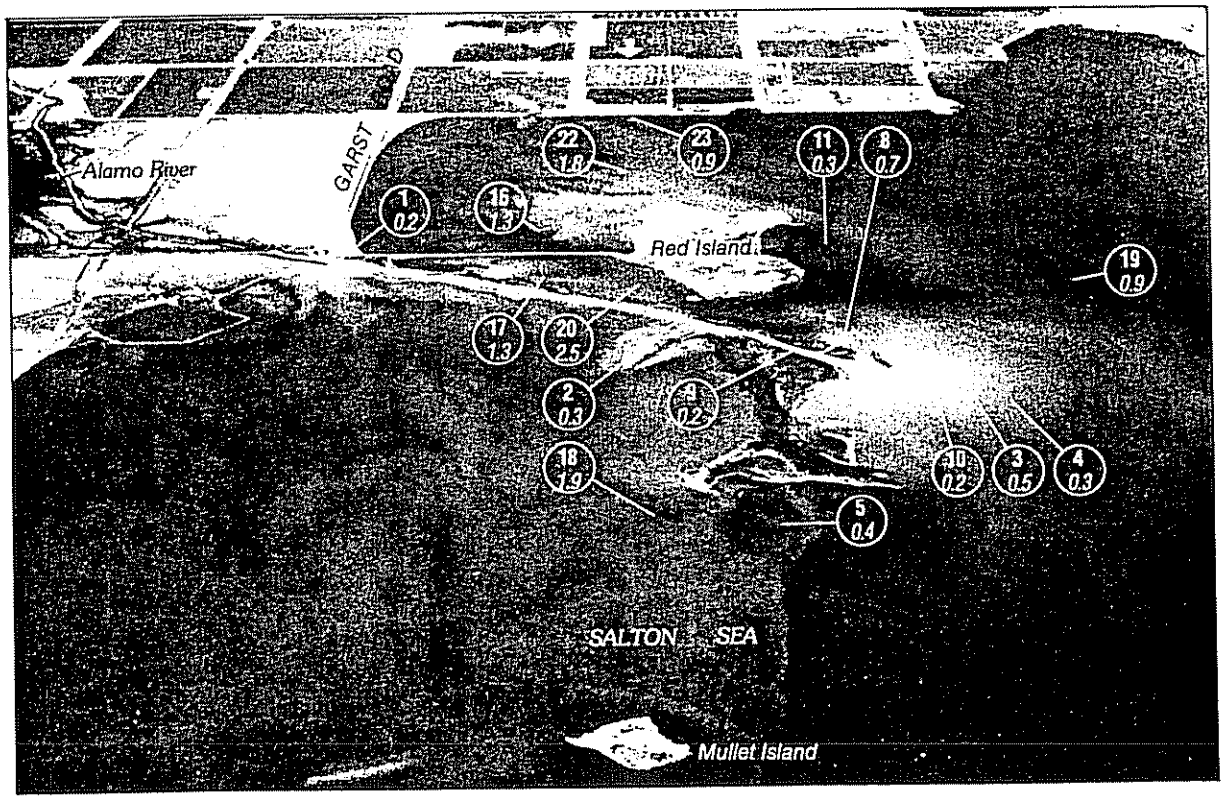


Figure 2. *Continued.*



EXPLANATION

5 — Site number

0.4 — Selenium concentration– In micrograms per gram

Figure 3. Water- and sediment-sampling locations, and selenium concentration in surficial sediments, in the Alamo River delta.

and on a wet-weight basis for organochlorine and polycyclic aromatic hydrocarbon compounds.

To maintain internal consistency within the entire data set, results are reported herein without correction for unknown analytical or occasional transcription errors that may occur during transfer of the data into permanent computer storage. When large, such errors usually are apparent as data outliers (especially when multiple samples were collected over a period of time) and from comparisons between constituents; on the basis of cursory inspection of the data, such errors are believed to represent less than 1 percent of the data set.

ACKNOWLEDGMENTS

The U.S. Department of the Interior provided most of the support for this study. The authors also thank the California Regional Water Quality Control Board, Colorado River Basin Region, for additional financial support and for field assistance with the May 1988 sampling of drainwater sites, and the Imperial Irrigation District for procuring access to sites and for assistance in the coring of shallow soils.

DRAINWATER DATA

The Imperial Irrigation District uses letters followed by numerals to designate drainwater-discharge sites in the Imperial Valley. The letter designations are "TD" for subsurface drains that discharge directly to a drainage ditch, "S" for sumps that collect drainwater from a network of subsurface drains at the corner of a field and then discharge to ditches, and "SS" for sumps that are adjacent to the Salton Sea. (Some sumps designated "S" also are near the Salton Sea, and a few even discharge directly to the Salton Sea.)

As of 1990, when this study was completed, 532 drainwater sumps (9 of which were subsequently removed or placed out of service) had been installed in the Imperial Valley. Thirty of the sumps are designated "SS." In addition, there are about 3,700 drains which are designated "TD" and which discharge directly to ditches. The first subsurface drains were installed in the Imperial Valley in 1928, and the first sump was installed in 1947. The historical pattern of sump installation is depicted in figure 5 (S.R. Knell, Imperial Irrigation District, oral and written commun., 1991). The historical pattern of subsurface-drain installation (Moore, 1991, fig. 19, p. 88) is similar to that of sump installation. The annual rates of installation are highest from the early 1950's to the early 1970's. More than 30,000 mi of subsurface drains had been installed by 1990 (Moore, 1991).

It should be noted that the term "drainwater," used during this study to refer to water in the sumps, includes not only subsoil moisture from interior parts of the field, but also rapid-percolation irrigation water directly above the subsurface drains; ground water; leakage from nearby canals, ditches, and ponds; and possibly even stormwater and tailwater in unusual circumstances.

Water samples from drains that discharge directly to a ditch were obtained in a 5-gallon plastic bucket held beneath the lip of the drain. Instantaneous discharge was measured by timing the rate at which the bucket filled. Water samples from sumps were obtained in a similar manner after manually activating the pump, causing the sump to discharge its contents through a pipe into a nearby ditch. Instantaneous discharge to the sump then was calculated as the sump refilled by multiplying sump diameter (90 in.) and rate at which the water level rose in the sump as measured on a vertical stem attached to the float. Accuracy of discharge measurements is estimated to be about 20 percent at most sites, and somewhat poorer at a few sites where flow to the sump was either extremely high or near zero.

Most drainwater samples were free of visible particulates. Occasional samples contained a few large particles derived from encrusted mineral deposits and soils, either in the sump itself or on the lip of the discharge pipe; such particles were readily removed from the sample by rapid gravitational settling.

1988 SYNOPTIC SAMPLING AT 108 SITES

Drainwater samples were collected from 108 sites in the Imperial Valley during May 16-20, 1988, to determine spatial variation in drainwater quality and to compare with and expand on results of a similar synoptic sampling done by the California Regional Water Quality Control Board during June 24-July 10, 1986. The 1986 sampling included 119 sites that subsequently were located with the aid of Imperial Irrigation District's canal and drainage maps and USGS quadrangle maps. Eleven of the 119 sites were not resampled in the 1988 synoptic because they were no longer in service, contained no water, or could not be found by field personnel. Results from the 1986 synoptic sampling (P.A. Gruenberg, California Regional Water Quality Control Board, written commun., 1987) are given in table 1, and results from the 1988 synoptic sampling are given in table 2. The location of drainwater sampling sites is shown in figure 2*B*.

All drainwater samples collected from the 108 sites in May 1988 were analyzed for selenium and a few other constituents. In addition, about one-third of the samples were analyzed for a broad suite of chemical and isotopic constituents. These data are the principal basis for the conclusion that evaporation of irrigation water supplied by the Colorado River is the primary geochemical mechanism controlling selenium concentrations in Imperial Valley drainwater (Schroeder and others, 1991, and Setmire and others, 1993). Eighty percent of the sumps sampled had a Se/Cl ratio ranging from 0.5 to 2 times the ratio (of 2.2×10^{-5}) in Colorado River water (refer to the section "Evaporations of Irrigation Water" presented later in this report). For those sumps in which the ratio lies above this range, leaching of selenium from the soil is thought to be the predominant geochemical mechanism controlling selenium concentration (Schroeder and others, 1991). Only 5 percent of the sumps had a Se/Cl ratio greater than 4.4×10^{-5}, and the highest ratio measured exceeds the ratio in irrigation water by only a factor of 3. Fifteen percent of the sumps had a Se/Cl ratio less than 1.1×10^{-5}, and the ratios for half of these were about one-tenth the ratio in irrigation water, or less. At these sites, there exists a substantial sink for selenium believed to be the result of microbial reduction within the local field and (or) intrusion of deeper selenium-deficient ground water into shallow drains (Schroeder and others, 1991).

Drainwater samples were collected from eight sites (three sumps and five tile drains) in 1986 during the reconnaissance study. Six of the eight sites were resampled in August 1988, and results from both years are given in table 3.

1988-89 MONTHLY MONITORING AT 15 SITES

Samples from 15 of the drainwater-collection sites were collected monthly during 1988-89 to check for

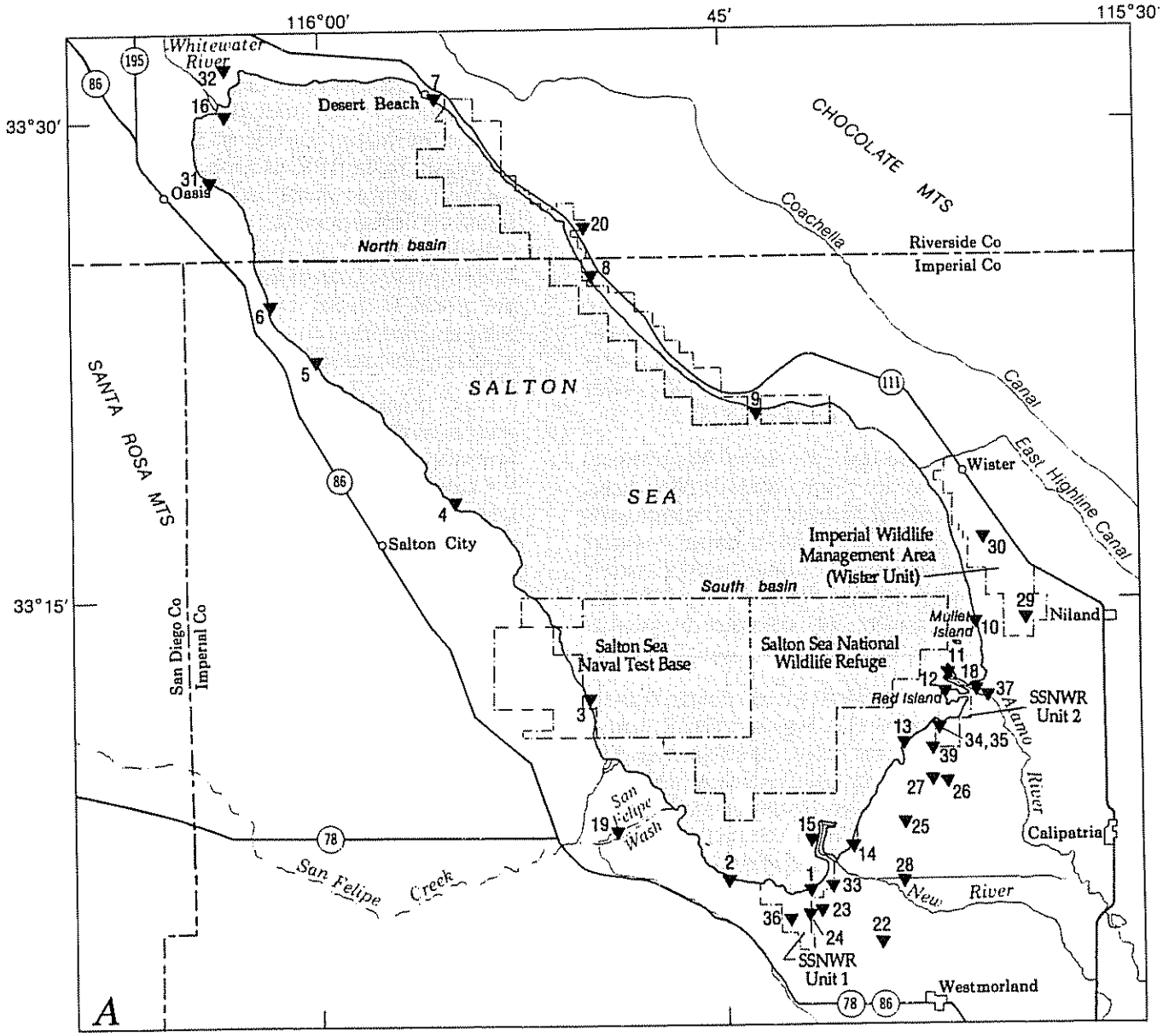


Figure 4. Biological sampling sites in the study area. ***A,*** Salton Sea. ***B,*** Imperial Valley. ***C,*** Colorado River near Palo Verde, California. Location of map areas shown in figure 1.

temporal variations in drainwater quality and to compare the results with soils and soil-extract data from fields that drain to these sumps. The 15 sites were chosen with the intent of obtaining good areal coverage over the valley and to represent sites with moderate to high concentrations of selenium. Results from the monthly monitoring are given in table 4.

To document the expected minimal effect of filtration on most constituent concentrations, the last monthly sample, collected in August 1989, was filtered through a 0.45-µm membrane. The results can be compared with those of unfiltered samples collected in the prior months. In addition, concentrations of selenium (and a few other constituents) were deter-

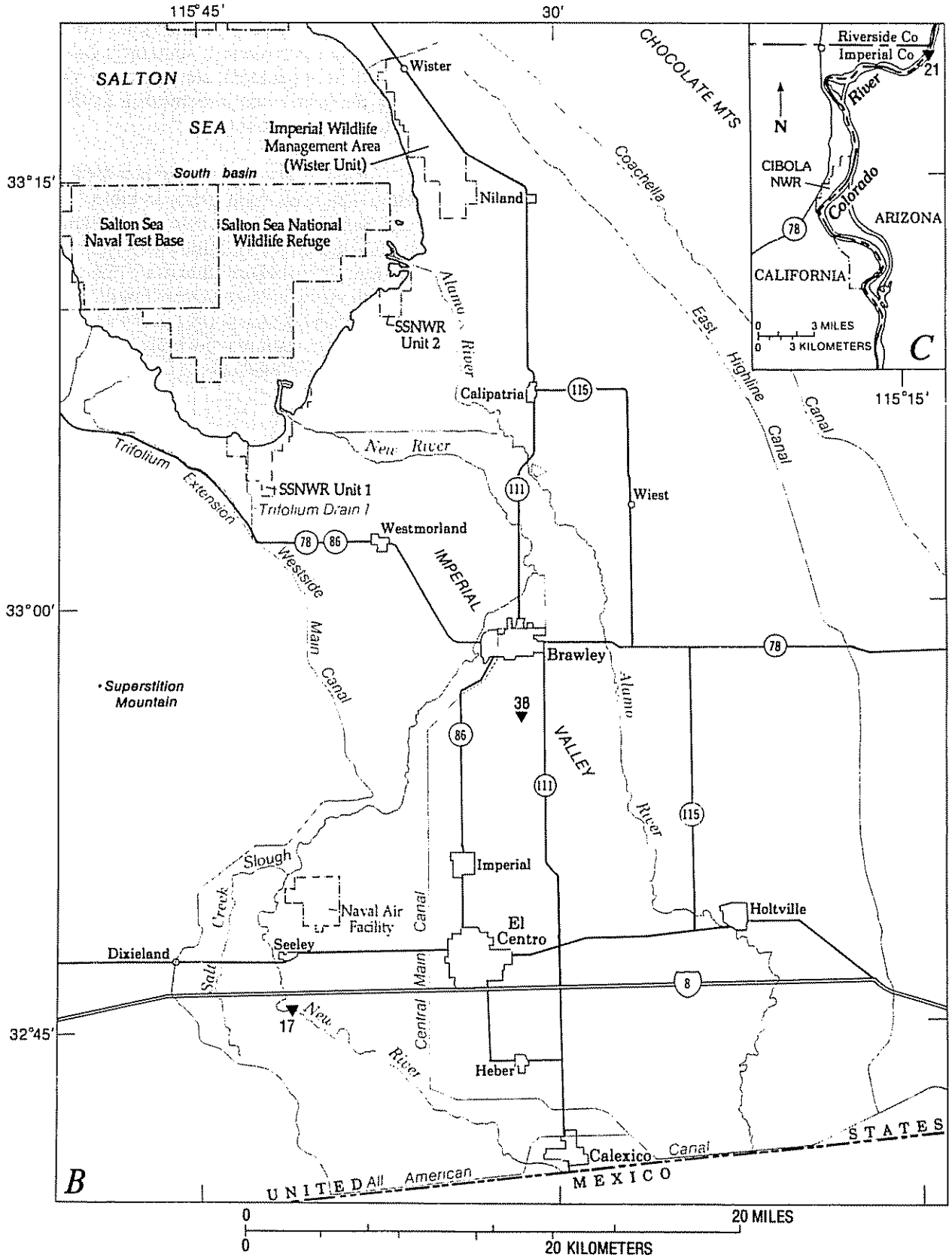


Figure 4. *Continued.*

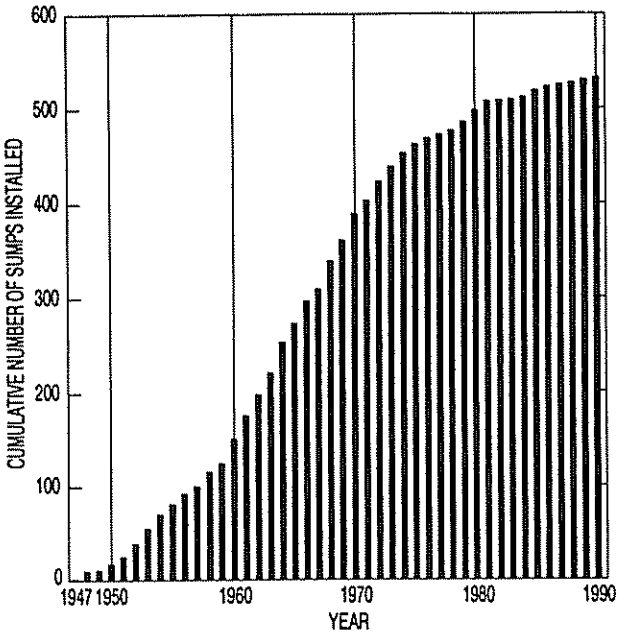


Figure 5. Historical increase in number of drainwater sumps installed in the Imperial Valley.

mined for unfiltered samples from the last collection, and these data are given in the bottom row for each site in table 4. Data from the filtered sample are given in the preceding row.

Of the 15 sites, 14 showed visible evidence of recent irrigation or had measurable drainwater discharge during the period of monitoring. Sump S-142, at site 33, was not receiving drainwater flow during any of the sampling dates, and the soil's surface frequently showed no visible evidence of recent irrigation. Isotopic data for the winter period are believed to be anomalous—possibly owing to evaporation from the sump and absence of irrigation during this period until the sump was once again completely flushed prior to the April 10 collection.

SURFACE-WATER DATA

MONTHLY MONITORING AT SIX LOCATIONS

Surface-water samples from six locations were collected and analyzed in conjunction with monthly monitoring at the 15 drainwater sites. The data are given in table 5. The East Highline Canal represents irrigation water that is supplied to the Imperial Valley, and the New and Alamo Rivers and Trifolium Drain 1, where they discharge to the Salton Sea, represent the accumulated input of agricultural drainage in the Imperial Valley. All samples from the monthly collections were filtered. Quarterly data also include analyses of unfiltered samples that were collected using the equal-width-increment method and composited in a churn splitter.

Chemical data for a single sample from San Felipe Creek also are given in table 5. The sample from San Felipe Creek was a grab sample collected immediately west of Highway 78 just south of the junction of Highways 78 and 86. This collection site is upstream from the cultivated part of the San Felipe Creek subbasin that is irrigated with Colorado River water. The channel contained extremely shallow flows and isolated pools when the sample was collected.

Comprehensive data for water samples from the Salton Sea are given and described in a later section of this report.

HISTORICAL TRITIUM CONCENTRATIONS IN THE COLORADO RIVER

Tritium concentrations in surface water, ground water, and shallow soils were determined during this study to distinguish post-1950 irrigation water from older water in the Imperial Valley and to place time constraints on the percolation of irrigation water to subsurface drains. Historical tritium concentration data for the lower Colorado River at Imperial Dam (table 6) are essential to both objectives. The historical data were obtained from a national monitoring network operated by the USGS (Michel, 1989). All tritium concentrations are reported in picocuries per liter (pCi/L)—obtained by multiplying concentrations reported by the analyst in tritium units by 3.2. Annual average tritium concentrations, and concentrations adjusted for radioactive decay to 1988 (the year in which most drainwater, surface-water, and groundwater samples were collected for this study), are given in table 6. The average concentration of 90 pCi/L in 1988, which is based on the USGS monitoring of the Colorado River at Imperial Dam, can be compared with values of 82, 88, 90, and 96 pCi/L obtained for this study during August 1988 on water samples from the All-American and East Highline Canals.

ALAMO RIVER DELTA SAMPLING

Aqueous-profile and surficial-sediment chemical data were obtained along a transect across the Alamo

River delta (figs. 2*A*, 3) from the mouth of the river to the Salton Sea to determine the location of the mixing zone between freshwater and saltwater and to ascertain any areal trends in selenium concentration in the sediment. The location of sample-collection sites and the selenium-concentration data from sediment samples are shown in figure 3. Sediment samples were collected, using either a small Ekman dredge or a piston corer, in August 1988 and February 1989. See Stewart and others (1992) for data from samples collected in February 1989 and for a description of analytical methods, precision, and reporting limits.

Water samples were collected from an airboat; a Van Dorn sampler was used in deep water, and a wide-mouth glass bottle was used in embayments where water depths were less than about 1 ft. In addition, specific conductance, temperature, pH, and dissolved oxygen were measured in the field with a multi-parameter probe. Sampling was done in August 1988, February 1989, and August 1989. Results of these field measurements for selected (1988) samples are given in table 7. The freshwater/saltwater interface occurs over a very narrow horizontal distance. The interface is shown by the vertical profile to be at delta site 10, about 200 ft from the levee on the left bank of the Alamo River, where freshwater is present above the more dense Salton Sea water.

SELENIUM REDOX SPECIATION

Previous studies showed that a high proportion of selenium in the low-selenium water (that is, low in comparison with drainwater) from the Salton Sea was in highly reduced (negative oxidation) states (Cooke and Bruland, 1987). Also shown were high selenium concentrations (also, likely in reduced state) in surficial sediments from the Salton Sea (Schroeder and others, 1988), and high concentrations in drainwater that are consistent with selenium in the highly soluble oxidized (+6) state. These studies indicated the need for selenium redox-speciation analyses of water, especially near the Salton Sea. Several aqueous samples were analyzed for selenate (+6), for the less highly oxidized and less soluble selenite (+4), and for total selenium; selenium in negative and zero oxidation states was not determined. The proportion as highly oxidized selenate (+6) decreased from 60 percent on the freshwater side at the mouth of the Alamo River to below detection on the saltwater side in the Alamo River delta. At drilling site 8 (see next section of this report), ground water from piezometers in which selenium was present, albeit at low concentrations, contained small amounts of selenite (+4) but no detectable selenate—in contrast to drainwater from the sump (S-417) at this site, in which 98 percent of the total selenium content (concentration was 275 µg/L) was selenate (Ann Maest, USGS, written commun., 1990).

LITHOLOGY AND GROUND-WATER DATA

LITHOLOGY AT THREE DRILLING SITES

Holes were drilled for installation of multiple-depth piezometers and suction-cup lysimeters at three sites in the Imperial Valley. The sites are located in the northern, middle, and southern parts of the valley (sites 8, 50, and 98 in fig. 2*B*) and are near the valley's topographic axis. The purpose of the drilling and sampling program was to determine changes in ground-water quality with depth and to ascertain the possible influence of shallow, regional ground water on drainwater quality.

A deep hole (depth of about 100-200 ft) was drilled at each location with a mud-rotary rig using irrigation water from nearby canals to make up the drilling fluid. Several 2-inch-diameter PVC piezometers with 5-foot perforated intervals were installed at each location. The annulus was backfilled with sand opposite the perforations, with bentonite pellets between the perforations, with grout above the shallowest perforation to within 3 to 5 ft of land surface, and with cement from above the grout to land surface. At the middle and southern sites, where spacing of perforated intervals was thought to be too close to permit installation of a good bentonite seal, a second, shallower hole was drilled and one piezometer was installed at a preselected depth.

The near-surface soils in Imperial Valley are fine grained; clay (particle size less than 0.004 mm) content ranged from about 70 percent at the northern drilling site to about 20 percent at the southern drilling site (table 8). The lithologic description in table 9 was prepared from the drill operator's observations of drilling characteristics, field observations on cuttings brought to the surface in the mud, grain-size analysis of cores shown in table 8, and geophysical logs (caliper, gamma ray, spontaneous potential, and single-point resistivity). A 2-foot split-spoon core was collected whenever field observations, including a perceived change in drill characteristics, indicated a possible significant change in texture from that of the overlying material.

The objective of drilling was to penetrate at least one thick clay-rich, low-permeability zone and place

piezometers in the more permeable material above and below this zone, thereby increasing the likelihood that the deepest piezometer tapped the shallow, regional ground-water system. This objective was readily achieved at the northern site, where the two deepest piezometers were separated from each other by a clay-rich zone extending from 85 to 181 ft below land surface (table 9). At the middle site, and especially at the southern site, numerous clay-rich layers were penetrated that are much thinner than those at the northern site. As a result, one or more piezometers were installed within the shallow, regional ground-water system at the middle and southern sites.

Water levels in the shallowest piezometers from the northern and middle sites were below land surface, and close to the altitude of the subsurface drains. However, in the 75- and 199-foot piezometers at the northern site and in the 71- and 95-foot piezometers at the middle site, ground water flowed at 1 L/min or more from the casing that extended about 2 ft above land surface. At both of the flowing (artesian) piezometers at the northern site, the ground water was heavily charged with carbon dioxide and had temperatures indicative of a higher than normal geothermal gradient. Numerous mudpots with escaping carbon dioxide are present beneath nearby parts of the Salton Sea and the Imperial Wildlife Management Area, and geothermal-resource development is prevalent in the area. The 75-foot piezometer always "resealed" itself a few weeks after sampling, but it could be induced to erupt again, several feet into the air, with minimal pumping and physical agitation of the water in the well casing. Water levels in all piezometers at the southern site, unlike conditions at the northern and middle sites, were near or a few feet below the depth of the drains.

A few piezometers were placed opposite clay-rich, low-permeability zones (as designated in table 9). After complete evacuation of the casing, recovery from these piezometers was very slow (about 1 L/hr); hence, it is believed that they were never completely purged (during the time of this study) of drilling fluid. The presence of small quantities of drilling fluid mixed with formation water in these samples is supported by reversal of the general pattern of decreasing tritium with increasing depth, and may be the indirect cause (by stimulating biological activity) of a slight odor of hydrogen sulfide that was observed when these wells were first pumped to remove stagnant water from the casing and annulus.

The holes for installation of as many as four multiple-depth ceramic-cup suction lysimeters (not all the lysimeters produced water) were drilled using an air-rotary technique that eliminated the need for extensive development prior to sample collection. A very fine crystal-silica sand was placed opposite the cups, and coarse sand was placed immediately above and below each lysimeter. A bentonite seal was placed between each of the lysimeters. Installation of lysimeters at the southern site was unusually difficult. Collapse of the hole occurred during drilling because of the presence of thin, fine-sand and silt lenses and of wetness owing to nearby canals, ditches, a tailwater channel, and the sump. As a result, the chemical data from shallow depths at this location may be unduly influenced by the direct infiltration of comparatively fresh irrigation water, and thus the data are not representative of drainwater conditions in interior parts of the field.

The lysimeters are located next to the sump at a corner of the field at the southern and middle sites and along the edge of a field at the northern site. Partly because of access constraints and partly to avoid localized influences from irrigation, the piezometers were installed along elevated dirt roads a short distance from the fields.

GROUND-WATER QUALITY

Ground-water-quality data from the lysimeters and piezometers in Imperial Valley are given in table 10. Water sampled from the lysimeters was effectively filtered during passage of the water from the soil through the ceramic cup. Samples from piezometers were filtered through a 0.45-µm membrane in the field as the ground water was pumped directly from the casing. Noteworthy is the fact that a large quantity of carbonate precipitated almost immediately in the collection bottle as the supersaturated solutions from the two deepest piezometers at site 8 (the northern drilling site) degassed carbon dioxide. Much smaller quantities of carbonate also precipitated as deep ground-water samples were brought to the surface at site 50 (the middle drilling site).

SOILS AND POREWATER DATA

Soil samples for chemical and tritium analyses were obtained by manually augering to depths of about 3 and 6 ft in fields at the 15 monthly drainwater-monitoring sites. These depths correspond to the maximum depth of cultivation (ripping by chisel) and to a common depth for subsurface-drain installation, respectively. Soils were recovered at the

head (H), middle (M), and tail (T) of the field—from directly above, midway between, and one-quarter the distance between drain laterals. Hence, S-417-T-18-50-6 designates a sample from the tail end of the field, at S-417, 50 ft from subsurface drain lateral 18, at a depth of 6 ft.

Cores from the three drilling sites are designated by depth below land surface. All solid-phase and soils-extraction data (tables 11-15) include the laboratory identification number used by the USGS to designate the sample analyzed.

SHALLOW SOILS

Chemical analysis of soils from fields at the 15 sites was done to establish range in constituent concentrations and any possible relation between concentrations in soil and drainwater. Deionized-water extracts of soils (using a water-to-soil ratio of 5 to 1) were analyzed to ascertain the possible relation between extract and drainwater chemistry, and between extract and soil concentrations. Data are presented in tables 11, 12, and 13. The 40 samples in table 12 are laboratory splits (samples reprocessed and analyzed separately) for selected samples in table 11, and results can be compared between the tables.

CORES

Cores were analyzed for comparison of concentrations of constituents (especially selenium) with concentrations in shallow soils. Data are presented in tables 14 and 15.

In addition, deionized-water extracts were obtained to provide a quality-assurance check on the entire extraction procedure by comparison to known concentrations in ground water. Comparison of the extract data in table 14 with the ground-water data in table 10 confirms the presence of some aqueous selenium in core extracts from depths below which selenium in ground water is absent (less than 1 µg/L). This indicates that a significant portion of the aqueous selenium extracted from the solid phase is an artifact of the storage and (or) extraction procedure itself, and this fact must be considered when interpreting the extract data from shallow soils in tables 11 and 12.

TRITIUM IN SHALLOW SOILS

Tritium concentrations were measured in soil moisture (porewater), which ranged from 18 to 30 percent of the soil on a wet-weight basis. The analysis was done on porewater baked from the soil at a temperature of about 80°C. The purposes of these analyses were to determine possible spatial variation within fields and to estimate the rate at which shallow, subsurface water moves to the drains. The soils that were sampled were obtained from 8 of the 15 fields where drainwater was monitored monthly for 1 year. The results, which are given in table 16, can be compared with historical tritium concentration in irrigation water from the Colorado River (table 6) and with drainwater tritium concentrations (table 4).

LABORATORY EXPERIMENTAL DATA

EVAPORATIONS OF IRRIGATION WATER

In order to determine more accurately the selenium-to-chloride ratio in irrigation water, periodic samples from the East Highline Canal at its diversion from the All-American Canal were concentrated by evaporation in the laboratory and then analyzed. Water was reduced to as little as 2 percent of its original volume (final volume approximately 500 mL) by evaporation at 30-35°C, with continuous stirring, from large glass chromatography jars; the concentrated sample then was centrifuged prior to analysis. About 1 month was required to complete each evaporation sequence. Evaporations were carried out using both raw water and water acidified to a pH of approximately 3 by addition of nitric acid (except for the January 1989 evaporation sequence, in which hydrobromic acid was used but found to be contaminated by a small but significant quantity of chloride) prior to evaporative concentration. Low pH was maintained in the acid-treated water to prevent formation of calcium carbonate, which began to appear in the untreated water soon after evaporation commenced. Calcium sulfate precipitated during evaporation of both the acidified and untreated waters.

Calculated mean selenium-to-chloride weight (gravimetric) ratio for the most concentrated sample from eight evaporation studies during April-December 1989 (on the basis of analyses reported in table 17) is 2.2×10^{-5} in the nitric-acid-acidified concentrates (range $1.7\text{-}2.6\times10^{-5}$) and 1.7×10^{-5} in the untreated concentrates (range $1.4\text{-}2.3\times10^{-5}$). Presence of some selenium in the calcium carbonate (dissolved with nitric acid and diluted by addition of about 100 mL of deionized water) that formed during evaporation of the untreated water is indicated by data in table 17. However, mass-balance calculations to quantify the apportionment of selenium between aqueous and solid

phases should not be attempted because aqueous volumes (and precipitate weight) were only estimated, and the precipitate itself was only partially rinsed with deionized water prior to its dissolution with acid.

Analysis of both precipitates from one evaporation sequence using complete-mineral digestion techniques demonstrates that incorporation of selenium in the laboratory experiment is by calcium carbonate but not by calcium sulfate. Results of the comparison were as follows:

Element	Untreated evaporation	Acidified evaporation
Calcium (percent)	14	23
Sulfur (percent)	11	18
Selenium (µg/g)	6	<0.1

Note that other minerals, in addition to calcium sulfate and calcium carbonate, also are present (silica, for example) as indicated by lower calcium percentages than would be present in a pure phase of either of these two calcium-containing minerals.

DILUTIONS OF SEAWATER AND SALTON SEA WATER

Results of chemical analyses of water samples from the Salton Sea and the Pacific Ocean (near the San Diego coast), and of samples from both sources diluted by addition of deionized water are given in table 18. These data were obtained to provide quality assurance for chloride and bromide analyses over the range in concentrations present in the study area. The published average oceanic chloride-to-bromide weight ratio of 288 (Riley and Skirrow, 1975) can be compared with mean ratios of 317 in undiluted and 307 in diluted seawater calculated from the data in table 18. The measured chloride-to-bromide ratio in Salton Sea water was about 1,300 in both diluted and undiluted samples. The data in table 18 are from analysis of samples that were collected and archived for periodic later analysis; the dates given in the table correspond to the approximate periodic monthly spacing of the evaporation experiments described in the preceding section rather than the actual date of sample collection.

Analyses of major and selected minor constituents in filtered samples collected in October 1989 provide data for a comprehensive chemical comparison of seawater and water from the Salton Sea. Comparison between published and measured chemical concentrations in seawater provides an indication of the accuracy of saline-water analyses for this study.

Isotope data on grab samples collected during August 1988 from nearshore areas (fig. 2*A*) around the Salton Sea—at the Niland boat ramp, North Shore pier, Salton City pier, center of the south Salton Sea basin (the only site not close to shore), and between the Alamo and New River deltas—are given (in temporal order of collection) in table 18.

BIOLOGICAL DATA

BACKGROUND

Increased concern about trace-element and organic contaminant loading to the Salton Sea and nearby areas from the associated drainwater system led to this examination of possible contamination of these habitats. Sampling was done in 1986-87 during a reconnaissance investigation to assess concentrations of trace elements and selected pesticides. Chemical data and interpretations from the reconnaissance were published by Setmire and others (1990b). Elevated levels of selenium, boron, and DDT metabolites were found during the reconnaissance. These findings led to the decision to do a more detailed study during the following 3 years, at which time additional biological samples were collected to determine contaminant pathways and levels of exposure of organisms to contaminants.

SAMPLING SITES

The location of sampling sites for collection of biological data is shown in figure 4, and sites are listed in table 19. The sites were chosen on the basis of ecological importance to fish and wildlife, relevance to exposure pathways, and strategic importance to tracking of contaminant sources. Priority was given to areas with high resource use, areas adjacent to high pesticide use, and areas of known high trace-element concentrations.

SAMPLE COLLECTION AND PRESERVATION

The biological samples that were collected include 31 diverse species (or genera) representing all the trophic levels present in the Salton Sea area. The samples include vegetation, invertebrates, fish, amphibians, reptiles and reptile eggs, and birds and bird eggs. The species collected and the locations from which they were taken are listed in table 20. The procedures followed for collection of biological samples are those specified by USFWS (1985b). All bio-

logical samples were frozen after collection and stored frozen until analysis.

Vegetation was collected by hand from agricultural drainage ditches and from various locations in the Salton Sea where suitable habitat was provided by a rocky substrate. Algae were collected from several shore locations around the Salton Sea. Excess debris was removed from the algae by washing with Salton Sea water, after which the algae sample was placed in chemically cleansed jars. Cattail samples were collected from agricultural drainage ditches. Excess debris was removed from cattails by washing at the collection site with drainwater before placement of the sample in polyethylene bags for frozen storage.

Invertebrates, such as waterboatmen and amphipods, were collected using lighted activity traps. Pileworms were collected by washing sediment onto fine-meshed screens. Crayfish were collected using small seines. Some Asiatic river clams that were retrieved from rivers and drainage ditches (drains) were specimens transplanted from a section of the Colorado River in plastic-mesh cages; the others were native Asiatic river clams that were collected from rivers and drains by sifting sediment through a sieve. All clams were shucked and their contents were placed in chemically cleansed jars. All other invertebrate samples were composited whole and placed in chemically cleansed jars.

Small fish, including both predator and prey species, were collected using long-handled dip nets or seines. Mosquitofish and sailfin mollies were obtained from rivers, creeks, and drains. Longjaw mudsuckers were obtained from the Salton Sea. Bairdiella were salvaged soon after they had washed ashore from the Salton Sea near Salton Sea NWR Unit 1 (the southern unit). Orangemouth corvina were collected from the Salton Sea using gill nets. Bairdiella and corvina were wrapped in aluminum foil and placed in polyethylene bags before freezing. All other fish species were placed in chemically cleansed jars.

Bullfrogs were collected from the Alamo River, and spiny softshell turtles were collected at Vail 4 Drain and at Hazard Pond. Frogs were speared and placed in aluminum foil. Turtles were collected using fish-baited hoop nets. Samples of liver and fat were dissected from the turtles and placed in chemically cleansed jars. Egg contents from one of the female turtles were composited and placed in chemically cleansed jars.

Several water-bird species were collected from the Salton Sea itself and from various locations throughout the Imperial Valley including rivers, creeks, drainwater ditches, and freshwater impoundments. The birds were shot using a 12-gauge shotgun and steel shot. Livers and breast-muscle tissue were dissected from birds of the following species and placed in chemically cleansed jars: ruddy duck, northern shoveler, black-necked stilt, American coot, eared grebe, and white-faced ibis. Carcasses from the black-necked stilts were wrapped in aluminum foil and placed in polyethylene bags or in chemically cleansed jars. Black-necked stilt eggs were collected from nesting sites near the Salton Sea. Eggs were harvested and their contents placed in chemically cleansed jars. One Yuma clapper rail was salvaged from the Wister Unit of the Imperial Wildlife Management Area; its carcass was wrapped in aluminum foil and placed in a polyethylene bag.

CHEMICAL CONCENTRATIONS

The inorganic and organic analytes determined in biological samples are listed in table 21. Inorganic concentrations are given in table 22. Organochlorine-insecticide and polychlorinated biphenyl (PCB) concentrations are given in table 23. The PCB data include total-PCB concentrations and concentrations for categories based on the number of chlorine atoms present and on the four-digit Arochlor number used to designate commercial mixtures of the PCB congeners. Polycyclic aromatic hydrocarbon concentrations are given in table 24.

References Cited

Arbogast, B.F., ed., 1990, Quality assurance manual for the Branch of Geochemistry: U.S. Geological Survey Open-File Report 90-668, 183 p.

Cooke, T.D., and Bruland, K.W., 1987, Aquatic chemistry of selenium: Evidence of biomethylation: Environmental Science and Technology, v. 21, no. 12, p. 1214-1219.

Densmore, J.N., 1991, Water quality conditions in shallow subsurface waters, Imperial Valley, California: unpublished M.S. thesis, San Diego State University, 178 p.

Fishman, M.J., and Friedman, L.C., eds., 1989, Methods for determination of inorganic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter A1, 545 p.

Fritz, P., and Fontes, J., Ch., eds., 1980, Handbook of Environmental Isotope Geochemistry, v. 1, The Terrestrial Environment, A: Ellsevier, 1980, 545 p.

Guy, H.P., 1969, Laboratory theory and methods for sediment analysis: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter C1, 58 p.

Lowe, T.P., May, T.W., Brumbaugh, W.G., and Kane, D.A., 1985, National contaminant biomonitoring program: Concentration of seven elements in freshwater fish, 1979-1981: Archives of Environmental Contamination and Toxicology, v. 14, p. 363-388.

Michel, R.L., 1989, Tritium deposition in the continental United States, 1953-83: U.S. Geological Survey Water-Resources Investigations Report 89-4072, 46 p.

Michel, R. L., and Schroeder, R.A., 1989, Isotopic composition of drainwaters in the Imperial Valley, California: Eos Transactions of the American Geophysical Union, Abstract, v. 70, no. 43, p. 1379.

Michel, R.L., Schroeder, R.A., Setmire, J.G., and Hall, S.S., 1988, Soluble salts and tritium concentrations in irrigation drainwaters from the Imperial Valley, California: Eos Transactions of the American Geophysical Union, Abstract, v. 69, no. 44, p. 1181.

Moore, S.L., 1991, The use of tile drainage in the reclamation of the Imperial Valley: unpublished M.A. thesis, University of San Diego, 113 p.

Pritt, Jeffrey, and Jones, B.E., 1989, eds., 1990 National Water Quality Laboratory services catalog: U.S. Geological Survey Open-File Report 89-386, variously paged.

Riley, J.P., and Skirrow, G., eds., 1975, Chemical Oceanography, v. 1: Academic Press, 2d ed., 606 p.

Schroeder, R.A., Setmire, J.G., and Densmore, J.N., 1989, Controls on drainwater composition in the Imperial Valley, California, *in* Pederson, G.L., and Smith, M.M., compilers, U.S. Geological Survey Water Resources Division National Symposium on Water Quality, Orlando, Florida, November 12-17, 1989: U.S. Geological Survey Open-File Report 89-409, Abstract, p. 85.

_____1991, Use of stable isotopes, tritium, soluble salts, and redox-sensitive elements to distinguish ground water from irrigation water in the Salton Sea basin, *in* W.F. Ritter, ed., Proceedings of the 1991 National Conference: American Society of Civil Engineers, Irrigation and Drainage Division, Honolulu, Hawaii, July 22-26, 1991, p. 524-530.

Schroeder, R.A., Setmire, J.G., and Wolfe, J.C., 1988, Trace elements and pesticides in the Salton Sea area, California, *in* Proceedings on Planning for Irrigation and Drainage: American Society of Civil Engineers, Irrigation and Drainage Division, Lincoln, Nebraska, July 19-21, 1988, p. 700-707.

Setmire, J.G., Goodbred, S.L., Audet, D.J., Schroeder, R.A., Radke, W.R., and Densmore, J.N., 1993, Detailed study of water quality, bottom sediment, and biota associated with irrigation drainage in the Salton Sea area, California, 1988-90: U.S. Geological Survey Water-Resources Investigations Report 93-4014.

Setmire, J.G., Schroeder, R.A., and Densmore, J.N., 1990a, Shallow drainwater chemistry in the Salton Sea area, Imperial County, California: Selenium V Symposium, University of California (Berkeley), March 30-31, 1990, Abstract, 2 p.

Setmire, J.G., Wolfe, J.C., and Stroud, R.K., 1990b, Reconnaissance investigation of water quality, bottom sediment, and biota associated with irrigation drainage in the Salton Sea area, California, 1986-87: U.S. Geological Survey Water-Resources Investigations Report 89-4102, 68 p.

Severson, R.C., Wilson, S.A., and McNeal, J.J., 1987, Analyses of bottom material collected at nine areas in the Western United States for the DOI irrigation drainage task group: U.S. Geological Survey Open-File Report 87-490, 24 p.

Stewart, K.C., Fey, D.L., Hageman, P.L., Kennedy, K.R., Love, A.H., McGregor, R.E., Papp, C.S.E., Peacock, T.R., Sharkey, J.D., Vaughn, R.B., and Welsch, E.P., 1992, Results of chemical analysis for sediments from Department of the Interior National Irrigation Water Quality Program studies, 1988-1990: U.S. Geological Survey Open-File Report 92-443, 38 p.

Stumm, Werner, and Morgan, J.J., 1970, Aquatic chemistry: an introduction emphasizing chemical equilibria in natural waters: New York, John Wiley, 583 p.

U.S. Fish and Wildlife Service, 1985a, Procedures for resource contaminant assessment contract analytical work: Habitat Resources Instructional Memorandum, 203 p.

_____1985b, Field operations manual for resource contaminant assessment: Habitat Resources Instructional Memorandum, Chapter 1.5, 48 p.

Wershaw, R.L., Fishman, M.G. Grabbe, R.R., and Lowe, L.E., eds., 1987, Methods for the determination of organic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter A3, 80 p.

Tables

Table 1. Data from Imperial Valley drainwater samples collected by the California Regional Water Quality Control Board (P.A. Gruenberg, written commun., 1987), June 24 – July 10, 1986

[Location of sites shown in figure 2. Description of local identifier in text. Q_{INST}, instantaneous discharge, in gallons per minute; Q_{AVG}, average discharge, in gallons per minute, for 2-year period prior to sampling. All concentrations of constituents in micrograms per liter, except dissolved solids in milligrams per liter. DS, dissolved solids; Se, selenium; As, arsenic; B, boron, Cd, cadmium; Cr, chromium; Cu, copper, Pb, lead; Mn, manganese; Mo, molybdenum; Ag, silver, Zn, Zinc. <, less than indicated reporting limit; — no data. Year sump installed: Obtained from Imperial Irrigation District records]

Site No.	Local identi-fier	Year sump installed	Length of drains (miles)	Crop-land served (acres)	Q_{INST}	Q_{AVG}	DS	Se	As	B	Cd	Cr	Cu	Pb	Mn	Mo	Ag	Zn
1	S-403	1973	12	155	120	36	5,504	54	2	2,600	<5	5	5	<5	<5	31	<5	7
2	TD-2907	—	—	—	.2	—	2,776	37	4	900	<5	<5	<5	<5	<5	22	<5	12
3	SS-4	1954	7	160	18	39	8,672	5	1	1,800	<5	<5	<5	<5	1,500	13	<5	14
4	S-38	1952	56	320	170	113	25,500	28	2	4,800	<5	<5	5	5	6,300	19	<5	12
5	S-45	1953	21	160	47	168	11,308	14	2	2,100	<5	<5	<5	<5	3,370	16	<5	32
6	S-226	1965	42	240	1	196	26,152	182	3	2,400	<5	5	5	5	46	29	<5	12
7	S-269	1967	34	320	1	23	25,026	267	9	3,300	<5	5	7	<5	13	68	<5	15
8	S-417	1974	—	—	8	—	22,412	152	6	3,300	<5	<5	7	5	63	20	<5	14
9	S-332	1970	11	80	26	—	28,402	90	18	3,300	<5	<5	12	<5	1,470	92	<5	24
10	TD-2013	—	—	—	159	—	2,282	17	1	800	<5	<5	<5	<5	<5	36	<5	5
11	SS-3	1954	21	200	14	153	4,372	8	2	1,300	<5	<5	<5	<5	96	43	<5	10
12	SS-26	1963	30	160	230	512	10,960	4	7	3,700	<5	<5	<5	<5	71	59	<5	12
13	S-219	1964	—	—	270	—	1,742	5	4	400	<5	<5	<5	<5	23	24	<5	8
14	S-337	1970	8	160	67	60	14,058	18	2	6,000	<5	<5	<5	<5	57	18	<5	7
15	SS-11	1956	27	240	265	153	12,442	12	2	2,300	<5	<5	5	<5	1,800	21	<5	19
16	S-43	1953	23	320	415	158	7,596	27	2	1,700	<5	5	<5	<5	1,180	21	<5	12
17	S-57	1954	34	320	31	131	4,018	23	2	1,000	<5	<5	9	<5	35	28	<5	12
18	TD-1829	—	—	—	25	—	14,116	91	3	3,600	<5	<5	11	<5	26	26	<5	6
19	S-25	1951	9	100	490	63	2,300	7	2	400	<5	<5	<5	<5	520	14	<5	6
20	S-79	1956	4	60	50	2	5,314	26	1	1,200	<5	<5	<5	<5	<5	10	<5	11
21	S-119	1960	35	560	140	34	7,390	35	4	1,800	<5	<5	<7	<5	13	45	<5	11
22	S-243	1965	11	160	3	—	11,376	86	2	1,800	<5	<5	<5	<5	43	24	<5	21
23	S-488	1985	—	—	26	—	11,240	49	3	1,800	<4	<5	5	<5	600	24	<5	8
24	TD-3038	—	—	—	18	—	9,790	53	4	2,000	<5	<5	6	<5	<5	32	<5	6
25	TD-2715	—	—	—	8	—	12,714	139	4	2,300	<5	7	5	<5	5	24	<5	9

Table 1. Data from Imperial Valley drainwater samples collected by the California Regional Water Quality Control Board (P.A. Gruenberg, written commun., 1987), June 24 – July 10, 1986--Continued

Site No.	Local identi-fier	Year sump installed	Length of drains (miles)	Crop-land served (acres)	Q_{INST}	Q_{AVG}	DS	Se	As	B	Cd	Cr	Cu	Pb	Mn	Mo	Ag	Zn
26	TD-147	—	—	—	6	—	20,132	266	4	2,600	<5	<5	13	<5	8	28	<5	13
27	S-364	1971	5	90	135	23	3,376	20	2	1,200	<5	<5	29	7	8	28	<5	15
28	S-28	1952	3	40	17	74	1,784	13	6	500	<5	<5	<5	8	38	39	<5	11
29	S-69	1955	3	80	20	6	4,594	13	3	900	<5	<5	<5	<5	126	27	<5	9
30	S-94	1958	26	240	16	23	15,580	65	2	2,200	<5	<5	<5	<5	20	23	<5	5
31	S-127	[1]1960	9	160	<.1	—	9,986	37	3	2,000	<5	<5	<5	<5	7,700	21	<5	10
32	S-353	1970	—	—	29	—	5,550	30	1	1,300	<5	<5	<5	<5	188	17	<5	14
33	S-142	1961	10	280	5	21	8,872	67	2	2,000	<5	<5	<5	<5	148	13	<5	11
34	S-175	1963	5	120	73	64	1,834	9	2	500	<5	5	<5	<5	249	30	<5	5
35	S-290	1968	—	—	49	—	6,494	17	3	1,600	<5	5	6	<5	13	33	<5	<5
36	S-214	1964	23	240	94	81	4,636	36	2	1,200	<5	<5	<5	<5	<5	20	<5	3
37	S-385	1972	15	320	<.1	84	8,772	60	1	1,300	<5	5	<5	<5	132	8	<5	11
38	S-122	1960	5	160	8	42	7,436	42	3	2,200	<5	<5	<5	<5	78	26	<5	15
39	S-160	1962	5	160	115	50	3,000	12	2	800	<5	9	10	<5	106	15	<5	5
40	S-212	1964	7	160	9	55	4,926	29	3	1,300	<5	<5	<5	<5	129	14	<5	32
41	S-241	1965	6	60	4	7	12,622	73	4	2,600	<5	<5	<5	6	244	31	<5	9
42	S-383	1972	8	160	23	111	6,176	41	2	1,600	<5	<5	<5	<5	78	23	<5	6
43	TD-245	—	—	—	590	—	6,264	42	2	4,200	<5	<5	<5	<5	9	35	<5	13
44	S-230	1965	4	80	79	61	1,294	3	1	300	<5	<5	<5	<5	20	10	<5	7
45	S-55	1954	8	120	16	32	2,072	5	3	500	<5	<5	<5	<5	19	16	<5	11
46	S-256	1966	11	140	6	62	3,898	29	1	1,000	<5	6	<5	<5	13	8	<5	12
47	S-295	1968	1	120	237	179	1,434	3	4	300	<5	<5	<5	<5	11	18	<5	18
48	S-112	1960	—	—	59	—	1,616	2	5	500	<5	<5	<5	<5	39	11	<5	12
49	S-424	1975	6	100	7	15	675	1	1	—	<5	<5	<5	<5	5	5	<5	12
50	S-154	1962	—	—	20	—	16,788	55	2	1,500	<5	<5	<5	<5	280	28	<5	46
51	S-105	1960	4	160	79	30	8,368	66	2	1,600	<5	<5	5	<5	42	25	<5	6
52	S-133	1961	6	160	8	21	4,268	11	1	1,000	<5	<5	5	<5	50	10	<5	6
53	S-153	1962	44	470	7	128	8,598	79	1	1,500	<5	<5	<5	<5	274	12	<5	<5
54	S-365	1971	32	350	8	11	14,425	133	2	1,800	<5	<5	<5	7	20	12	<5	8
55	TD-2001	—	—	—	51	—	3,380	9	7	900	<5	<5	6	<5	14	38	<5	7

See footnotes at end of table.

Table 1. Data from Imperial Valley drainwater samples collected by the California Regional Water Quality Control Board (P.A. Gruenberg, written commun., 1987), June 24 – July 10, 1986--Continued

Site No.	Local identi-fier	Year sump installed	Length of drains (miles)	Crop-land served (acres)	Q_{INST}	Q_{AVG}	DS	Se	As	B	Cd	Cr	Cu	Pb	Mn	Mo	Ag	Zn
56	TD-2040	—	—	—	0.9	—	3,098	17	3	1,100	<5	<5	6	<5	<5	29	<5	7
57	TD-2554	—	—	—	14	—	9,390	45	3	4,900	<5	<5	<5	<5	<5	42	<5	<5
58	S-322	1969	9	160	170	273	2,122	5	8	600	<5	<5	7	<5	15	24	<5	26
59	S-396	1973	12	320	270	132	2,106	8	2	600	<5	<5	5	<5	5	18	<5	<5
60	TD-2432	—	—	—	79	—	3,016	9	3	1,000	<5	6	5	<5	19	25	<5	<5
61	S-70	1955	20	180	69	53	7,714	34	6	2,500	<5	<5	<5	<5	404	72	<5	<5
62	S-68	1955	—	—	2	—	8,790	17	4	4,300	<5	<5	<5	<5	<5	72	<5	16
63	S-333	1970	1	40	4	19	2,010	13	6	900	<5	8	5	<5	<5	42	<5	<5
64	S-110	1960	—	—	2	—	1,564	3	3	400	<5	<5	<5	<5	<5	13	<5	5
65	S-67	1955	16	160	20	40	1,558	4	5	400	<5	<5	<5	<5	20	13	<5	<5
66	S-225	1965	5	40	20	—	10,244	29	2	1,600	<5	<5	<5	<5	39	27	<5	16
67	S-265	1966	7	120	3	30	10,468	94	1	1,800	<5	<5	<5	<5	1,360	17	<5	<5
68	S-398	1973	23	240	20	41	6,038	19	2	1,800	<5	7	<5	<5	256	18	<5	<5
69	S-148	1961	20	160	254	57	7,814	38	2	1,900	<5	<5	<5	<5	168	13	<5	12
70	TD-1408	—	—	—	32	—	2,656	9	2	600	<5	<5	<5	<5	20	10	<5	<5
71	S-234	1965	3	140	82	24	6,254	25	2	1,700	<5	<5	<5	<5	102	<5	<5	<5
72	S-410	1974	28	240	120	258	3,368	11	2	800	<5	<5	<5	—	74	14	<5	<5
73	S-411	1974	17	145	18	50	5,302	19	3	1,500	<5	<5	7	22	<5	34	<5	18
74	S-2	1948	10	160	90	76	7,338	27	4	1,900	<5	6	7	<5	15	19	<5	14
75	S-4	1948	14	160	31	3	7,390	113	2	—	<5	<5	6	<5	8	18	<5	18
76	S-103	1960	20	380	6	25	11,180	45	3	—	<5	<5	<5	<5	416	14	<5	<10
77	S-247	1966	10	80	2	8	21,085	194	2	2,200	<5	<5	<5	<5	2,510	36	5	9
78	S-376	1972	5	80	12	16	5,893	29	2	1,600	<5	<5	<5	<5	129	33	<5	11
79	S-72	1955	18	160	22	43	9,783	56	2	1,900	<5	<5	<5	<5	<5	36	<5	6
80	S-169	1962	4	160	32	159	3,248	3	5	1,200	<5	<5	<5	<5	67	42	<5	8
81	S-187	1963	2	85	49	24	3,525	13	1	900	<5	<5	<5	<5	84	22	<5	5
82	S-21	1951	8	150	22	57	10,040	24	5	4,500	<5	<5	<5	<5	97	142	<5	6
83	S-22	1951	8	170	9	6	7,543	22	6	3,500	<5	<5	<5	<5	26	69	<5	7
84	S-130	1961	7	240	370	284	4,002	11	2	1,400	<5	<5	5	<5	65	51	<5	13
85	S-207	1964	7	100	140	81	8,278	30	2	2,700	<5	<5	<5	<5	8	95	<5	7

Table 1. Data from Imperial Valley drainwater samples collected by the California Regional Water Quality Control Board (P.A. Gruenberg, written commun., 1987), June 24 – July 10, 1986--Continued

Site No.	Local identi-fier	Year sump installed	Length of drains (miles)	Crop-land served (acres)	Q_{INST}	Q_{AVG}	DS	Se	As	B	Cd	Cr	Cu	Pb	Mn	Mo	Ag	Zn
86	TD-2939	—	—	—	4	—	2,722	9	5	1,000	<5	<5	9	<5	27	63	<5	8
87	S-352	1970	5	160	4	6	26,108	83	2	5,100	<5	<5	5	<5	175	79	<5	25
88	S-81	1956	5	200	310	302	1,664	4	1	400	<5	<5	<5	<5	114	32	<5	13
89	S-113	1960	11	320	5	33	5,504	16	2	1,200	<5	<5	<5	<5	594	30	<5	11
90	S-115	1960	16	200	10	38	3,994	5	1	900	<5	<5	<5	<5	1,170	35	<5	6
91	S-242	1965	7	180	51	69	8,550	10	1	1,700	<5	<5	<5	<5	1,730	21	<5	5
92	S-392	[2]1972	7	160	3	15	11,932	30	1	3,300	<5	<5	<5	<5	466	40	<5	11
93	S-423	1974	11	160	<.1	2	14,872	256	1	1,800	<5	<5	<5	<5	268	53	<5	16
94	S-93	1958	23	160	36	102	6,806	33	2	1,400	<5	<5	5	8	6	29	<5	12
95	S-221	1964	4	145	20	64	5,884	39	1	1,100	<5	<5	<5	11	69	50	<5	28
96	S-229	1965	6	160	46	128	6,248	36	2	1,400	<5	<5	<5	6	121	25	<5	5
97	S-321	1969	15	160	28	65	2,296	8	1	600	<5	<5	<5	8	<5	25	<5	<5
98	S-371	1971	16	320	3	24	12,160	162	1	1,700	<5	<5	<5	<5	344	22	5	<5
99	S-144	1961	24	320	77	45	8,350	54	1	1,500	<5	<5	5	<5	86	25	<5	<5
100	S-164	1962	10	240	4	11	6,200	27	1	1,300	<5	<5	<5	<5	13	19	<5	<5
101	S-202	1964	—	—	27	—	7,044	44	2	1,700	<5	<5	7	<5	<5	22	<5	8
102	S-368	1971	10	160	31	49	6,044	34	2	1,100	<5	<5	5	<5	66	26	<5	<5
103	S-408	1973	7	80	11	11	6,768	25	2	1,500	<5	<5	<5	<5	11	30	<5	<5
104	S-176	1963	5	160	10	—	10,230	61	1	2,100	<5	<5	5	7	15	48	<5	6
105	S-316	1969	7	240	33	40	5,944	18	1	1,600	<5	<5	7	<5	53	37	<5	<5
106	S-336	1970	4	80	26	33	4,792	14	1	1,600	<5	<5	<5	<5	184	23	<5	12
107	S-386	1972	2	160	88	43	8,463	24	2	3,600	<5	<5	<5	<5	352	32	<5	<5
108	S-393	1972	3	80	295	146	1,015	2	8	300	<5	<5	5	<5	8	17	<5	<5
109	S-60	1954	1	40	5	18	1,015	1	2	400	<5	<5	<5	<5	46	32	<5	31
110	S-344	1970	2	80	44	48	10,875	61	2	2,200	<5	<5	<5	<5	120	55	<5	10
111	S-416	1974	18	160	34	49	4,400	16	2	1,000	<5	<5	5	<5	46	22	<5	<5
112	S-108	1960	13	400	33	9	3,586	12	1	900	<5	<5	<5	<5	<5	10	<5	<5
113	S-182	1963	—	—	7	—	6,190	20	2	1,400	<5	5	5	<5	21	15	<5	8
114	S-402	1973	7	100	18	.6	3,976	9	2	1,100	<5	<5	6	<5	22	21	<5	<5
115	S-59	1954	196	400	130	111	8,262	34	2	1,900	<5	<5	<5	<5	158	33	<5	9

See footnotes at end of table.

Table 1. Data from Imperial Valley drainwater samples collected by the California Regional Water Quality Control Board (P.A. Gruenberg, written commun., 1987), June 24 – July 10, 1986–Continued

Site No.	Local identi-fier	Year sump installed	Length of drains (miles)	Crop-land served (acres)	Q_{INST}	Q_{AVG}	DS	Se	As	B	Cd	Cr	Cu	Pb	Mn	Mo	Ag	Zn
116	S-267	1967	6	160	66	61	2,632	9	2	700	<5	<5	6	5	27	25	<5	<5
117	S-14	1950	28	640	130	152	6,062	29	2	2,100	<5	<5	<5	<5	139	25	<5	<5
118	S-360	1971	28	200	73	50	4,270	12	3	1,800	<5	<5	<5	<5	296	23	<5	<5
119	S-222	1964	6	90	288	273	1,240	3	2	400	<5	<5	<5	<5	90	14	<5	<5

[1]Sump removed in 1987.
[2]Sump removed in 1988.

Table 2. Data from Imperial Valley drainwater samples collected by the U.S. Geological Survey, May 16–20, 1988

[Location of sites shown in figure 2. Date: Eleven sites with no date shown were sampled in 1986 (see table 1 for results) but not sampled in 1988; Altitude of land surface in feet above or below (–) sea level. ft^3/s, cubic foot per second; µS/cm, microsiemen per centimeter at 25°C; °C, degree Celsius; mg/L, milligram per liter; µg/L, microgram per liter; ---, no data. The analysis for each sample is displayed as one line on three consecutive pages]

Site number	Local identifier	Latitude	Longitude	Date	Time	Altitude of land surface	Discharge, instantaneous (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)
1	S-403	33°18′02"N	115°35′22"W	5-16-88	1045	-195	0.018	11,300	7.4
2	TD-2907	33°18′55"N	115°33′40"W	---	---	---	---	---	---
3	SS-4	33°10′33"N	115°37′09"W	5-16-88	1230	-227	.012	8,640	7.0
4	S-38	33°10′58"N	115°36′15"W	5-16-88	1255	-228	---	38,200	6.9
5	S-45	33°10′10"N	115°37′50"W	5-16-88	1320	---	.070	13,900	7.1
6	S-226	33°10′06"N	115°33′21"W	5-16-88	1415	-212	.17	36,100	7.7
7	S-269	33°10′37"N	115°31′03"W	5-16-88	1430	-183	.079	28,200	7.1
8	S-417	33°11′30"N	115°33′40"W	5-16-88	1450	-217	.0028	44,000	7.3
9	S-332	33°11′57"N	115°33′39"W	5-16-88	1510	-216	.0028	14,100	6.8
10	TD-2013	33°11′55"N	115°26′55"W	---	---	---	---	---	---
11	SS-3	33°07′30"N	115°46′58"W	5-17-88	1140	-230	.054	7,280	7.2
12	SS-26	33°09′15"N	115°48′15"W	5-17-88	1210	-225	.86	13,000	7.3
13	S-219	33°04′53"N	115°41′57"W	5-17-88	1305	-219	.15	3,890	7.3
14	S-337	33°04′55"N	115°42′30"W	5-17-88	1250	---	---	39,700	7.2
15	SS-11	33°08′23"N	115°39′19"W	5-17-88	1705	-228	.12	33,800	7.0
16	S-43	33°09′42"N	115°37′48"W	5-17-88	1645	-224	.52	6,370	7.4
17	S-57	33°06′53"N	115°34′42"W	5-17-88	1605	-198	.22	6,240	7.5
18	TD-1829	33°04′55"N	115°34′40"W	---	---	---	---	---	---
19	S-25	33°06′15"N	115°33′39"W	5-17-88	1545	-189	.19	2,780	7.1
20	S-79	33°07′30"N	115°32′33"W	5-17-88	1530	-190	.11	7,480	7.1
21	S-119	33°08′22"N	115°30′26"W	5-17-88	1510	-182	.079	6,700	7.3
22	S-243	33°05′18"N	115°29′00"W	5-17-88	1415	-161	.047	16,500	7.2
23	S-488	33°05′18"N	115°27′26"W	5-17-88	1445	-148	.0052	16,900	7.5
24	TD-3038	33°08′30"N	115°22′55"W	5-16-88	1605	---	.0060	16,600	7.1
25	TD-2715	33°07′10"N	115°24′55"W	---	---	---	---	---	---
26	TD-147	33°04′55"N	115°23′20"W	5-16-88	1650	---	.016	21,000	7.1
27	S-364	33°02′03"N	115°42′19"W	5-17-88	1030	-148	.46	3,990	7.4
28	S-28	32°59′18"N	115°37′07"W	5-17-88	0910	-121	.084	2,520	7.7
29	S-69	33°00′23"N	115°37′13"W	5-17-88	0900	-139	.014	4,430	7.3
30	S-94	33°02′12"N	115°38′45"W	5-17-88	0955	-172	.053	19,800	7.1
31	S-127	33°01′15"N	115°36′10"W	---	---	---	---	---	---
32	S-353	33°03′28"N	115°34′36"W	5-17-88	0935	-167	.0061	10,600	7.2
33	S-142	33°04′26"N	115°29′39"W	5-18-88	0800	-159	.0042	2,620	7.1
34	S-175	33°01′45"N	115°33′52"W	5-17-88	0825	-142	.15	4,310	7.4
35	S-290	33°02′12"N	115°30′29"W	5-17-88	0800	-151	.0036	9,580	7.0
36	S-214	33°03′04"N	115°28′44"W	5-17-88	1805	-150	.064	7,480	7.0
37	S-385	33°00′27"N	115°29′26"W	5-17-88	0740	-141	.049	12,200	7.1
38	S-122	32°58′52"N	115°26′51"W	5-18-88	0730	-127	.092	10,400	7.2
39	S-160	33°03′05"N	115°27′25"W	5-17-88	1830	-144	.20	3,890	7.3
40	S-212	33°03′04"N	115°27′53"W	5-17-88	1820	-147	.053	7,430	7.3
41	S-241	33°04′26"N	115°27′53"W	5-17-88	1900	-151	.014	10,800	7.3
42	S-383	33°03′33"N	115°26′21"W	5-17-88	1845	-134	.067	6,710	7.0
43	TD-245	33°01′20"N	115°20′40"W	---	---	---	---	---	---
44	S-230	32°58′23"N	115°40′31"W	5-18-88	1625	-75	.50	2,000	7.4
45	S-55	32°57′00"N	115°36′40"W	---	---	---	---	---	---

Table 2. Data from Imperial Valley drainwater samples collected by the U.S. Geological Survey, May 16–20, 1988--Continued

Local identifier	Temperature, water (°C)	Calcium (mg/L) as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)	Fluoride (mg/L) as F)	Silica (mg/L as SiO_2)	Solids, residue at 180°C (mg/L)
S-403	22.0	300	330	2,000	20	270	2,600	2,500	0.9	21	—
TD-2907	—	—	—	—	—	—	—	—	—	—	—
SS-4	22.0	—	—	—	—	343	—	2,400	—	—	6,270
S-38	24.0	590	970	7,500	41	425	4,400	14,000	.2	17	—
S-45	21.5	—	—	—	—	386	—	3,900	—	—	9,480
S-226	22.5	640	1,100	6,000	45	216	3,800	11,000	.5	12	—
S-269	22.0	260	830	5,400	56	490	5,700	7,900	.7	17	—
S-417	23.0	—	—	—	—	444	—	—	—	—	32,500
S-332	24.5	180	480	2,300	32	654	2,300	3,700	1.0	19	—
TD-2013	—	—	—	—	—	—	—	—	—	—	—
SS-3	21.0	300	170	1,2000	16	376	1,600	1,200	1.3	18	—
SS-26	22.5	320	250	2,400	26	223	2,700	3,100	1.1	16	—
S-219	21.5	—	—	—	—	371	—	640	—	—	2,570
S-337	—	180	1,100	8,100	64	1,150	7,100	12,000	.6	19	—
SS-11	23.5	340	810	6,800	47	343	4,700	11,000	.4	15	—
S-43	23.0	310	160	920	8.1	221	1,500	1,200	.6	12	—
S-57	21.0	—	—	—	—	377	—	690	—	—	4,850
TD-1829	—	—	—	—	—	—	—	—	—	—	—
S-25	22.0	—	—	—	—	305	—	460	—	—	1,880
S-79	22.0	—	—	—	—	454	—	910	—	—	5,890
S-119	23.0	—	—	—	—	291	—	930	—	—	4,860
S-243	22.0	300	420	2,900	21	421	4,200	3,900	.4	12	—
S-488	22.5	—	—	—	—	377	—	4,400	—	—	11,700
TD-3038	25.0	—	—	—	—	488	—	3,300	—	—	13,700
TD-2715	—	—	—	—	—	—	—	—	—	—	—
TD-147	21.5	260	570	3,200	37	437	3,800	6,100	.3	12	—
S-364	21.5	—	—	—	—	314	—	500	—	—	2,910
S-28	21.0	—	—	—	—	258	—	240	—	—	1,700
S-69	18.5	—	—	—	—	503	—	580	—	—	3,190
S-94	19.5	420	530	2,900	20	451	2,800	5,500	.4	15	—
S-127	—	—	—	—	—	—	—	—	—	—	—
S-353	21.0	—	—	—	—	512	—	1,200	—	—	8,420
S-142	19.5	—	—	—	—	364	—	220	—	—	1,590
S-175	20.0	—	—	—	—	332	—	430	—	—	3,240
S-290	20.5	—	—	—	—	515	—	1,400	—	—	7,540
S-214	20.0	—	—	—	—	591	—	610	—	—	6,230
S-385	19.5	460	380	2,100	15	416	3,800	1,900	.4	15	—
S-122	20.5	—	—	—	—	475	—	1,400	—	—	8,530
S-160	18.5	—	—	—	—	503	—	350	—	—	3,020
S-212	19.5	310	210	1,400	16	361	2,300	1,000	.5	15	—
S-241	19.5	180	330	1,800	24	497	3,300	1,200	.6	14	—
S-383	20.0	—	—	—	—	406	—	1,500	—	—	5,100
TD-245	—	—	—	—	—	—	—	—	—	—	—
S-230	21.0	140	53	200	4.4	313	540	160	.8	16	—
S-55	—	—	—	—	—	—	—	—	—	—	—

Table 2. Data from Imperial Valley drainwater samples collected by the U.S. Geological Survey, May 16–20, 1988--Continued

Local identifier	Nitrogen, NO_2+NO_3 (mg/L as N)	Nitrogen, ammonia (mg/L as N)	Arsenic (µg/L as As)	Boron (µg/L as B)	Iron (µg/L as Fe)	Manganese (µg/L as Mn)	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)	Vanadium (µg/L as V)	Tritium total (pCi/L)	Stable-isotope ratio (permil) $^2H/^1H$	$^{18}O/^{16}O$	Selenium/chloride (weight ratio times 10^{-5})
S-403	23	0.09	2	2,900	40	20	32	130	31	103	-93.0	-10.75	5.2
TD-2907	—	—	—	—	—	—	—	3	—	—	—	—	—
SS-4	—	—	—	—	—	—	—	—	—	—	—	—	1
S-38	1.0	3.2	2	5,600	300	9,500	12	15	170	111	-72.0	-7.30	.1
S-45	—	—	—	—	—	—	—	—	—	—	—	—	—
S-226	45	1.2	3	2,200	210	70	33	250	170	96	-81.5	-9.00	2.3
S-269	34	.44	6	3,300	140	40	37	230	99	117	-89.0	-10.20	2.9
S-417	—	—	—	—	—	—	—	300	—	—	—	—	—
S-332	7.6	6.0	6	1,900	120	170	17	37	44	88	-85.0	-9.05	1.0
TD-2013	—	—	—	—	—	—	—	—	—	—	—	—	—
SS-3	8.4	.14	2	1,300	80	120	40	14	28	110	-95.0	-11.70	1.2
SS-26	18	.51	3	3,100	130	460	51	5	55	71	-80.0	-9.45	.2
S-219	—	—	—	—	—	—	—	5	—	—	—	—	.8
S-337	1.1	.40	2	17,000	290	70	19	17	200	104	-82.0	-8.65	.1
SS-11	7.4	10	2	5,500	1,500	5,800	12	3	140	91	-68.0	-6.75	.03
S-43	4.2	.14	2	930	300	540	16	14	20	121	-79.5	-8.00	1.2
S-57	—	—	—	—	—	—	—	30	—	—	—	—	4.3
TD-1829	—	—	—	—	—	—	—	—	—	—	—	—	—
S-25	—	—	—	—	—	—	—	3	—	—	—	—	.7
S-79	—	—	—	—	—	—	—	28	—	—	—	—	3.1
S-119	—	—	—	—	—	—	—	20	—	—	—	—	2.2
S-243	22	.20	2	1,700	110	100	20	89	42	160	-91.0	-10.80	2.3
S-488	—	—	—	—	—	—	—	100	—	—	—	—	2.3
TD-3038	—	—	—	—	—	—	—	100	—	—	—	—	3.0
TD-2715	—	—	—	—	—	—	—	—	—	—	—	—	—
TD-147	50	.40	3	2,000	160	40	18	210	64	122	-90.5	-10.70	3.4
S-364	—	—	—	—	—	—	—	18	—	—	—	—	3.6
S-28	—	—	—	—	—	—	—	7	—	—	—	—	2.9
S-69	—	—	—	—	—	—	—	3	—	—	—	—	.5
S-94	4.4	.36	1	1,800	90	170	16	51	68	—	-91.5	-10.85	.9
S-127	—	—	—	—	—	—	—	—	—	—	—	—	—
S-353	—	—	—	—	—	—	—	48	—	—	—	—	4.0
S-142	—	—	—	—	—	—	—	16	—	—	—	—	7.3
S-175	—	—	—	—	—	—	—	12	—	—	—	—	2.8
S-290	—	—	—	—	—	—	—	40	—	—	—	—	2.9
S-214	—	—	—	—	—	—	—	40	—	—	—	—	6.6
S-385	14	.19	1	1,700	40	30	14	98	43	—	-95.5	-11.45	5.2
S-122	—	—	—	—	—	—	—	43	—	—	—	—	3.1
S-160	—	—	—	—	—	—	—	10	—	—	—	—	2.9
S-212	8.2	.20	4	1,300	30	250	16	37	21	118	-97.5	-12.05	3.7
S-241	4.9	.13	3	2,000	120	40	14	30	38	131	-97.0	-11.90	2.5
S-383		—	—	—	—	—	—	29	—	—	—	—	1.9
TD-245	—	—	—	—	—	—	—	—	—	—	—	—	—
S-230	12	.06	2	320	60	30	13	7	6	110	-102.5	-12.60	4.4
S-55	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 2. Data from Imperial Valley drainwater samples collected by the U.S. Geological Survey, May 16–20, 1988--Continued

Site number	Local identifier	Latitude	Longitude	Date	Time	Altitude of land surface	Discharge, instantaneous (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)
46	S-256	32°54′25"N	115°38′00"W	5-18-88	1445	-72	.035	2,770	7.0
47	S-295	32°56′17"N	115°38′58"W	5-18-88	1520	-67	---	1,650	7.5
48	S-112	32°55′33"N	115°37′43"W	5-18-88	1430	-80	0.31	2,760	7.5
49	S-424	32°53′55"N	115°38′00"W	5-18-88	1500	-67	---	1,540	7.7
50	S-154	32°53′54"N	115°31′01"W	5-18-88	1310	-142	---	15,700	7.1
51	S-105	32°56′55"N	115°32′20"W	5-18-88	1205	-116	.028	12,100	6.9
52	S-133	32°57′25"N	115°32′10"W	5-18-88	1150	---	.0072	---	7.2
53	S-153	32°55′39"N	115°32′07"W	5-18-88	1255	-133	.080	13,600	7.3
54	S-365	32°57′21"N	115°28′25"W	5-18-88	1130	-136	.0000	17,900	7.0
55	TD-2001	32°55′55"N	115°22′50"W	---	---	---	---	---	---
56	TD-2040	32°55′00"N	115°25′40"W	---	---	---	---	---	---
57	TD-2554	32°55′25"N	115′20′05"W	5-18-88	1000	---	.032	10,300	6.8
58	S-322	32°54′57"N	115°18′36"W	5-18-88	0930	-11	.85	2,670	7.3
59	S-396	32°56′16"N	115°18′36"W	5-18-88	0905	-8	.21	2,850	7.0
60	TD-2432	32°49′12"N	115°46′09"W	5-19-88	0850	-32	.18	5,180	7.2
61	S-70	32°52′43"N	115°41′46"W	5-18-88	1800	-54	.24	8,030	7.3
62	S-68	32°51′07"N	115°44′23"W	5-18-88	1725	-45	.012	13,400	7.5
63	S-333	32°51′06"N	115°43′35"W	5-18-88	1830	-49	012	2,060	7.3
64	S-110	32°50′48"N	115°35′17"W	5-19-88	1330	-60	.034	12,000	7.1
65	S-67	32°52′07"N	115°35′35"W	5-19-88	1350	-66	.26	7,460	7.1
66	S-225	32°49′04"N	115°35′09"W	5-19-88	1410	-52	.0091	17,000	7.1
				5-19-88	0845	-52	.0067	17,100	7.1
67	S-265	32°48′26"N	115°40′12"W	5-19-88	0815	-43	.12	10,200	7.3
68	S-398	32°49′56"N	115°39′11"W	5-19-88	1430	-50	045	10,600	7.2
69	S-148	32°52′06"N	115°30′03"W	5-19-88	0910	-118	.019	12,900	7.2
70	TD-1408	32°49′30"N	115°29′46"W	5-20-88	0930	-68	.35	2,940	7.4
71	S-234	32°49′55"N	115°32′37"W	5-20-88	0810	-62	.086	7,360	7.4
72	S-410	32°51′15"N	115°32′10"W	5-20-88	0830	---	.20	5,190	7.3
73	S-411	32°51′40"N	115°33′10"W	5-20-88	0845	---	.027	6,020	7.4
74	S-2	32°52′30"N	115°23′45"W	5-20-88	1025	---	.053	11,900	7.2
75	S-4	32°52′30"N	115°22′30"W	5-19-88	1030	-57	.045	29,300	7.0
76	S-103	32°48′55"N	115°27′23"W	5-19-88	1000	-72	041	9,160	7.0
77	S-247	32°50′48"N	115°27′04"W	5-19-99	0940	-88	.0025	28,700	6.7
78	S-376	32°52′13"N	115°27′19"W	5-20-88	1000	-150	.0081	7,840	7.2
79	S-72	32°50′21"N	115°21′16"W	5-20-88	1050	-22	.0027	13,400	7.3
80	S-169	32°48′09"N	115°17′32"W	5-19-88	1055	11	.15	4,980	7.4
81	S-187	32°48′12"N	115°21′51"W	5-20-88	1115	-1	.71	6,720	7.1
82	S-21	32°47′29"N	115°45′52"W	5-19-88	1520	-41	.013	11,500	7.2
83	S-22	32°47′52"N	115°45′07"W	5-19-88	0940	-42	045	8,780	7.0
84	S-130	32°48′02"N	115°45′46"W	5-19-88	0910	-37	.42	4,470	7.3
85	S-207	32°44′40"N	115°43′47"W	5-19-88	1020	-35	.18	12,500	7.3
86	TD-2939	32°42′25"N	115°45′10"W	---	---	---	---	---	---
87	S-352	32°45′28"N	115°43′31"W	5-19-88	1540	-40	0	22,800	7.3
88	S-81	32°42′59"N	115°41′10"W	5-19-88	1055	-22	.35	2,370	7.4
89	S-113	32°45′11"N	115°35′08"W	5-19-88	1430	-26	.0048	8,290	7.0

Table 2. Data from Imperial Valley drainwater samples collected by the U.S. Geological Survey, May 16–20, 1988--Continued

Local identifier	Temperature, water (°C)	Calcium (mg/L) as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)	Fluoride (mg/L) as F)	Silica (mg/L as SiO_2)	Solids, residue at 180°C (mg/L)
S-256	—	—	—	—	—	345	—	240	—	—	1,830
S-295	—	110	45	170	4.4	204	420	130	0.8	17	—
S-112	—	—	—	—	—	343	—	240	—	—	1,880
S-424	—	90	42	160	3.2	191	430	150	.5	12	—
S-154	—	430	490	2,200	26	277	2,200	4,600	.4	11	—
S-105	21.0	—	—	—	—	559	—	2,200	—	—	9,690
S-133	20.0	—	—	—	—	565	—	940	—	—	4,400
S-153	—	—	—	—	—	412	—	3,000	—	—	10,400
S-365	21.5	440	600	2,900	29	408	3,500	5,000	.3	12	—
TD-2001	—	—	—	—	—	—	—	—	—	—	—
TD-2040	—	—	—	—	—	—	—	—	—	—	—
TD-2554	21.0	360	300	1,900	10	528	4,000	1,400	.4	22	—
S-322	20.0	—	—	—	—	335	—	2,200	—	—	1,920
S-396	19.5	—	—	—	—	500	—	220	—	—	1,970
TD-2432	21.5	—	—	—	—	380	—	920	—	—	3,840
S-70	21.5	—	—	—	—	337	—	1,300	—	—	6,060
S-68	22.0	—	—	—	—	340	—	2,800	—	—	9,780
S-333	21.5	—	—	—	—	241	—	170	—	—	1,330
S-110	—	—	—	—	—	370	—	2,800	—	—	85,800
S-67	—	—	—	—	—	408	—	1,000	—	—	6,070
S-225	—	—	—	—	—	386	—	4,700	—	—	12,100
	—	430	460	2,600	16	403	2,900	4,800	.4	16	—
S-265	21.5	380	270	1,600	32	484	3,000	1,900	.4	18	—
S-398	—	—	—	—	—	473	—	2,100	—	—	8,240
S-148	20.5	270	400	2,100	21	418	3,500	4,300	4	15	—
TD-1408	23.0	—	—	—	—	274	—	410	—	—	1,800
S-234	20.5	—	—	—	—	458	—	1,300	—	—	5,270
S-410	21.5	—	—	—	—	315	—	890	—	—	3,610
S-411	21.0	—	—	—	—	322	—	1,000	—	—	4,420
S-2	21.5	—	—	—	—	395	—	2,100	—	—	9,120
S-4	21.0	390	910	4,900	24	406	4,600	9,000	.3	13	—
S-103	20.0	360	360	1,500	13	544	3,200	1,300	.7	13	—
S-247	20.0	700	1,000	3,600	34	378	3,500	9,500	.3	13	—
S-376	22.5	—	—	—	—	384	—	1,400	—	—	5,710
S-72	21.5	—	—	—	—	437	—	2,500	—	—	10,100
S-169	21.0	180	98	770	5.5	337	980	870	1.5	25	—
S-187	22.5	—	—	—	—	475	—	800	—	—	5,300
S-21	22.0	280	250	2,100	10	338	3,600	1,900	1.6		—
S-22	22.0	—	—	—	—	312	—	1,700	—	—	6,560
S-130	22.5	—	—	—	—	307	—	600	—	—	3,210
S-207	21.5	—	—	—	—	282	—	2,700	—	—	9,150
TD-2939	—	—	—	—	—	—	—	—	—	—	—
S-352	21.5	280	480	4,300	20	407	4,100	6,000	.5	11	—
S-81	24.0	—	—	—	—	252	—	250	—	—	1,670
S-113	21.5	230	260	1,300	8.5	434	2,700	1,100	.8	17	—

Table 2. Data from Imperial Valley drainwater samples collected by the U.S. Geological Survey, May 16–20, 1988--Continued

Local identifier	Nitrogen, NO_2+NO_3 (mg/L as N)	Nitrogen, ammonia (mg/L as N)	Arsenic (µg/L as As)	Boron (µg/L as B)	Iron (µg/L as Fe)	Manganese (µg/L as Mn)	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)	Vanadium (µg/L) as V)	Tritium total (pCi/L)	Stable-isotope ratio (permil) $^2H/^1H$	$^{18}O/^{16}O$	Selenium/chloride (weight ratio times 10^{-5})
S-256	—	—	—	—	—	—	—	7	—	—	—	—	2.9
S-295	26	0.02	4	230	10	10	12	5	9	110	-102.0	-12.70	3.8
S-112	—	—	—	—	—	—	—	4	—	—	—	—	1.7
S-424	1.3	.01	1	230	110	20	9	8	3	104	-103.5	-12.95	5.3
S-154	7.1	.34	2	1,300	150	40	14	15	59	110	-92.0	-11.20	.3
S-105	—	—	—	—	—	—	—	65	—	—	—	—	3.0
S-133	—	—	—	—	—	—	—	21	—	—	—	—	2.2
S-153	—	—	—	—	—	—	—	110	—	—	—	—	3.7
S-365	28	.40	2	1,400	90	50	11	130	53	129	-92.0	-11.05	2.6
TD-2001	—	—	—	—	—	—	—	—	—	—	—	—	—
TD-2040	—	—	—	—	—	—	—	—	—	—	—	—	—
TD-2554	9.1	.11	3	4,300	40	20	23	41	31	169	-99.0	-12.05	2.9
S-322	—	—	—	—	—	—	—	5	—	—	—	—	.2
S-396	—	—	—	—	—	—	—	10	—	—	—	—	4.5
TD-2432	—	—	—	—	—	—	—	10	—	—	—	—	1.1
S-70	—	—	—	—	—	—	—	22	—	—	—	—	1.7
S-68	—	—	—	—	—	—	—	22	—	—	—	—	.8
S-333	—	—	—	—	—	—	—	6	—	—	—	—	3.5
S-110	—	—	—	—	—	—	—	31	—	—	—	—	1.1
S-67	—	—	—	—	—	—	—	31	—	—	—	—	3.1
S-225	—	—	—	—	—	—	—	47	—	—	—	—	1.0
	4.4	3.9	1	1,800	80	70	18	44	56	143	-93.5	-11.50	.9
S-265	33	.18	2	1,400	70	250	14	76	32	127	-96.0	-11.60	4.0
S-398	—	—	—	—	—	—	—	62	—	—	—	—	3.0
S-148	9.0	.22	1	1,900	230	380	16	48	61	140	-91.0	-11.00	1.1
TD-1408	—	—	—	—	—	—	—	6	—	—	—	—	1.5
S-234	—	—	—	—	—	—	—	24	—	—	—	—	1.8
S-410	—	—	—	—	—	—	—	13	—	—	—	—	1.5
S-411	—	—	—	—	—	—	—	24	—	—	—	—	2.4
S-2	—	—	—	—	—	—	—	50	—	—	—	—	2.4
S-4	9.8	.60	2	2,200	140	40	21	170	120	103	-89.0	-10.50	1.9
S-103	6.6	.14	2	1,400	200	70	17	51	29	—	-97.5	-11.90	3.9
S-247	33	1.3	2	2,000	160	2,600	19	230	160	111	-90.0	-10.30	2.4
S-376	—	—	—	—	—	—	—	30	—	—	—	—	2.1
S-72	—	—	—	—	—	—	—	68	—	—	—	—	2.7
S-169	20	.05	4	1,000	60	120	19	4	21	189	-96.5	-11.60	.5
S-187	—	—	—	—	—	—	—	16	—	—	—	—	2.0
S-21	5.9	.11	4	3,500	120	160	65	19	41	105	-97.0	-11.75	1.0
S-22	—	—	—	—	—	—	—	22	—	—	—	—	1.3
S-130	—	—	—	—	—	—	—	9	—	—	—	—	1.5
S-207	—	—	—	—	—	—	—	41	—	—	—	—	1.5
TD-2939	—	—	—	—	—	—	—	—	—	—	—	—	—
S-352	16	.17	2	3,000	110	80	25	65	10	—	-94.0	-11.15	1.1
S-81	—	—	—	—	—	—	—	5	—	—	—	—	2.0
S-113	19	.15	2	1,300	50	80	18	39	21	134	-100.0	-12.45	3.5

Table 2. Data from Imperial Valley drainwater samples collected by the U.S. Geological Survey, May 16–20, 1988--Continued

Site number	Local identifier	Latitude	Longitude	Date	Time	Altitude of land surface	Discharge, instantaneous (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)
90	S-115	32°45'33"N	115°37'10"W	5-19-88	1500	-29	0.38	3,880	7.2
91	S-242	32°47'05"N	115°38'45"W	5-19-88	1140	-40	.092	15,800	7.1
92	S-392	32°47'20"N	115°35'00"W	---	---	---	---	---	---
93	S-423	32°42'59"N	115°37'38"W	5-19-88	1620	-21	0	20,200	6.9
94	S-93	32°43'20"N	115°29'30"W	5-19-88	1715	-3	.23	6,150	7.1
95	S-221	32°45'58"N	115°30'43"W	5-19-88	1745	-37	.052	8,310	7.2
96	S-229	32°44'14"N	115°29'43"W	5-19-88	1730	-16	.42	8,290	7.2
97	S-321	32°43'22"N	115°32'30"W	5-19-88	1655	-12	---	3,200	7.1
98	S-371	32°44'42"N	115°32'35"W	5-19-88	1410	-20	.10	11,300	7.2
99	S-144	32°45'04"N	115°24'43"W	5-20-88	1300	-2	.021	8,850	7.1
100	S-164	32°45'58"N	115°27'19"W	5-20-88	1415	-18	.26	6,300	7.2
101	S-202	32°43'46"N	115°24'44"W	5-20-88	1330	11	---	3,350	7.0
102	S-368	32°46'19"N	115°24'41"W	5-20-88	1315	-17	.18	5,940	7.3
103	S-408	32°43'20"N	115°27'50"W	5-20-88	1355	-1	.027	10,000	7.2
104	S-176	32°45'55"N	115°19'10"W	5-19-88	1125	8	.16	11,800	7.3
105	S-316	32°45'04"N	115°18'59"W	5-19-88	1135	12	.17	7,570	7.2
106	S-336	32°43'20"N	115°20'40"W	5-20-88	0950	25	.16	6,620	7.3
107	S-386	32°44'38"N	115°17'34"W	5-20-88	1015	21	.22	8,300	7.4
108	S-393	32°44'02"N	115°16'15"W	5-20-88	1050	34	.38	1,700	7.5
109	S-60	32°39'26"N	115°37'10"W	5-19-88	1650	-8	.070	3,890	7.4
110	S-344	32°40'18"N	115°39'16"W	5-19-88	1635	-18	.045	16,000	7.3
111	S-416	32°42'16"N	115°38'16"W	5-19-88	1530	-25	.016	4,420	7.4
112	S-108	32°41'58"N	115°31'25"W	5-19-88	1615	-4	.055	6,230	7.3
113	S-182	32°39'29"N	115°29'48"W	5-19-88	1630	-2	.020	9,510	7.2
114	S-402	32°39'38"N	115°34'33"W	5-19-88	1555	-7	.078	3,260	7.1
115	S-59	32°40'27"N	115°27'21"W	5-19-88	1730	10	---	7,770	7.3
116	S-267	32°40'45"N	115°24'26"W	5-20-88	0915	21	.069	3,950	7.3
117	S-14	32°42'03"N	115°20'57"W	5-19-88	1755	25	.77	8,720	7.1
118	S-360	32°41'19"N	115°29'40"W	5-20-88	0850	35	.084	5,690	7.3
119	S-222	32°42'19"N	115°15'58"W	5-19-88	1815	35	.55	1,850	7.1

Table 2. Data from Imperial Valley drainwater samples collected by the U.S. Geological Survey, May 16–20, 1988--Continued

Local identifier	Temperature, water (°C)	Calcium (mg/L as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)	Fluoride (mg/L) as F)	Silica (mg/L as SiO_2)	Solids, residue at 180°C (mg/L)
S-115	—	—	—	—	—	390	—	370	—	—	2,870
S-242	22.5	—	—	—	—	341	—	4,600	—	—	10,900
S-392	—	—	—	—	—	—	—	—	—	—	—
S-423	20.5	580	510	2,900	25	299	2,500	6,300	0.3	14	—
S-93	22.0	—	—	—	—	383	—	1,000	—	—	4,850
S-221	20.0	—	—	—	—	358	—	2,200	—	—	6,150
S-229	21.0	—	—	—	—	392	—	1,800	—	—	6,560
S-321	23.0	—	—	—	—	395	—	260	—	—	2,360
S-371	22.0	560	350	1,600	7.6	360	2,300	2,600	.5	18	—
S-144	22.0	—	—	—	—	434	—	2,400	—	—	6,300
S-164	20.5	—	—	—	—	343	—	1,000	—	—	4,820
S-202	—	—	—	—	—	413	—	260	—	—	2,370
S-368	20.5	—	—	—	—	382	—	1,000	—	—	4,130
S-408	21.0	—	—	—	—	441	—	2,800	—	—	7,150
S-176	19.0	390	330	1,900	7.6	484	3,300	2,200	.5	18	—
S-316	—	400	220	1,100	5.8	370	2,100	1,200	.8	15	—
S-336	20.0	—	—	—	—	334	—	1,200	—	—	4,760
S-386	20.5	—	—	—	—	318	—	1,800	—	—	5,920
S-393	20.0	—	—	—	—	282	—	130	—	—	1,100
S-60	21.0	250	110	530	5.4	355	1,200	480	.6	16	—
S-344	21.5	250	320	2,800	19	319	3,800	3,800	.4	15	—
S-416	22.0	—	—	—	—	397	—	540	—	—	3,330
S-108	22.0	—	—	—	—	410	—	770	—	—	4,960
S-182	21.5	—	—	—	—	450	—	2,200	—	—	7,540
S-402	—	—	—	—	—	584	—	310	—	—	2,260
S-59	21.0	290	220	1,300	7.3	419	3,000	810	.7	17	—
S-267	20.0	—	—	—	—	336	—	430	—	—	2,840
S-14	20.5	390	290	1,400	8.2	446	3,800	1,300	.7	17	—
S-360	20.0	—	—	—	—	347	—	870	—	—	4,280
S-222	21.0	90	46	260	3.5	225	470	200	.8	19	—

Table 2. Data from Imperial Valley drainwater samples collected by the U.S. Geological Survey, May 16–20, 1988--Continued

Local identifier	Nitrogen, NO_2+NO_3 (mg/L as N)	Nitrogen, ammonia (mg/L as N)	Arsenic (µg/L as As)	Boron (µg/L as B)	Iron (µg/L as Fe)	Manganese (µg/L as Mn)	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)	Vanadium (µg/L) as V)	Tritium total (pCi/L)	Stable-isotope ratio (permil) $^2H/^1H$	$^{18}O/^{16}O$	Selenium/chloride (weight ratio times 10^{-5})
S-115	—	—	—	—	—	—	—	14	—	—	—	—	3.8
S-242	—	—	—	—	—	—	—	8	—	—	—	—	.2
S-392	—	—	—	—	—	—	—	—	—	—	—	—	—
S-423	97	0.62	1	1,800	180	270	19	240	74	91	-90.5	-10.15	3.8
S-93	—	—	—	—	—	—	—	23	—	—	—	—	2.3
S-221	—	—	—	—	—	—	—	33	—	—	—	—	1.5
S-229	—	—	—	—	—	—	—	40	—	—	—	—	2.2
S-321	—	—	—	—	—	—	—	9	—	—	—	—	3.5
S-371	9.5	20	2	1,300	340	170	20	76	48	132	-96.0	-11.80	2.9
S-144	—	—	—	—	—	—	—	31	—	—	—	—	1.3
S-164	—	—	—	—	—	—	—	22	—	—	—	—	2.2
S-202	—	—	—	—	—	—	—	12	—	—	—	—	4.6
S-368	—	—	—	—	—	—	—	32	—	—	—	—	3.2
S-408	—	—	—	—	—	—	—	7	—	—	—	—	.2
S-176	9.9	.17	1	1,700	80	190	17	51	37	—	-96.5	-11.60	2.3
S-316	19	.14	1	1,100	80	300	16	28	24	132	-100.0	-12.15	2.3
S-336	—	—	—	—	—	—	—	17	—	—	—	—	1.4
S-386	—	—	—	—	—	—	—	24	—	—	—	—	1.3
S-393	—	—	—	—	—	—	—	3	—	—	—	—	2.3
S-60	13	.05	1	540	40	60	15	6	9	113	-102.0	-12.50	1.2
S-344	37	.21	2	2,300	90	70	33	60	36	85	-94.5	-11.15	1.6
S-416	—	—	—	—	—	—	—	17	—	—	—	—	3.1
S-108	—	—	—	—	—	—	—	27	—	—	—	—	3.5
S-182	—	—	—	—	—	—	—	52	—	—	—	—	2.4
S-402	—	—	—	—	—	—	—	4	—	—	—	—	1.3
S-59	16	.12	2	1,400	60	20	17	27	15	113	-100.5	-12.35	3.3
S-267	—	—	—	—	—	—	—	7	—	—	—	—	1.6
S-14	23	.13	1	1,800	90	130	20	35	27	113	-97.5	-11.90	2.7
S-360	—	—	—	—	—	—	—	14	—	—	—	—	1.6
S-222	1.2	.03	2	400	10	70	10	3	7	135	-103.0	-12.80	1.5

Table 3. Comparison of data for drainwater samples collected at selected locations in the Imperial Valley by the

[1986 data are from three sumps and five tile drains (published by Setmire and others, 1990b). µS/cm, microsiemen
<, actual value is less than value shown; --- no data]

	Location 1		Location 2		Location 3	
Local identifier	SS-18		Unknown		S-462	
Latitude	33°10'33"N		33°03'04"N		32°51'15"N	
Longitude	115°36'15"W		115°37'11"W		115°37'45"W	
Altitude of land surface (ft below sea level)	226		172		56	
Date	7-14-86	8-20-88	7-14-86	——	7-14-86	8-19-88
Specific conductance (µS/cm)	28,400	30,900	7,120	---	32,200	15,240
pH (standard units)	7.1	7.3	7.3	---	6.8	6.9
Calcium (mg/L as Ca)	1,300	1,600	370	---	1,800	820
Magnesium (mg/L as Mg)	810	960	220	---	820	360
Sodium (mg/L as Na)	4,400	4,400	1,100	---	3,800	2,100
Potassium (mg/L as K)	38	37	15	---	35	16
Alkalinity (mg/L as $CaCO_3$)	282	312	475	---	240	213
Sulfate (mg/L as SO_4)	3,700	2,900	2,800	---	2,000	1,400
Chloride (mg/L as Cl)	9,400	10,000	780	---	11,000	4,600
Fluoride (mg/L as F)	0.4	0.3	0.8	---	0.2	0.6
Silica (mg/L as SiO_2)	14	17	20	---	12	13
Nitrogen, NO_2+ NO_3 (mg/L as N)	---	8.2	---	---	---	29
Nitrogen, ammonia (mg/L as N)	---	1.1	---	---	---	4.2
Arsenic (µg/L as As)	1	1	3	---	1	4
Boron (µg/L as B)	3,400	3,700	1,800	---	3,100	920
Iron (µg/L as Fe)	100	160	50	---	140	250
Manganese (µg/L as Mn)	2,900	2,700	540	---	130	580
Molybdenum (µg/L as Mo)	25	11	30	---	20	24
Selenium (µg/L as Se)	55	20	24	---	120	61
Vanadium (µg/L as V)	40	87	20	---	100	41
$^2H/^1H$ isotope ratio (permil)	---	-89.5	---	---	---	-95.5
$^{18}O/^{16}O$ isotope ratio (permil)	---	-9.95	---	---	---	-11.30

U.S. Geological Survey in 1986 and 1988

per centimeter at 25°C; °C, degree Celsius; mg/L, milligram per liter; µg/L, microgram per liter; ft, foot;

Location 4		Location 5		Location 6		Location 7		Location 8	
S-113		Unknown		Unknown		Unknown		Unknown	
32°45'07"N		33°10'37"N		32°05'20"N		32°58'00"N		32°49'31"N	
115°35'09"W		115°27'12"W		115°24'45"W		115°25'52"W		115°21'47"W	
24		130		108		116		17	
7-14-86	8-19-88	7-14-86	8-20-88	7-14-86	8-20-88	7-14-86	8-20-88	7-14-86	------
5,800	5,570	5,610	5,460	35,100	36,400	6,640	4,660	8,290	---
7.4	7.3	7.2	7.9	7.1	7.4	7.3	8.0	7.9	
370	340	310	310	920	940	290	230	440	---
150	170	160	170	1,300	1,400	160	150	250	---
850	840	810	790	5,800	6,800	970	730	1,300	---
13	10	7	10	65	66	20	11	10	---
386	457	366	270	350	445	310	279	530	---
2,200	2,000	1,900	1,600	5,700	6,100	2,000	1,200	3,500	---
660	620	740	770	12,000	11,000	990	720	820	---
0.5	0.9	1.4	0.6	0.3	0.2	1.1	0.7	0.5	---
20	18	26	23	15	7.7	18	22	22	---
---	27	---	31	---	18	---	8.4	---	---
---	0.10	---	0.07	---	0.65	---	1.2	---	---
1	1	1	1	4	5	2	4	1	---
1,100	980	1,200	1,100	3,500	4,000	2,400	880	1,700	---
30	80	30	30	140	270	40	190	50	---
340	20	40	<10	50	50	50	<10	20	---
28	16	36	20	35	14	58	16	15	---
14	18	7	13	300	260	25	16	26	---
17	12	17	12	100	98	38	17	22	---
---	-101.0	---	-100.5	---	-78.5	---	-97.0	---	---
---	-12.50	---	-12.40	---	-8.10	---	-12.10	---	---

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989

[Location of sites shown in figure 2. Data from May 1988 also given in table 2. ft³/s, cubic foot per second; µS/cm, microsiemen per centimeter at 25°C; °C, degree Celsius; mg/L, milligram per liter; µg/L, microgram per liter; pCi/L, picocurie per liter; <, actual value less than value shown; — no data. The analysis for each sample is displayed as one line on four consecutive pages. Nitrate (plus nitrite) analyzed twice on many samples; results of both analyses are listed]

Site number	Local identifier	Date	Time	Discharge, instantaneous (ft³/s)	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Calcium (mg/L as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)
6 . . .	S-226	5-16-88	1415	0.1700	36,100	7.7	22.5	640	1,100	6,000	45
		8-23-88	0855	—	50,000	7.6	—	—	—	—	—
		10-20-88	1405	.0520	36,700	7.4	27.0	830	790	7,300	72
		11-14-88	1240	.0118	33,600	7.4	23.5	820	—	—	—
		12-16-88	1350	.1930	31,100	7.0	—	880	—	—	—
		1-19-89	1640	.0000	38,400	7.6	18.0	1,200	1,300	7,100	48
		2-16-89	0950	.2460	26,300	7.4	19.0	890	—	—	—
		3-15-89	1340	.0432	32,600	7.5	22.0	1,200	—	—	—
		4-10-89	1750	.0490	32,800	7.1	20.0	1,200	1,100	5,300	39
		5-22-89	1630	.0685	39,500	7.2	22.0	1,500	1,200	6,000	50
		6-20-89	1210	.0137	39,900	7.2	24.0	1,600	1,300	6,700	18
		7-19-89	1820	.0288	18,200	7.4	25.0	820	500	2,600	37
		8-27-89[1]	1600	.1030	30,600	7.3	26.5	1,100	820	4,800	61
		8-27-89	1601	—	30,600	7.2	—	—	—	—	—
7 . . .	S-269	5-16-88	1430	.0790	28,200	7.1	22.0	260	830	5,400	56
		8-23-88	1030	.0360	32,800	7.1	—	—	—	—	—
		10-20-88	1330	.0110	34,000	7.6	26.0	740	1,100	6,000	60
		11-14-88	1325	.0061	20,000	7.9	24.0	560	—	—	—
		12-16-88	1415	.0000	32,800	7.6	—	910	—	—	—
		1-19-89	1655	.0036	32,700	7.7	18.0	780	1,200	5,300	71
		2-16-89	0920	.0000	31,900	7.9	18.5	820	—	—	—
		3-15-89	1510	.0012	33,100	7.3	20.0	820	—	—	—
		4-10-89	1830	.0535	28,600	7.0	20.5	780	980	5,000	48
		5-22-89	1745	.0400	24,000	7.1	22.0	590	730	3,900	58
		6-20-89	1300	.0517	34,500	7.0	23.5	900	1,200	6,000	85
		7-19-89	1840	.0287	31,500	7.0	24.0	900	1,100	5,500	85
		8-27-89[1]	1700	1.1640	33,200	6.9	26.0	850	1,100	5,700	95
		8-27-89	1701	—	33,200	6.8	—	—	—	—	—
8 . . .	S-417	5-16-88	1450	.0028	44,000	7.3	23.0	—	—	—	—
		8-18-88	1400	—	42,300	7.4	—	—	—	—	—
		10-20-88	1425	.0050	34,300	7.3	26.0	820	920	6,500	59
		11-14-88	1305	.0198	32,300	7.6	24.0	830	—	—	—
		12-16-88	1415	.0147	33,100	7.4	22.0	760	—	—	—
		1-18-89	1600	—	19,700	7.6	15.0	630	620	3,200	39
		2-16-89	0930	.2190	32,600	7.4	18.5	900	—	—	—
		3-15-89	1425	.1090	12,000	7.4	18.5	410	—	—	—
		4-10-89	1810	.2670	10,400	7.5	18.5	350	320	1,600	18
		5-22-89	1715	.0066	38,000	7.2	21.0	1,200	1,400	5,700	30
		6-20-89	1245	.0330	39,400	7.2	23.0	1,200	1,500	6,400	86
		7-19-89	1900	—	12,000	7.3	26.0	630	370	1,700	28
		8-27-89[1]	1620	.0078	35,400	7.3	25.0	1,100	1,200	5,600	89
		8-27-89	1621	—	35,500	7.3	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)	Fluoride (mg/L as F)	Bromide (mg/L as Br)	Silica (mg/L as SiO_2)	Solids, residue at 180 °C (mg/L)	Nitrogen, NO_2+ NO_3 (mg/L as N)	Nitrogen, NO_2+ NO_3 (mg/L as N)
S-226	5-16-88	216	3,800	11,000	0.5	—	12	—	45	—
	8-23-88	173	2,800	19,000	—	—	—	35,300	—	—
	10-20-88	203	5,200	12,000	.7	—	10	27,900	190	170
	11-14-88	269	4,900	10,000	—	7.3	—	25,000	140	—
	12-16-88	300	4,900	9,500	—	6.8	—	22,900	110	—
	1-19-89	349	4,800	12,000	—	9.2	12	28,200	120	120
	2-16-89	304	3,900	7,700	—	5.2	—	19,200	94	—
	3-15-89	250	4,500	10,000	—	6.9	—	23,500	77	—
	4-10-89	323	3,900	11,000	—	6.6	9.2	23,500	100	100
	5-22-89	262	3,700	14,000	.5	9.8	13	28,400	66	66
	6-20-89	274	3,700	14,000	.5	9.9	13	28,400	63	63
	7-19-89	289	3,400	4,700	—	2.8	13	13,300	—	36
	8-27-89[1]	235	3,900	9,400	—	6.8	13	21,500	—	57
	8-27-89	233	3,900	9,500	—	7.1	—	—	—	—
S-269	5-16-88	490	5,700	7,900	.7	—	17	—	34	—
	8-23-88	475	5,800	9,500	—	—	—	25,200	—	—
	10-20-88	444	5,400	11,000	.7	—	17	26,000	49	50
	11-14-88	239	4,000	4,800	—	4.0	—	15,100	140	—
	12-16-88	509	5,100	11,000	—	6.9	—	24,700	57	—
	1-19-89	410	4,900	10,000	—	8.0	16	24,300	51	51
	2-16-89	427	4,800	13,000	—	7.4	—	23,900	42	—
	3-15-89	455	5,100	10,000	—	7.5	—	25,300	37	—
	4-10-89	499	5,100	8,000	—	6.1	14	21,500	79	79
	5-22-89	440	4,300	6,800	.9	5.0	18	17,700	26	26
	6-20-89	491	5,300	10,000	.7	8.1	18	22,000	38	38
	7-19-89	512	5,500	9,200	—	7.0	18	23,400	—	28
	8-27-89[1]	508	5,400	10,000	—	7.0	19	25,100	—	27
	8-27-89	491	5,700	10,000	—	7.7	—	—	—	—
S-417	5-16-88	444	—	—	—	—	—	32,500	—	—
	8-18-88	472	4,300	15,000	—	—	—	30,700	—	—
	10-20-88	465	4,900	11,000	.7	—	19	25,800	36	33
	11-14-88	468	5,100	9,400	—	6.6	—	24,200	34	—
	12-16-88	419	5,500	10,000	—	7.7	—	25,000	32	—
	1-18-89	438	4,900	4,500	—	2.7	15	15,300	21	21
	2-16-89	548	4,800	10,000	—	6.8	—	24,200	23	—
	3-15-89	407	3,300	2,600	—	1.3	—	9,080	3.9	—
	4-10-89	394	2,700	2,000	—	0.99	15	7,610	3.3	3.3
	5-22-89	580	4,500	13,000	.7	8.9	19	27,700	14	14
	6-20-89	530	4,200	13,000	.7	9.1	19	28,900	30	30
	7-19-89	345	4,300	2,100	—	.86	17	9,720	—	.93
	8-27-89[1]	465	4,500	12,000	—	8.1	20	25,200	—	21
	8-27-89	378	4,600	12,000	—	7.9	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Nitrogen, ammonia (mg/L as N)	Nitrogen, ammonia + organic, dis. (mg/L as N)	Phosphorus, hydro. + ortho (mg/L as P)	Aluminum (µg/L as Al)	Antimony (µg/L as Sb)	Arsenic (µg/L as As)	Boron (µg/L as B)	Iron (µg/L) as Fe)	Lithium (µg/L as Li)	Manganese (µg/L as Mn)
S-226	5-16-88	1.2	—	—	—	—	3	2,200	210	—	70
	8-23-88	—	—	—	—	—	2	2,600	—	—	—
	10-20-88	.80	—	—	50	<1	4	2,100	200	—	60
	11-14-88	.75	—	—	—	—	—	2,400	140	—	40
	12-16-88	.54	—	—	—	—	—	2,000	130	—	50
	1-19-89	1.1	—	—	40	—	4	2,100	170	980	50
	2-16-89	.44	—	—	—	—	—	1,500	<90	—	20
	3-15-89	.40	—	—	—	—	—	1,700	140	—	40
	4-10-89	.50	—	—	210	—	3	2,000	130	790	40
	5-22-89	.81	—	—	<50	—	2	2,200	220	900	70
	6-20-89	.71	—	—	30	—	2	2,500	220	960	60
	7-19-89	—	—	—	30	—	3	2,200	70	—	40
	8-27-89[1]	.35	0.3	0.10	40	—	4	2,500	130	—	50
	8-27-89	—	—	—	—	—	—	—	—	—	—
S-269	5-16-88	.44	—	—	—	—	6	3,300	140	—	40
	8-23-88	—	—	—	—	—	7	3,600	—	—	—
	10-20-88	.63	—	—	20	<1	10	3,600	160	—	60
	11-14-88	.28	—	—	—	—	—	2,600	80	—	20
	12-16-88	.63	—	—	—	—	—	3,600	130	—	310
	1-19-89	.70	—	—	20	—	8	2,700	160	1,100	40
	2-16-89	.44	—	—	—	—	—	2,600	100	—	40
	3-15-89	.31	—	—	—	—	—	2,900	150	—	40
	4-10-89	.34	—	—	60	—	8	2,900	120	1,800	40
	5-22-89	.18	—	—	30	—	8	2,600	140	870	40
	6-20-89	.37	—	—	20	—	9	3,300	190	1,600	50
	7-19-89	.29	—	—	70	—	10	3,600	130	—	50
	8-27-89[1]	.29	.2	.12	80	—	10	4,000	160	—	40
	8-27-89	—	—	—	—	—	—	—	—	—	—
S-417	5-16-88	—	—	—	—	—	—	—	—	—	—
	8-18-88	—	—	—	—	—	4	4,300	—	—	—
	10-20-88	.79	—	—	30	<1	5	4,000	140	—	230
	11-14-88	.65	—	—	—	—	—	4,000	120	—	250
	12-16-88	.68	—	—	—	—	—	3,200	170	—	300
	1-18-89	.24	—	—	30	—	4	2,100	120	840	100
	2-16-89	.60	—	—	—	—	—	2,900	<110	—	150
	3-15-89	.06	—	—	—	—	—	1,500	50	—	110
	4-10-89	.09	—	—	30	—	3	1,500	40	510	90
	5-22-89	.87	—	—	<50	—	4	3,700	200	1,100	470
	6-20-89	.76	—	—	40	—	5	4,000	240	1,900	230
	7-19-89	.24	—	—	40	—	4	2,300	130	—	1,300
	8-27-89[1]	.60	1.2	.13	80	—	7	4,000	180	—	270
	8-27-89	—	—	—	—	—	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)	Strontium (µg/L as Sr)	Vanadium (µg/L as V)	Uranium, natural (µg/L as U)	Carbon, organic (mg/L as C)	Tritium, total (pCi/L)	Stable-isotope ratio (permil) $^{2}H/^{1}H$	$^{18}O/^{16}O$
S-226	5-16-88	33	250	—	170	—	—	96	-81.5	-9.00
	8-23-88	—	280	—	—	—	—	72	—	—
	10-20-88	78	340	—	—	—	—	—	-83.0	-9.25
	11-14-88	—	360	—	—	—	—	—	-86.0	-9.45
	12-16-88	—	300	—	—	—	—	—	-86.0	-9.85
	1-19-89	32	340	33,000	—	—	10	—	-84.0	-9.40
	2-16-89	—	280	—	—	—	—	—	-81.0	-10.35
	3-15-89	—	280	—	—	—	—	—	-85.5	-9.90
	4-10-89	24	240	26,000	—	—	—	—	-87.5	-9.90
	5-22-89	15	300	35,000	—	—	—	—	-84.5	-9.50
	6-20-89	17	310	34,000	—	—	—	—	-88.0	-9.60
	7-19-89	20	71	14,000	—	—	—	—	-86.0	-9.75
	8-27-89[1]	30	190	18,000	—	190	15	—	-86.0	-9.85
	8-27-89	—	200	—	—	—	—	—	—	—
S-269	5-16-88	37	230	—	99	—	—	117	-89.0	-10.20
	8-23-88	—	290	—	—	—	—	115	—	—
	10-20-88	55	310	—	—	—	—	—	-85.5	-9.70
	11-14-88	—	270	—	—	—	—	—	-90.5	-9.95
	12-16-88	—	260	—	—	—	—	—	-83.4	-9.55
	1-19-89	47	290	25,000	—	—	9.9	—	-91.0	-9.80
	2-16-89	—	260	—	—	—	—	—	-87.0	-9.85
	3-15-89	—	270	—	—	—	—	—	-86.5	-9.75
	4-10-89	29	360	21,000	—	—	—	—	-87.0	-9.80
	5-22-89	34	180	16,000	—	—	—	—	-88.5	-10.55
	6-20-89	38	280	22,000	—	—	—	—	-89.5	-9.80
	7-19-89	39	230	14,000	—	—	—	—	-89.0	-9.90
	8-27-89[1]	49	240	17,000	—	140	12	—	-88.0	-9.85
	8-27-89	—	47	—	—	—	—	—	—	—
S-417	5-16-88	—	300	—	—	—	—	—	—	—
	8-18-88	—	340	—	—	—	—	93	—	—
	10-20-88	41	230	—	—	—	—	—	-86.5	-9.90
	11-14-88	—	190	—	—	—	—	—	-88.0	-10.00
	12-16-88	26	180	—	—	—	—	—	-86.0	-9.95
	1-18-89	—	100	17,000	—	—	—	—	-94.5	-10.60
	2-16-89	—	230	—	—	—	—	—	-88.0	-10.10
	3-15-89	—	46	—	—	—	—	—	-97.0	-11.60
	4-10-89	20	35	8,200	—	—	—	—	-97.5	-11.75
	5-22-89	28	210	32,000	—	—	—	—	-84.5	-9.70
	6-20-89	29	280	32,000	—	—	—	—	-86.0	-9.60
	7-19-89	55	19	5,000	—	—	—	—	-92.0	-11.20
	8-27-89[1]	41	200	26,000	—	680	11	—	-89.0	-9.90
	8-27-89	—	210	—	—	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Site number	Local identifier	Date	Time	Discharge, instantaneous (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Calcium (mg/L as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)
30	S-94	5-17-88	0955	0.0527	19,800	7.1	19.5	420	530	2,900	20
		8-26-88	0640	—	6,620	7.2	—	—	—	—	—
		10-25-88	1000	.0690	10,400	7.4	25.0	540	310	1,600	16
		11-13-88	1325	.0147	17,200	7.6	24.0	770	—	—	—
		12-16-88	1155	.0131	13,700	7.5	22.0	630	—	—	—
		1-19-89	1515	.0631	6,760	7.4	18.0	310	160	1,200	13
		2-16-89	1230	1.0385	6,870	7.6	18.0	340	—	—	—
		3-15-89	1100	.0588	10,400	7.3	19.0	420	—	—	—
		4-10-89	1400	.0260	14,300	7.3	19.5	730	490	1,900	16
		5-22-89	1320	.0432	17,500	7.3	21.5	870	560	2,500	19
		6-20-89	0930	.0169	24,300	7.2	23.0	1,200	790	3,400	35
		7-19-89	2000	.0095	25,100	7.1	26.0	1,200	740	3,500	37
		8-27-89[1]	1300	.1110	11,900	7.1	26.0	560	320	1,700	24
		8-27-89	1301	—	11,800	7.2	—	—	—	—	—
33	S-142	5-18-88	0800	.0042	2,620	7.1	19.5	—	—	—	—
		8-18-88	1320	—	2,620	7.2	—	—	—	—	—
		10-25-88	0905	.0000	3,070	7.5	24.5	140	78	450	31
		11-13-88	1250	.0000	2,820	7.4	21.5	130	—	—	—
		12-16-88	1510	.0000	3,410	7.7	15.0	160	—	—	—
		1-20-89	1010	.0000	3,440	7.7	11.0	150	77	500	10
		2-16-89	0830	.0000	3,360	7.9	11.5	170	—	—	—
		3-15-89	1540	.0000	3,110	7.3	16.5	150	—	—	—
		4-10-89	1855	.0000	2,630	7.4	19.0	160	76	360	8.1
		5-22-89	1820	.0000	3,130	7.9	22.0	160	77	420	9.3
		6-20-89	1330	.0000	2,550	7.8	24.0	150	71	340	9.5
		7-19-89	1625	.0000	2,200	6.9	26.5	160	55	260	9.0
		8-27-89[1]	1740	.0000	2,910	7.1	24.0	160	69	380	10
		8-27-89	1741	—	2,910	7.0	—	—	—	—	—
41	S-241	5-17-88	1900	.0140	10,800	7.3	19.5	180	330	1,800	24
		8-26-88	1100	—	9,300	7.1	—	—	—	—	—
		10-25-88	0930	.0410	15,700	7.3	24.0	580	510	2,600	28
		11-13-88	1240	.0511	15,700	7.3	23.5	550	—	—	—
		12-16-88	1525	.0152	17,100	7.3	21.0	640	—	—	—
		1-20-89	1030	.0103	17,000	7.3	18.5	600	570	2,700	44
		2-16-89	0850	.0597	16,700	7.4	18.0	670	—	—	—
		3-15-89	1550	.1330	9,560	7.2	19.0	390	—	—	—
		4-10-89	1910	.0316	16,400	7.2	19.0	620	580	2,600	40
		5-22-89	1830	.0390	15,600	7.3	21.0	600	520	2,400	37
		6-20-89	1345	.1370	9,530	7.4	23.0	440	330	1,500	24
		7-19-89	1655	.0542	14,800	7.1	23.5	590	470	2,300	46
		8-27-89[1]	1815	.0389	16,000	7.0	25.0	610	520	2,500	56
		8-27-89	1816	—	16,100	7.0	—	—	—	—	—

See footnote at end of table

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)	Fluoride (mg/L as F)	Bromide (mg/L as Br)	Silica (mg/L as SiO_2)	Solids, residue at 180 °C (mg/L)	Nitrogen, NO_2+ NO_3 (mg/L as N)	Nitrogen, NO_2+ NO_3 (mg/L as N)
S-94	5-17-88	451	2,800	5,500	0.4	—	15	—	4.4	—
	8-26-88	435	2,000	930	—	—	—	4,980	—	—
	10-25-88	433	2,400	2,300	.8	—	14	7,570	9.9	9.5
	11-13-88	413	2,800	4,700	—	4.4	—	12,200	7.2	—
	12-16-88	454	2,900	3,500	—	2.9	—	10,000	6.5	—
	1-19-89	478	2,200	870	—	.57	16	5,170	13	13
	2-16-89	463	2,100	1,000	—	.72	—	5,230	7.7	—
	3-15-89	437	2,600	2,100	—	1.6	—	7,750	12	—
	4-10-89	466	2,800	3,600	—	3.0	14	10,300	5.8	5.8
	5-22-89	470	3,000	4,700	.5	4.4	15	12,500	3.0	3.0
	6-20-89	390	2,800	7,600	.3	7.4	15	18,200	5.0	5.0
	7-19-89	356	3,100	8,000	—	7.1	17	16,900	—	4.5
	8-27-89[1]	354	2,700	2,700	—	2.3	14	8,350	—	3.2
	8-27-89	342	2,700	2,600	—	2.3	—	—	—	—
S-142	5-18-88	364	—	220	—	—	—	1,590	—	—
	8-18-88	386	690	230	—	—	—	1,780	—	—
	10-25-88	402	810	340	.7	—	16	2,100	3.9	3.9
	11-13-88	380	730	290	—	.24	—	1,880	3.7	—
	12-16-88	401	940	400	—	.31	—	2,410	4.3	—
	1-20-89	391	940	400	—	.30	15	2,400	6.2	6.2
	2-16-89	389	920	380	—	.25	—	2,350	7	—
	3-15-89	396	860	340	—	.20	—	2,180	4.9	—
	4-10-89	406	660	260	—	.21	3.9	1,810	3.7	3.7
	5-22-89	395	810	360	.6	.28	11	2.170	4.0	4.0
	6-20-89	374	670	270	.7	.20	3.9	1,760	3.5	3.5
	7-19-89	355	580	190	—	.16	11	1,470	—	2.6
	8-27-89[1]	413	780	290	—	.25	15	1,880	—	.84
	8-27-89	315	790	260	—	.23	—	—	—	—
S-241	5-17-88	497	3,300	1,200	.6	—	14	—	4.9	—
	8-26-88	599	2,800	1,500	—	—	—	7,260	—	—
	10-25-88	627	4,200	2,600	.5	—	15	12,400	12	11
	11-13-88	621	4,500	3,200	—	2.2	—	12,400	12	—
	12-16-88	608	4,400	3,900	—	2.5	—	13,300	18	—
	1-20-89	603	4,000	4,000	—	2.6	15	13,200	21	—
	2-16-89	593	4,100	4,100	—	2.6	—	12,800	19	—
	3-15-89	557	3,000	1,600	—	.90	—	7,520	10	—
	4-10-89	596	4,000	3,600	—	2.3	14	12,700	18	18
	5-22-89	582	4,200	3,400	.5	2.2	14	12,100	18	18
	6-20-89	543	2,800	1,600	.7	1.0	14	7,510	11	11
	7-19-89	580	4,200	3,100	—	2.1	15	11,400	—	13
	8-27-89[1]	559	4,500	3,500	—	2.1	15	12,300	—	15
	8-27-89	425	4,500	3,500	—	2.4	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Nitrogen, ammonia (mg/L as N)	Nitrogen, ammonia + organic, dis. (mg/L as N)	Phosphorus, hydro. + ortho (mg/L as P)	Aluminum (µg/L as Al)	Antimony (µg/L as Sb)	Arsenic (µg/L as As)	Boron (µg/L as B)	Iron (µg/L) as Fe)	Lithium (µg/L as Li)	Manganese (µg/L as Mn)
S-94	5-17-88	0.36	—	—	—	—	1	1,800	90	—	170
	8-26-88	—	—	—	—	—	2	1,300	—	—	—
	10-25-88	.08	—	—	40	<1	2	1,500	50	—	100
	11-13-88	.33	—	—	—	—	—	2,000	70	—	210
	12-16-88	.20	—	—	—	—	—	1,800	60	—	180
	1-19-89	.08	—	—	10	—	1	1,300	30	400	40
	2-16-89	.07	—	—	—	—	—	1,200	20	—	<10
	3-15-89	.07	—	—	—	—	—	1,600	50	—	40
	4-10-89	.19	—	—	<20	—	1	1,600	40	570	100
	5-22-89	.25	—	—	<20	—	1	1,800	80	600	150
	6-20-89	.38	—	—	30	—	2	2,200	110	660	70
	7-19-89	.40	—	—	80	—	2	2,500	90	—	210
	8-27-89[1]	.14	1.1	0.04	60	—	2	1,700	40	—	50
	8-27-89	—	—	—	—	—	—	—	—	—	—
S-142	5-18-88	—	—	—	—	—	—	—	—	—	—
	8-18-88	—	—	—	—	—	1	570	—	—	—
	10-25-88	.01	—	—	90	<1	2	800	150	—	20
	11-13-88	.03	—	—	—	—	—	710	80	—	20
	12-16-88	.05	—	—	—	—	—	800	100	—	30
	1-20-89	.11	—	—	20	—	2	760	80	130	20
	2-16-89	.03	—	—	—	—	—	700	<10	—	<10
	3-15-89	.06	—	—	—	—	—	650	90	—	30
	4-10-89	.06	—	—	20	—	1	550	40	170	50
	5-22-89	.02	—	—	10	—	1	640	30	200	10
	6-20-89	.08	—	—	10	—	<1	530	20	170	10
	7-19-89	.04	—	—	20	—	1	480	20	—	20
	8-27-89[1]	.04	.50	.02	20	—	1	740	20	—	20
	8-27-89	—	—	—	—	—	—	—	—	—	—
S-241	5-17-88	.13	—	—	—	—	3	2,000	120	—	40
	8-26-88	—	—	—	—	—	2	1,800	—	—	—
	10-25-88	.15	—	—	10	<1	4	2,900	50	—	90
	11-13-88	.22	—	—	—	—	—	3,000	60	—	100
	12-16-88	.23	—	—	—	—	—	2,800	60	—	140
	1-20-89	.19	—	—	20	—	3	2,600	80	910	140
	2-16-89	.20	—	—	—	—	—	2,300	60	—	80
	3-15-89	.08	—	—	—	—	—	1,600	40	—	150
	4-10-89	.17	—	—	30	—	3	2,600	50	860	250
	5-22-89	.17	—	—	<20	—	3	2,500	70	800	310
	6-20-89	.11	—	—	30	—	2	1,700	50	550	140
	7-19-89	.14	—	—	50	—	3	2,700	60	—	340
	8-27-89[1]	.15	1.7	.07	20	—	5	2,900	60	—	250
	8-27-89	—	—	—	—	—	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)	Strontium (µg/L as Sr)	Vanadium (µg/L as V)	Uranium, natural (µg/L as U)	Carbon, organic (mg/L as C)	Tritium, total (pCi/L)	Stable-isotope ratio (permil) $^{2}H/^{1}H$	$^{18}O/^{16}O$
S-94	5-17-88	16	51	—	68	—	—	—	-91.5	-10.85
	8-26-88	—	20	—	—	—	—	110	—	—
	10-25-88	20	23	—	—	—	—	—	-96.0	-11.65
	11-13-88	—	37	—	—	—	—	—	-93.5	-11.05
	12-16-88	—	31	—	—	—	—	—	-96.0	-11.30
	1-19-89	19	21	5,000	—	—	—	—	-99.5	-11.95
	2-16-89	—	17	—	—	—	—	—	-97.0	-11.95
	3-15-89	—	26	—	—	—	—	—	-96.0	-11.55
	4-10-89	15	32	13,000	—	—	—	—	-95.5	-11.35
	5-22-89	14	42	16,000	—	—	—	—	-92.0	-11.10
	6-20-89	13	64	22,000	—	—	—	—	-95.0	-10.40
	7-19-89	14	67	14,000	—	—	—	—	-90.0	-10.30
	8-27-89[1]	28	33	7,400	—	190	9.8	—	-93.5	-11.55
	8-27-89	—	28	—	—	—	—	—	—	—
S-142	5-18-88	—	16	—	—	—	—	—	—	—
	8-18-88	—	12	—	—	—	—	99	—	—
	10-25-88	12	12	—	—	—	—	—	-97.0	-11.70
	11-13-88	—	12	—	—	—	—	—	-99.0	-11.90
	12-16-88	—	14	—	—	—	—	—	-95.5	-11.20
	1-20-89	33	13	2,600	—	—	—	—	-87.0	-9.50
	2-16-89	—	13	—	—	—	—	—	-83.0	-8.85
	3-15-89	—	14	—	—	—	—	—	-82.0	-8.90
	4-10-89	9	17	2,400	—	—	—	—	-97.0	-11.75
	5-22-89	12	17	2,900	—	—	—	—	-97.0	-11.75
	6-20-89	8	13	2,500	—	—	—	—	-97.0	-11.45
	7-19-89	10	11	24,000	—	—	—	—	-97.5	-11.65
	8-27-89[1]	15	12	2,300	—	21	4.1	—	-97.5	-11.45
	8-27-89	—	13	—	—	—	—	—	—	—
S-241	5-17-88	14	30	—	38	—	—	131	-97.0	-11.90
	8-26-88	—	13	—	—	—	—	110	—	—
	10-25-88	19	42	—	—	—	—	—	-96.5	-11.55
	11-13-88	—	43	—	—	—	—	—	-97.0	-11.65
	12-16-88	—	54	—	—	—	—	—	-95.0	-11.30
	1-20-89	25	62	15,000	—	—	—	—	-94.0	-11.25
	2-16-89	—	70	—	—	—	—	—	-97.0	-11.40
	3-15-89	—	30	—	—	—	—	—	-98.5	-11.90
	4-10-89	23	53	14,000	—	—	—	—	-98.0	-11.45
	5-22-89	27	55	13,000	—	—	—	—	-96.0	-11.55
	6-20-89	20	26	7,800	—	—	—	—	-100.5	-12.00
	7-19-89	27	47	8,700	—	—	—	—	-96.5	-11.55
	8-27-89[1]	34	54	10,000	—	<170	10	—	-97.5	-11.50
	8-27-89	—	52	—	—	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Site number	Local identifier	Date	Time	Discharge, instantaneous (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Calcium (mg/L as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)
50	S-154	5-18-88	1310	—	15,700	7.1	—	430	490	2,200	26
		3-23-88	1200	—	17,900	7.6	—	—	—	—	—
		10-25-88	0825	0.0130	15,600	7.2	24.0	800	470	2,200	4.7
		11-13-88	1400	.0137	19,100	7.3	23.5	—	—	—	—
		12-16-88	1640	—	15,000	7.2	20.0	810	—	—	—
		1-18-89	1450	.0032	24,700	7.2	18.0	1,300	840	3,200	39
		2-15-89	1700	.0122	24,800	7.1	16.5	1,100	—	—	—
		3-16-89	0920	.0021	24,400	6.8	18.0	1,400	—	—	—
		4-11-89	0945	.0493	13,800	7.1	19.5	750	470	1,600	23
		5-23-89	0735	.0053	19,600	7.1	20.0	1,100	700	2,700	41
		6-20-89	1530	.0010	19,000	7.0	23.0	1,100	680	2,500	52
		7-19-89	0920	.0073	16,600	7.1	23.5	920	560	2,300	42
		8-28-89[1]	0645	.0090	24,400	7.1	25.0	1,400	810	2,800	54
		8-28-89	0646	—	24,400	6.9	—	—	—	—	—
		8-30-89	1120	—	24,600	6.8	25.5	—	—	—	—
		8-30-89	1121	—	24,600	6.9	25.5	—	—	—	—
67	S-265	5-19-88	0815	.1180	10,200	7.3	21.5	380	270	1,600	32
		8-22-88	1600	1.6070	12,800	7.2	—	—	—	—	—
		10-24-88	0850	.0500	12,300	7.3	25.5	680	360	2,000	19
		11-13-88	1445	.2010	12,300	7.4	23.5	620	—	—	—
		12-17-88	1350	.1080	9,910	7.4	22.0	540	—	—	—
		1-20-89	1500	.0335	12,000	7.3	20.0	610	320	1,800	24
		2-15-89	1740	.1310	10,800	7.6	18.0	600	—	—	—
		3-15-89	1020	.4540	11,200	7.3	19.0	590	—	—	—
		4-10-89	1300	.3700	11,900	7.0	19.5	610	350	1,600	35
		5-23-89	1500	.2740	12,200	7.2	21.0	650	340	1,900	19
		6-20-89	0835	.4680	11,900	7.2	23.0	670	370	1,800	250
		7-19-89	1015	.2130	13,200	7.2	23.5	720	360	2,000	39
		8-27-89[1]	1115	—	11,200	7.1	25.0	580	300	1,600	64
		8-27-89	1116	—	11,100	7.1	—	—	—	—	—
75	S-4	5-19-88	1030	.0449	29,300	7.0	21.0	390	910	4,900	24
		3-23-88	1125	.3570	22,400	7.0	—	—	—	—	—
		10-25-88	0800	.0200	30,600	7.1	24.5	790	910	5,300	45
		11-13-88	1200	.0126	31,200	7.5	25.0	800	—	—	—
		12-16-88	1610	.0808	22,900	7.3	22.0	720	—	—	—
		1-20-89	1110	.0254	28,700	7.2	19.0	910	1,100	4,500	29
		2-15-89	1640	.3490	28,800	7.3	18.0	940	—	—	—
		3-15-89	1720	.0929	28,600	7.1	18.0	930	—	—	—
		4-11-89	0915	.0438	28,900	7.4	19.0	1,000	1,100	5,000	26
		5-23-89	0810	.0330	28,200	7.1	20.0	940	978	4,300	34
		6-20-89	1815	.0560	26,500	7.2	23.0	970	940	4,200	25
		7-19-89	0815	.0530	28,000	7.0	25.0	880	990	4,600	32
		8-27-89[1]	1900	.0528	26,100	6.9	25.0	780	890	4,000	35
		8-27-89	1901	—	26,100	6.8	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)	Fluoride (mg/L as F)	Bromide (mg/L as Br)	Silica (mg/L as SiO_2)	Solids, residue at 180 °C (mg/L)	Nitrogen, NO_2+ NO_3 (mg/L as N)	Nitrogen, NO_2+ NO_3 (mg/L as N)
S-154	5-18-88	277	2,200	4,600	0.4	—	11	—	7.1	—
	3-23-88	336	2,500	5,200	—	—	—	12,500	—	—
	10-25-88	341	2,700	4,200	.4	—	12	11,300	4.5	4.5
	11-13-88	—	—	—	—	—	—	—	6.3	—
	12-16-88	323	2,300	4,400	—	6.2	—	10,600	4.9	—
	1-18-89	320	2,500	8,200	—	13	11	16,200	9.1	9.1
	2-15-89	333	2,600	8,200	—	13	—	17,200	8.2	—
	3-16-89	366	2,600	8,700	—	12	—	16,600	5.5	—
	4-11-89	342	2,200	3,800	—	5.2	11	9,270	2.7	2.7
	5-23-89	371	2,600	6,000	.3	.44	13	13,400	4.6	4.6
	6-20-89	370	2,400	5,600	.4	8.4	13	14,000	4.7	4.7
	7-19-89	381	2,600	4,600	—	7.0	13	10,900	—	3.5
	8-28-89[1]	333	2,600	7,800	—	12	14	16,600	—	3.8
	8-28-89	304	2,600	7,800	—	13	—	—	—	—
	8-30-89	373	2,600	8,100	—	13	—	—	—	—
	8-30-89	193	2,600	8,100	—	13	—	—	—	—
S-265	5-19-88	484	3,000	1,900	.4	—	18	—	33	—
	8-22-88	589	3,600	2,400	—	—	—	9,890	—	—
	10-24-88	475	3,300	2,600	.3	—	19	9,550	22	21
	11-13-88	458	3,400	2,600	—	2.5	—	9,500	19	—
	12-17-88	476	3,000	1,800	—	2.2	—	7,900	34	—
	1-20-89	442	2,800	2,700	—	2.3	18	8,960	22	22
	2-15-89	462	2,600	2,200	—	1.9	—	7,990	26	—
	3-15-89	520	3,300	2,100	—	1.4	—	8,810	24	—
	4-10-89	622	3,500	2,200	—	1.5	17	9,180	41	41
	5-23-89	484	3,300	2,500	.3	2.2	19	9,380	21	21
	6-20-89	491	3,500	2,200	.3	1.7	19	9,190	42	42
	7-19-89	502	3,400	2,900	—	2.4	18	9,890	—	21
	8-27-89[1]	353	2,500	1,600	—	1.4	—	—	—	—
	8-27-89	538	3,800	1,600	—	1.2	19	8,820	—	24
S-4	5-19-88	406	4,600	9,000	.3	—	13	—	9.8	—
	3-23-88	539	4,700	6,000	—	—	—	17,100	—	—
	10-25-88	408	4,900	9,200	.3	—	14	23,100	11	9.6
	11-13-88	393	4,800	9,200	—	12	—	23,200	7.9	—
	12-16-88	468	4,600	6,300	—	7.1	—	17,200	13	—
	1-20-89	413	4,900	8,900	—	10	13	21,400	9.5	9.5
	2-15-89	410	4,600	8,100	—	10	—	21,600	11	—
	3-15-89	434	4,600	9,100	—	8.0	—	20,100	17	—
	4-11-89	417	4,900	8,700	—	9.8	12	21,300	17	17
	5-23-89	430	4,900	8,500	.4	9.2	13	21,000	15	15
	6-20-89	393	4,500	7,600	.4	8.7	14	19,700	24	24
	7-19-89	395	4,800	8,400	—	9.1	14	20,600	—	34
	8-27-89[1]	414	4,800	7,200	—	8.7	15	19,800	—	26
	8-27-89	343	4,800	7,500	—	8.3	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Nitrogen, ammonia (mg/L as N)	Nitrogen, ammonia + organic, dis. (mg/L as N)	Phosphorus, hydro. + ortho (mg/L as P)	Aluminum (µg/L as Al)	Antimony (µg/L as Sb)	Arsenic (µg/L as As)	Boron (µg/L as B)	Iron (µg/L) as Fe)	Lithium (µg/L as Li)	Manganese (µg/L as Mn)
S-154	5-18-88	0.34	—	—	—	—	2	1,300	150	—	40
	3-23-88	—	—	—	—	—	2	1,700	—	—	—
	10-25-88	.28	—	—	20	<1	3	1,800	50	—	30
	11-13-88	.49	—	—	—	—	—	—	—	—	—
	12-16-88	.30	—	—	—	—	—	1,300	80	—	20
	1-18-89	.63	—	—	30	—	2	1,300	150	650	90
	2-15-89	.70	—	—	—	—	—	1,300	90	—	70
	3-16-89	.40	—	—	—	—	—	1,400	140	—	80
	4-11-89	.19	—	—	<20	—	3	1,400	30	500	10
	5-23-89	.35	—	—	20	—	3	1,600	26	780	27
	6-20-89	.33	—	—	20	—	2	1,900	100	570	50
	7-19-89	—	—	—	30	—	3	2,000	60	—	40
	8-28-89[1]	.71	1.0	0.05	80	—	3	2,000	120	—	160
	8-28-89	—	—	—	—	—	—	—	—	—	—
	8-30-89	—	—	—	—	—	—	—	—	—	—
	8-30-89	—	—	—	—	—	—	—	—	—	—
S-265	5-19-88	.18	—	—	—	—	2	1,400	70	—	250
	8-22-88	—	—	—	—	—	2	1,600	—	—	—
	10-24-88	.16	—	—	40	<1	2	1,900	40	—	550
	11-13-88	.25	—	—	—	—	—	1,900	60	—	340
	12-17-88	.22	—	—	—	—	—	1,500	40	—	350
	1-20-89	.16	—	—	10	—	1	1,600	40	450	440
	2-15-89	.16	—	—	—	—	—	1,600	20	—	510
	3-15-89	.14	—	—	—	—	—	1,600	50	—	500
	4-10-89	.20	—	—	50	—	1	1,500	50	490	260
	5-23-89	.18	—	—	<20	—	1	1,600	50	470	400
	6-20-89	.31	—	—	20	—	2	1,600	70	500	1,000
	7-19-89	—	—	—	30	—	1	1,900	60	—	950
	8-27-89[1]	.14	1.8	.10	40	—	2	1,800	50	—	240
	8-27-89	—	—	—	—	—	—	—	—	—	—
S-4	5-19-88	.60	—	—	—	—	2	2,200	140	—	40
	3-23-88	—	—	—	—	—	2	2,700	—	—	—
	10-25-88	.58	—	—	10	<1	3	2,700	130	—	40
	11-13-88	.62	—	—	—	—	—	2,700	140	—	80
	12-16-88	.34	—	—	—	—	—	2,200	100	—	40
	1-20-89	.47	—	—	20	—	2	2,100	100	680	30
	2-15-89	.41	—	—	—	—	—	2,000	90	—	30
	3-15-89	.25	—	—	—	—	—	2,200	100	—	40
	4-11-89	.49	—	—	30	—	2	2,300	90	700	30
	5-23-89	.34	—	—	<50	—	2	2,400	160	660	50
	6-20-89	.26	—	—	30	—	2	2,400	120	620	40
	7-19-89	—	—	—	30	—	2	2,800	100	—	50
	8-27-89[1]	.23	.40	.07	50	—	2	2,700	100	—	30
	8-27-89	—	—	—	—	—	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)	Strontium (µg/L as Sr)	Vanadium (µg/L as V)	Uranium, natural (µg/L as U)	Carbon, organic (mg/L as C)	Tritium, total (pCi/L)	Stable-isotope ratio (permil) $^{2}H/^{1}H$	$^{18}O/^{16}O$
S-154	5-18-88	14	15	—	59	—	—	110	-92.0	-11.20
	3-23-88	—	12	—	—	—	—	107	—	—
	10-25-88	17	14	—	—	—	—	—	-94.5	-11.25
	11-13-88	—	—	—	—	—	—	—	-91.5	-11.00
	12-16-88	—	19	—	—	—	—	—	-93.0	-11.35
	1-18-89	13	28	26,000	—	—	—	—	-89.0	-10.55
	2-15-89	—	29	—	—	—	—	—	-88.0	-10.45
	3-16-89	—	26	—	—	—	—	—	-86.5	-10.50
	4-11-89	15	18	13,000	—	—	—	—	-95.0	-11.45
	5-23-89	15	18	18,000	—	—	—	—	-90.5	-10.95
	6-20-89	13	20	17,000	—	—	—	—	-92.5	-10.95
	7-19-89	16	2	11,000	—	—	—	—	-93.5	-11.05
	8-28-89[1]	17	21	18,000	—	290	7.7	—	-90.0	-10.65
	8-28-89	—	22	—	—	—	—	—	—	—
	8-30-89	—	19	—	—	—	—	—	—	—
	8-30-89	—	22	—	—	—	—	—	—	—
S-265	5-19-88	14	76	—	32	—	—	127	-96.0	-11.60
	8-22-88	—	99	—	—	—	—	123	—	—
	10-24-88	14	85	—	—	—	—	—	-96.0	-11.70
	11-13-88	—	88	—	—	—	—	—	-97.0	-11.75
	12-17-88	—	50	—	—	—	—	—	-97.0	-11.75
	1-20-89	3	69	9,000	—	—	—	—	-97.0	-11.70
	2-15-89	—	50	—	—	—	—	—	-96.5	-11.70
	3-15-89	—	53	—	—	—	—	—	-97.0	-11.60
	4-10-89	12	95	9,400	—	—	—	—	-96.0	-11.40
	5-23-89	13	81	8,800	—	—	—	—	-96.0	-11.70
	6-20-89	17	74	8,300	—	—	—	—	-100.0	-11.50
	7-19-89	16	78	5,700	—	—	—	—	-95.0	-11.55
	8-27-89[1]	21	93	5,300	—	94	11	—	-97.5	-11.60
	8-27-89	—	96	—	—	—	—	—	—	—
S-4	5-19-88	21	170	—	120	—	—	103	-89.0	-10.50
	3-23-88	—	91	—	—	—	—	104	—	—
	10-25-88	23	140	—	—	—	—	—	-89.0	-10.20
	11-13-88	—	150	—	—	—	—	—	-88.5	-10.10
	12-16-88	—	95	—	—	—	—	—	-93.0	-11.05
	1-20-89	21	130	23,000	—	—	—	—	-92.5	-10.35
	2-15-89	—	120	—	—	—	—	—	-90.0	-10.50
	3-15-89	—	120	—	—	—	—	—	-92.0	-10.60
	4-11-89	18	170	23,000	—	—	—	—	-91.5	-10.45
	5-23-89	18	160	22,000	—	—	—	—	-90.0	-10.55
	6-20-89	21	130	20,000	—	—	—	—	-92.5	-10.70
	7-19-89	24	120	16,000	—	—	—	—	-91.5	-10.50
	8-27-89[1]	32	110	13,000	—	84	11	—	-90.5	-10.65
	8-27-89	—	110	—	—	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Site number	Local identifier	Date	Time	Discharge, instantaneous (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Calcium (mg/L as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)
79 . . .	S-72	5-20-88	1050	0.0027	13,400	7.3	21.5	—	—	—	—
		8-15-88	1125	.8930	11,300	7.7	—	—	—	—	—
		10-24-88	1435	.0450	12,700	7.3	24.5	600	380	2,100	15
		11-13-88	1145	.7290	7,170	7.5	25.0	370	—	—	—
		12-17-88	0815	.2460	11,400	7.4	20.0	590	—	—	—
		1-20-89	1125	.2340	8,680	7.4	17.0	470	300	1,300	10
		2-15-89	1620	.0782	12,300	7.6	17.0	640	—	—	—
		3-15-89	1740	.8390	9,130	7.2	16.0	470	—	—	—
		4-11-89	0855	.0435	11,800	7.4	18.0	620	400	1,700	10
		5-23-89	0830	.0012	9,380	7.6	—	490	280	1,400	11
		6-20-89	1840	.0030	9,470	8.0	23.5	470	290	1,500	18
		7-19-89	0745	.0022	7,040	7.9	25.0	370	200	1,100	16
		8-27-89[1]	1930	.0763	6,250	7.2	27.0	330	180	820	13
		8-27-89	1931	—	6,260	7.2	—	—	—	—	—
87 . . .	S-352	5-19-88	1540	0	22,800	7.3	21.5	280	480	4,300	20
		8-22-88	1630	0	4,270	7.4	—	—	—	—	—
		10-24-88	0920	0	6,000	7.9	25.0	300	170	890	21
		11-13-88	0650	.0187	18,600	7.6	24.0	530	—	—	—
		12-17-88	1245	.0147	17,900	7.5	21.5	520	—	—	—
		1-20-89	1430	.0185	15,800	7.4	19.0	490	370	2,800	22
		2-15-89	1200	.4540	12,700	7.6	18.0	480	—	—	—
		3-16-89	1510	.0242	15,800	7.4	18.5	500	—	—	—
		4-14-89	0910	.0427	15,000	7.6	19.5	480	380	2,500	18
		5-23-89	1410	.0170	21,500	7.5	22.5	630	520	3,900	11
		6-21-89	1120	.0170	24,800	7.5	24.0	660	560	4,600	31
		7-19-89	1045	.0134	20,700	7.4	25.0	590	440	3,800	29
		8-30-89[1]	0915	0	3,680	7.4	27.5	220	99	460	16
		8-30-89	0916	—	3,690	7.4	—	—	—	—	—
93 . . .	S-423	5-19-88	1620	0	20,200	6.9	20.5	580	510	2,900	25
		8-18-88	1800	.0160	19,800	7.1	—	—	—	—	—
		10-24-88	1020	0	12,300	7.2	24.0	670	350	1,900	13
		11-13-88	0730	.0170	10,400	7.2	22.0	540	—	—	—
		12-17-88	1315	.0064	14,100	7.3	21.5	710	—	—	—
		1-20-89	1340	0	18,100	7.4	17.5	970	470	2,500	26
		2-15-89	1250	.0131	15,600	7.5	18.5	780	—	—	—
		3-16-89	1430	.0040	14,700	7.3	19.0	620	—	—	—
		4-14-89	0955	.0032	14,600	7.5	20.0	680	460	2,300	10
		5-23-89	1315	.0015	16,700	7.3	22.0	950	460	2,400	23
		6-21-89	1035	0	19,900	7.0	22.0	1,200	540	2,700	36
		7-19-89	1145	.0018	18,200	7.0	23.0	1,100	490	2,500	30
		8-28-89[1]	1045	0	14,800	7.1	24.0	800	390	2,100	23
		8-28-89	1046	—	14,900	7.2	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)	Fluoride (mg/L as F)	Bromide (mg/L as Br)	Silica (mg/L as SiO_2)	Solids, residue at 180 °C (mg/L)	Nitrogen, NO_2+ NO_3 (mg/L as N)	Nitrogen, NO_2+ NO_3 (mg/L as N)
S-72	5-20-88	437	—	2,500	—	—	—	10,100	—	—
	8-15-88	379	3,700	1,800	—	—	—	9,120	—	—
	10-24-88	412	4,000	2,200	0.4	—	16	10,300	50	38
	11-13-88	386	3,000	820	—	0.71	—	5,980	19	—
	12-17-88	422	3,700	2,000	—	2.5	—	9,240	34	—
	1-20-89	423	2,900	1,400	—	1.7	14	6,990	25	25
	2-15-89	489	4,100	2,100	—	2.7	—	10,100	11	—
	3-15-89	444	3,000	1,500	—	1.8	—	7,280	21	—
	4-11-89	493	3,500	2,200	—	2.5	11	9,230	14	14
	5-23-89	504	3,100	1,500	.5	1.6	16	7,470	15	15
	6-20-89	399	3,400	1,400	.4	1.3	17	7,430	18	18
	7-19-89	419	2,400	930	—	.57	21	5,280	—	12
	8-27-89[1]	326	2,000	900	—	.72	23	4,670	—	7.9
	8-27-89	327	2,000	890	—	.71	—	—	—	—
S-352	5-19-88	407	4,100	6,000	.5	—	11	—	16	—
	8-22-88	356	1,400	440	—	—	—	3,180	—	—
	10-24-88	411	2,200	660	.7	—	14	4,670	21	18
	11-13-88	446	4,200	4,200	—	3.8	—	13,600	21	—
	12-17-88	436	4,000	4,400	—	3.9	—	13,500	17	—
	1-20-89	436	3,700	3,700	—	3.1	11	11,900	17	17
	2-15-89	444	3,300	2,600	—	2.2	—	9,860	16	—
	3-16-89	418	3,700	3,800	—	3.2	—	11,800	15	—
	4-14-89	462	3,600	3,400	—	2.9	11	11,000	17	17
	5-23-89	441	4,300	5,300	.5	5.1	12	15,800	18	18
	6-21-89	416	4,400	6,800	.5	6.3	13	17,500	17	17
	7-19-89	419	4,100	5,200	—	4.8	12	14,900	—	15
	8-30-89[1]	374	1,200	280	—	.25	14	2,670	—	11
	8-30-89	390	1,300	320	—	.22	—	—	—	—
S-423	5-19-88	299	2,500	6,300	.3	—	14	—	97	—
	8-18-88	340	2,700	5,900	—	—	—	13,700	—	—
	10-24-88	561	3,400	2,200	.4	—	14	9,720	28	28
	11-13-88	473	3,600	1,500	—	1.3	—	8,440	16	—
	12-17-88	454	4,100	3,000	—	2.6	—	11,300	39	—
	1-20-89	378	2,800	5,000	—	5.5	13	13,400	77	77
	2-15-89	505	3,900	3,500	—	2.9	—	12,200	37	—
	3-16-89	505	4,100	3,200	—	2.6	—	11,500	30	—
	4-14-89	550	4,300	3,000	—	2.1	12	11,400	29	29
	5-23-89	426	3,100	4,300	.2	4.4	14	12,100	61	61
	6-21-89	304	2,200	5,400	.2	7.0	15	14,500	64	64
	7-19-89	334	2,500	5,100	—	5.4	14	12,800	—	85
	8-28-89[1]	418	3,300	3,300	—	3.6	15	11,000	—	37
	8-28-89	307	3,300	3,500	—	3.6	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Nitrogen, ammonia (mg/L as N)	Nitrogen, ammonia + organic, dis. (mg/L as N)	Phosphorus, hydro. + ortho (mg/L as P)	Aluminum (µg/L as Al)	Antimony (µg/L as Sb)	Arsenic (µg/L as As)	Boron (µg/L as B)	Iron (µg/L) as Fe)	Lithium (µg/L as Li)	Manganese (µg/L as Mn)
S-72	5-20-88	—	—	—	—	—	—	—	—	—	—
	8-15-88	—	—	—	—	—	2	1,600	—	—	—
	10-24-88	0.12	—	—	<10	<1	2	2,000	50	—	20
	11-13-88	.16	—	—	—	—	—	1,500	90	—	<10
	12-17-88	.20	—	—	—	—	—	1,600	60	—	20
	1-20-89	.12	—	—	20	—	2	1,200	40	370	20
	2-15-89	.19	—	—	—	—	—	1,600	40	—	20
	3-15-89	.08	—	—	—	—	—	1,200	50	—	20
	4-11-89	.16	—	—	20	—	1	1,600	30	440	10
	5-23-89	.12	—	—	<10	—	2	1,500	50	370	20
	6-20-89	.13	—	—	20	—	2	1,700	50	910	20
	7-19-89	—	—	—	10	—	4	1,300	50	—	10
	8-27-89[1]	.08	0.70	0.84	20	—	3	1,100	30	—	30
	8-27-89	—	—	—	—	—	—	—	—	—	—
S-352	5-19-88	.17	—	—	—	—	2	3,000	110	—	80
	8-22-88	—	—	—	—	—	3	870	—	—	—
	10-24-88	.19	—	—	30	<1	2	1,300	40	—	50
	11-13-88	.18	—	—	—	—	—	3,000	80	—	70
	12-17-88	.18	—	—	—	—	—	2,700	60	—	70
	1-20-89	.12	—	—	10	—	2	2,100	40	680	60
	2-15-89	.11	—	—	—	—	—	1,700	40	—	50
	3-16-89	.08	—	—	—	—	—	2,100	70	—	60
	4-14-89	.12	—	—	30	—	2	2,100	40	660	60
	5-23-89	.15	—	—	10	—	2	2,900	100	810	100
	6-21-89	.20	—	—	30	—	1	3,500	110	880	110
	7-19-89	.14	—	—	40	—	3	3,300	100	—	100
	8-30-89[1]	.09	.40	.05	<10	—	3	880	20	—	280
	8-30-89	—	—	—	—	—	—	—	—	—	—
S-423	5-19-88	.62	—	—	—	—	1	1,800	180	—	270
	8-18-88	—	—	—	—	—	2	1,900	—	—	—
	10-24-88	.24	—	—	70	<1	2	2,100	100	—	70
	11-13-88	.21	—	—	—	—	—	1,900	170	—	30
	12-17-88	.27	—	—	—	—	—	1,900	80	—	60
	1-20-89	.41	—	—	50	—	1	1,800	120	540	110
	2-15-89	.18	—	—	—	—	—	1,800	50	—	50
	3-16-89	.14	—	—	—	—	—	1,800	110	—	60
	4-14-89	.22	—	—	30	—	1	1,900	60	500	40
	5-23-89	.28	—	—	<20	—	1	1,900	110	500	120
	6-21-89	.41	—	—	10	—	1	1,900	170	510	160
	7-19-89	—	—	—	20	—	1	1,900	90	—	120
	8-28-89[1]	.20	<.20	.04	50	—	1	2,100	80	—	70
	8-28-89	—	—	—	—	—	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)	Strontium (µg/L as Sr)	Vanadium (µg/L as V)	Uranium, natural (µg/L as U)	Carbon, organic (mg/L as C)	Tritium, total (pCi/L)	Stable-isotope ratio (permil) $^{2}H/^{1}H$	$^{18}O/^{16}O$
S-72	5-20-88	—	68	—	—	—	—	—	—	—
	8-15-88	—	83	—	—	—	—	140	—	—
	10-24-88	15	88	—	—	—	—	—	-98.0	-11.85
	11-13-88	—	28	—	—	—	—	—	-100.0	-12.30
	12-17-88	—	81	—	—	—	—	—	-97.5	-11.80
	1-20-89	16	57	9,400	—	—	—	—	-98.0	-12.00
	2-15-89	—	71	—	—	—	—	—	-94.0	-11.85
	3-15-89	—	59	—	—	—	—	—	-99.0	-12.00
	4-11-89	11	56	11,000	—	—	—	—	-97.5	-11.85
	5-23-89	21	62	8,200	—	—	—	—	-97.0	-11.95
	6-20-89	31	83	8,600	—	—	—	—	-99.5	-12.15
	7-19-89	19	51	4,300	—	—	—	—	-99.5	-12.05
	8-27-89[1]	11	39	3,900	—	120	16	—	-98.0	-11.70
	8-27-89	—	36	—	—	—	—	—	—	—
S-352	5-19-88	25	65	—	10	—	—	—	-94.0	-11.15
	8-22-88	—	12	—	—	—	—	146	—	—
	10-24-88	21	24	—	—	—	—	—	-97.0	-11.65
	11-13-88	—	60	—	—	—	—	—	-95.5	-11.30
	12-17-88	—	54	—	—	—	—	—	-95.0	-11.50
	1-20-89	29	48	10,000	—	—	—	—	-97.0	-11.60
	2-15-89	—	43	—	—	—	—	—	-89.0	-11.95
	3-16-89	—	44	—	—	—	—	—	-95.0	-11.55
	4-14-89	27	44	10,000	—	—	—	—	-96.5	-11.70
	5-23-89	37	61	12,000	—	—	—	—	-93.5	-11.20
	6-21-89	47	61	14,000	—	—	—	—	-93.0	-11.00
	7-19-89	36	48	9,100	—	—	—	—	-95.5	-11.25
	8-30-89[1]	54	15	3,400	—	26	4.5	—	-99.5	-12.05
	8-30-89	—	14	—	—	—	—	—	—	—
S-423	5-19-88	19	240	—	74	—	—	91	-90.5	-10.15
	8-18-88	—	220	—	—	—	—	94	—	—
	10-24-88	18	88	—	—	—	—	—	-96.0	-11.65
	11-13-88	—	68	—	—	—	—	—	-99.0	-12.10
	12-17-88	—	110	—	—	—	—	—	-95.0	-11.55
	1-20-89	21	220	19,000	—	—	—	—	-94.0	-10.40
	2-15-89	—	130	—	—	—	—	—	-93.0	-11.40
	3-16-89	—	120	—	—	—	—	—	-96.0	-11.45
	4-14-89	16	120	12,000	—	—	—	—	-98.5	-11.70
	5-23-89	18	180	15,000	—	—	—	—	-93.0	-11.05
	6-21-89	19	230	19,000	—	—	—	—	-92.0	-10.25
	7-19-89	20	200	11,000	—	—	—	—	-92.5	-10.45
	8-28-89[1]	26	140	8,800	—	77	8.8	—	-95.0	-11.35
	8-28-89	—	140	—	—	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Site number	Local identifier	Date	Time	Discharge, instantaneous (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Calcium (mg/L as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)
98	S-371	5-19-88	1410	0.0995	11,300	7.2	22.0	560	350	1,600	7.6
		8-16-88	1145	.3320	15,900	7.5	---	---	---	---	---
		10-24-88	1050	.0260	13,600	7.5	26.5	800	400	1,900	11
		11-13-88	0750	.0630	16,900	7.5	24.5	910	---	---	---
		12-17-88	1140	.1160	9,560	7.5	24.0	490	---	---	---
		1-19-89	0750	.0440	15,700	7.5	20.5	790	450	2,200	15
		2-15-89	1320	.2730	12,500	7.6	20.0	700	---	---	---
		3-16-89	1245	.2270	9,100	7.3	21.0	430	---	---	---
		4-11-89	0800	.0732	12,300	7.9	20.5	600	360	1,700	10
		5-23-89	0940	.2710	9,480	7.4	22.0	470	260	1,400	11
		6-21-89	1015	.0400	14,100	7.4	23.0	760	440	2,000	15
		7-19-89	0640	.0225	14,900	7.0	23.5	820	420	2,000	15
		8-28-89[1]	1015	.0484	8,760	7.2	26.0	470	230	1,300	12
		8-28-89	1016	---	8,780	7.2	---	---	---	---	---
104	S-176	5-19-88	1125	.1620	11,800	7.3	19.0	390	330	1,900	7.6
		8-16-88	1210	.0290	11,400	7.4	---	---	---	---	---
		10-24-88	1405	.0120	9,790	7.4	26.5	560	300	1,600	11
		11-13-88	1105	.2890	10,200	7.5	25.5	500	---	---	---
		12-17-88	0840	.0484	11,400	7.5	21.0	560	---	---	---
		1-20-89	1145	---	14,400	7.6	16.0	620	390	2,500	15
		2-15-89	1600	.4770	10,900	7.5	17.5	580	---	---	---
		3-16-89	1025	.2880	9,680	7.3	18.0	460	---	---	---
		4-11-89	0830	.1720	10,700	7.4	18.0	580	350	1,500	11
		5-23-89	1025	---	10,500	7.8	19.5	520	310	1,500	11
		6-20-89	0730	.2850	10,000	7.5	21.0	550	300	1,600	14
		7-19-89	0725	.5580	9,770	7.3	23.0	540	280	1,600	13
		8-28-89[1]	0730	---	9,050	7.0	25.0	460	250	1,400	11
		8-28-89	0731	---	9,070	7.1	---	---	---	---	---
110	S-344	5-19-88	1635	.0453	16,000	7.3	21.5	250	320	2,800	19
		8-18-88	0640	---	15,100	7.6	---	---	---	---	---
		10-24-88	0955	.0360	15,400	7.4	25.0	560	350	2,600	20
		11-13-88	0620	.0377	15,400	7.5	24.0	550	---	---	---
		12-17-88	1220	.0506	13,700	7.4	24.0	540	---	---	---
		1-20-89	1400	.0377	14,700	7.4	---	540	340	2,400	23
		2-15-89	1230	.2340	14,600	7.6	21.0	570	---	---	---
		3-16-89	1445	.0470	15,200	---	20.5	580	---	---	---
		4-14-89	0930	.0460	14,600	7.4	21.5	600	370	2,500	17
		5-23-89	1340	.0697	14,800	7.5	22.0	590	350	2,300	27
		6-21-89	1050	.0440	16,400	7.6	23.5	660	400	2,700	30
		7-19-89	1120	.0410	16,000	7.3	24.0	630	360	2,700	28
		8-30-89[1]	1000	.1620	11,500	7.2	25.5	510	270	1,900	28
		8-30-89	1001	---	11,600	7.2	---	---	---	---	---

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)	Fluoride (mg/L as F)	Bromide (mg/L as Br)	Silica (mg/L as SiO_2)	Solids, residue at 180 °C (mg/L)	Nitrogen, NO_2+ NO_3 (mg/L as N)	Nitrogen, NO_2+ NO_3 (mg/L as N)
S-371	5-19-88	360	2,300	2,600	0.5	—	18	—	9.5	—
	8-16-88	407	3,100	3,800	—	—	—	11,600	—	—
	10-24-88	345	1,800	4,200	.4	—	20	9,130	14	13
	11-13-88	375	2,500	4,600	—	6.3	—	11,900	29	—
	12-17-88	255	2,600	2,000	—	1.8	—	7,190	16	—
	1-19-89	391	2,900	4,200	—	5.0	18	11,300	21	21
	2-15-89	377	2,300	3,200	—	3.8	—	8,790	12	—
	3-16-89	395	2,500	1,700	—	2.6	—	6,940	13	—
	4-11-89	341	2,800	2,900	—	2.8	16	8,960	13	13
	5-23-89	358	2,500	1,800	.6	1.6	17	7,110	10	10
	6-21-89	374	2,800	3,500	.4	4.2	19	10,300	11	11
	7-19-89	372	2,800	4,000	—	4.8	19	10,500	—	14
	8-28-89[1]	593	2,400	1,500	—	1.6	21	6,280	—	2.6
	8-28-89	341	2,500	1,500	—	1.7	—	—	—	—
S-176	5-19-88	484	3,300	2,200	.5	—	18	—	9.9	—
	8-16-88	464	3,400	1,900	—	—	—	8,970	—	—
	10-24-88	441	3,000	1,700	.5	—	20	7,630	11	8.8
	11-13-88	433	3,200	1,800	—	2.6	—	8,060	15	—
	12-17-88	437	3,500	2,100	—	2.3	—	8,940	13	—
	1-20-89	451	3,600	3,400	—	3.2	19	11,200	18	18
	2-15-89	435	3,400	2,000	—	.80	—	8,570	16	—
	3-16-89	440	3,300	1,600	—	1.5	—	7,790	12	—
	4-11-89	437	3,300	2,000	—	1.7	17	6,990	16	16
	5-23-89	415	3,200	1,800	.5	1.8	18	8,040	13	13
	6-20-89	454	3,200	1,700	.6	1.7	19	7,250	12	12
	7-19-89	461	3,200	1,600	—	1.6	19	7,540	—	10
	8-28-89[1]	480	3,200	1,300	—	1.3	19	7,060	—	11
	8-28-89	379	3,200	1,300	—	1.3	—	—	—	—
S-344	5-19-88	319	3,800	3,800	.4	—	15	—	37	—
	8-18-88	314	3,900	3,200	—	—	—	11,400	—	—
	10-24-88	398	3,800	3,400	.4	—	16	11,700	40	32
	11-13-88	293	3,900	3,400	—	3.6	—	11,700	33	—
	12-17-88	315	3,700	2,900	—	2.8	—	10,500	32	—
	1-20-89	297	3,600	3,200	—	3.2	15	11,200	33	33
	2-15-89	293	3,800	3,200	—	3.2	—	11,300	29	—
	3-16-89	305	3,900	3,500	—	3.2	—	10,200	36	—
	4-14-89	315	3,700	3,300	—	3.0	15	10,900	32	32
	5-23-89	317	3,500	3,400	.3	3.3	16	11,100	32	32
	6-21-89	300	3,600	3,900	.3	4.0	16	12,200	38	38
	7-19-89	299	3,800	3,800	—	3.7	16	12,100	—	34
	8-30-89[1]	339	3,600	2,000	—	2.2	16	8,810	—	29
	8-30-89	317	3,600	2,000	—	2.0	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Nitrogen, ammonia (mg/L as N)	Nitrogen, ammonia + organic, dis. (mg/L as N)	Phosphorus, hydro. + ortho (mg/L as P)	Aluminum (µg/L as Al)	Antimony (µg/L as Sb)	Arsenic (µg/L as As)	Boron (µg/L as B)	Iron (µg/L) as Fe)	Lithium (µg/L as Li)	Manganese (µg/L as Mn)
S-371	5-19-88	0.20	—	—	—	—	2	1,300	340	—	170
	8-16-88	—	—	—	—	—	1	1,800	—	—	—
	10-24-88	.23	—	—	110	<1	2	1,500	160	—	320
	11-13-88	.42	—	—	—	—	—	1,800	70	—	330
	12-17-88	.47	—	—	—	—	—	1,100	40	—	70
	1-19-89	.31	—	—	20	—	1	1,600	60	470	310
	2-15-89	.17	—	—	—	—	—	1,300	40	—	10
	3-16-89	.07	—	—	—	—	—	1,200	60	—	110
	4-11-89	.16	—	—	30	—	1	1,400	40	420	150
	5-23-89	.11	—	—	20	—	1	1,300	60	350	100
	6-21-89	.19	—	—	40	—	1	1,700	80	430	180
	7-19-89	.21	—	—	50	—	1	1,700	50	—	260
	8-28-89[1]	.11	0.20	0.03	10	—	2	1,500	40	—	130
	8-28-89	—	—	—	—	—	—	—	—	—	—
S-176	5-19-88	.17	—	—	—	—	1	1,700	80	—	190
	8-16-88	—	—	—	—	—	2	1,800	—	—	—
	10-24-88	.07	—	—	10	<1	2	1,700	30	—	10
	11-13-88	.18	—	—	—	—	—	1,800	50	—	40
	12-17-88	.18	—	—	—	—	—	1,800	50	—	30
	1-20-89	.26	—	—	30	—	2	1,900	80	450	40
	2-15-89	.13	—	—	—	—	—	1,500	30	—	40
	3-16-89	.07	—	—	—	—	—	1,500	40	—	40
	4-11-89	.13	—	—	<20	—	1	1,500	30	380	40
	5-23-89	.13	—	—	20	—	1	1,500	50	380	50
	6-20-89	.14	—	—	10	—	1	1,600	50	370	50
	7-19-89	.13	—	—	40	—	1	1,700	40	—	60
	8-28-89[1]	.11	1.5	.02	20	—	1	1,700	70	—	60
	8-28-89	—	—	—	—	—	—	—	—	—	—
S-344	5-19-88	.21	—	—	—	—	2	2,300	90	—	70
	8-18-88	—	—	—	—	—	2	2,700	—	—	—
	10-24-88	.14	—	—	<10	<1	4	3,000	50	—	30
	11-13-88	.19	—	—	—	—	—	3,000	70	—	30
	12-17-88	.17	—	—	—	—	—	2,500	50	—	40
	1-20-89	.15	—	—	—	10	2	2,500	60	800	40
	2-15-89	.13	—	—	—	—	—	2,500	50	—	30
	3-16-89	.10	—	—	—	—	—	2,400	80	—	40
	4-14-89	.15	—	—	—	30	2	2,200	40	700	30
	5-23-89	.15	—	—	—	<20	2	2,300	70	680	40
	6-21-89	.18	—	—	—	30	2	2,500	70	730	30
	7-19-89	.16	—	—	—	60	2	2,700	60	—	20
	8-30-89[1]	.09	<.20	.03	—	—	3	2,300	40	—	30
	8-30-89	—	—	—	—	—	—	—	—	—	—

See footnote at end of table.

Table 4. Data from periodic sampling of drainwater at 15 Imperial Valley sites at fields, May 1988–August 1989--Continued

Local identifier	Date	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)	Strontium (µg/L as Sr)	Vanadium (µg/L as V)	Uranium, natural (µg/L as U)	Carbon, organic (mg/L as C)	Tritium, total (pCi/L)	Stable-isotope ratio (permil) $^{2}H/^{1}H$	$^{18}O/^{16}O$
S-371	5-19-88	20	76	—	48	—	—	132	-96.0	-11.80
	8-16-88	—	120	—	—	—	—	125	—	—
	10-24-88	24	120	—	—	—	—	—	-98.0	-11.70
	11-13-88	—	140	—	—	—	—	—	-96.5	-11.35
	12-17-88	—	98	—	—	—	—	—	-96.0	-11.70
	1-19-89	18	120	17,000	—	—	—	—	-99.0	-11.50
	2-15-89	—	99	—	—	—	—	—	-99.0	-11.80
	3-16-89	—	56	—	—	—	—	—	-98.5	-11.85
	4-11-89	19	94	11,000	—	—	—	—	-98.5	-11.95
	5-23-89	20	68	7,700	—	—	—	—	-97.0	-11.80
	6-21-89	16	120	13,000	—	—	—	—	-101.0	-11.60
	7-19-89	18	110	8,000	—	—	—	—	-97.0	-11.65
	8-28-89[1]	22	43	5,300	—	230	0.4	—	-100.0	-12.10
	8-28-89	—	53	—	—	—	—	—	—	—
S-176	5-19-88	17	51	—	37	—	—	—	-96.5	-11.60
	8-16-88	—	44	—	—	—	—	126	—	—
	10-24-88	22	41	—	—	—	—	—	-97.5	-11.75
	11-13-88	—	49	—	—	—	—	—	-97.5	-11.70
	12-17-88	—	51	—	—	—	—	—	-97.0	-11.60
	1-20-89	18	86	12,000	—	—	—	—	-94.0	-10.70
	2-15-89	—	51	—	—	—	—	—	-93.0	-11.65
	3-16-89	—	44	—	—	—	—	—	-99.0	-11.75
	4-11-89	15	52	9,100	—	—	—	—	-97.5	-11.65
	5-23-89	17	46	7,700	—	—	—	—	-97.0	-11.65
	6-20-89	17	48	7,900	—	—	—	—	-98.5	-11.70
	7-19-89	18	41	5,200	—	—	—	—	-97.5	-11.80
	8-28-89[1]	18	45	5,200	—	65	7.6	—	-98.5	-11.95
	8-28-89	—	46	—	—	—	—	—	—	—
S-344	5-19-88	33	60	—	36	—	—	85	-94.5	-11.15
	8-18-88	—	44	—	—	—	—	82	—	—
	10-24-88	46	52	—	—	—	—	—	-95.0	-11.35
	11-13-88	—	51	—	—	—	—	—	-95.5	-11.30
	12-17-88	—	42	—	—	—	—	—	-95.0	-11.40
	1-20-89	45	48	12,000	—	—	—	—	-98.0	-11.40
	2-15-89	—	45	—	—	—	—	—	-94.0	-11.55
	3-16-89	—	49	—	—	—	—	—	-95.5	-11.20
	4-14-89	35	54	12,000	—	—	—	—	-94.5	-11.20
	5-23-89	35	66	12,000	—	—	—	—	-93.0	-11.10
	6-21-89	36	68	13,000	—	—	—	—	-89.0	-11.15
	7-19-89	37	60	7,400	—	—	—	—	-94.5	-11.15
	8-30-89[1]	42	36	7,500	—	250	4.6	—	97.5	11.65
	8-30-89	—	39	—	—	—	—	—	—	—

[1]Filtered sample.

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989

[In sampling-site designations, numbers in parentheses are U.S. Geological Survey streamflow-gaging station numbers (8-digit numbers) or latitude-longitude (15-digit numbers). Location of sites shown in figure 2. µS/cm, microsiemen per centimeter at 25°C; °C, degree Celsius; mg/L, milligram per liter; µg/L, microgram per liter; ft, foot; mm, millimeter; pCi/L, picocurie per liter. —, no data. The analysis for each sample is displayed as one line on six consecutive pages]

Date	Time	Gage height (ft)	Discharge, mean daily (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Calcium, total recoverable (mg/L as Ca)	Calcium, dissolved (mg/L as Ca)	Magnesium, total recoverable (mg/L as Mg)
				Alamo River at Outlet (10254730)					
8-17-88	1300	—	823	3,170	—	—	—	—	—
10-20-88	1605	3.98	827	3,470	7.70	26.0	—	—	—
10-20-88	1606	3.98	827	3,480	7.90	26.0	190	—	93
11-14-88	1200	—	827	3,530	8.10	19.0	—	170	—
12-16-88	1325	—	738	3,190	7.80	15.0	—	170	—
1-19-89	1100	3.64	631	3,320	8.10	12.0	—	150	—
1-19-89	1101	3.64	631	3,360	7.60	12.0	99	—	50
2-16-89	1010	—	818	3,140	8.10	12.0	—	160	—
3-15-89	1305	4.26	884	3,260	7.90	20.0	—	150	—
4-11-89	1120	4.65	1,040	3,110	7.79	24.0	—	160	—
4-11-89	1125	4.65	1,040	3,120	7.62	24.0	180	—	86
5-22-89	1600	4.36	809	3,120	7.90	25.5	—	150	—
6-20-89	1145	4.12	875	3,090	7.60	28.5	—	140	—
7-27-89	1815	—	747	3,260	7.96	31.0	—	160	—
7-27-89	1816	—	747	3,270	7.52	31.0	170	—	86
8-27-89	1520	2.96	764	3,670	7.94	27.5	—	180	—
8-27-89	1521	—	764	3,670	7.61	—	—	—	—
				Alamo River at Border (324032115220501)					
8-17-88	0930	—	—	2,790	—	—	—	—	—
10-21-88	1200	—	—	4,160	7.60	—	—	—	—
10-21-88	1201	—	—	4,200	7.90	—	200	—	100
11-13-88	0930	—	—	3,630	7.50	19.5	—	180	—
12-17-88	0940	—	—	4,940	7.80	15.0	—	230	—
1-18-89	1215	0.36	—	5,930	7.90	12.5	—	210	—
1-18-89	1216	.36	—	5,960	7.70	12.5	210	—	120
2-15-89	1500	—	—	5,170	7.90	14.5	—	240	—
3-16-89	1125	.42	—	5,020	7.90	20.5	—	200	—
4-14-89	1100	—	—	5,580	7.90	—	—	210	—
5-23-89	1140	—	—	4,740	7.90	25.0	—	190	—
6-21-89	0845	—	—	5,950	7.80	24.0	—	230	—
7-28-89	1305	—	—	5,840	7.99	30.0	—	210	—
7-28-89	1306	—	—	5,840	7.81	30.0	200	—	110
8-28-89	0845	—	—	5,670	7.94	23.0	—	200	—
8-28-89	0846	—	—	5,680	7.90	—	—	—	—
				San Felipe Creek West of Highway 78 (330722115511201)					
8-20-88	1150	—	—	13,170	8.00	—	—	350	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Magnesium, dissolved (mg/L as Mg)	Sodium, total recoverable (mg/L as Na)	Sodium, dissolved (mg/L as Na)	Potassium, total recoverable (mg/L as K)	Potassium, dissolved (mg/L as K)	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate, dissolved (mg/L as SO_4)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)
Alamo River at Outlet (10254730)									
8-17-88	—	—	—	—	—	—	—	—	—
10-20-88	—	—	—	—	—	—	—	—	—
10-20-88	—	420	—	8.0	—	218	—	—	—
11-14-88	—	—	—	—	—	220	910	530	—
12-16-88	—	—	—	—	—	209	800	560	—
1-19-89	79	—	420	—	10	209	750	550	—
1-19-89	—	430	—	6.5	—	198	—	—	—
2-16-89	—	—	—	—	—	177	760	490	—
3-15-89	—	—	—	—	—	184	830	520	—
4-11-89	92	—	410	—	10	195	770	460	—
4-11-89	—	350	—	9.3	—	208	—	—	—
5-22-89	78	—	400	—	10	211	750	460	0.5
6-20-89	81	—	410	—	11	202	720	520	.5
7-27-89	91	—	420	—	11	201	830	480	—
7-27-89	—	380	—	13	—	199	—	—	—
8-27-89	100	—	430	—	12	212	910	580	—
8-27-89	—	—	—	—	—	212	940	520	—
Alamo River at Border (324032115220501)									
8-17-88	—	—	—	—	—	—	—	—	—
10-21-88	—	—	—	—	—	—	—	—	—
10-21-88	—	560	—	5.3	—	286	—	—	—
11-13-88	—	—	—	—	—	255	930	520	—
12-17-88	—	—	—	—	—	307	1,100	890	—
1-18-89	120	—	910	—	15	318	1,100	1,300	—
1-18-89	—	940	—	10	—	309	—	—	—
2-15-89	—	—	—	—	—	299	1,100	960	—
3-16-89	—	—	—	—	—	284	990	980	—
4-14-89	120	—	840	—	13	304	1,000	710	—
5-23-89	98	—	720	—	11	270	910	940	0.8
6-21-89	130	—	960	—	12	301	1,200	1,300	.8
7-28-89	120	—	870	—	12	299	1,200	1,200	—
7-28-89	—	860	—	11	—	297	—	—	—
8-28-89	110	—	830	—	11	294	1,100	1,100	—
8-28-89	—	—	—	—	—	295	1,200	1,100	—
San Felipe Creek West of Highway 78 (330722115511201)									
8-20-88	220	—	2,700	—	11	127	3,600	2,800	1.3

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Bromide, dissolved (mg/L as Br)	Silica dissolved (mg/L as SiO_2)	Solids, residue at 180 °C, dissolved (mg/L)	Solids, residue at 105 °C, total (mg/L)	Nitrogen, NO_2+ NO_3, total (mg/L as N)	Nitrogen, NO_2+ NO_3, dissolved (mg/L as N)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, ammonia, dissolved (mg/L as N)	Nitrogen, ammonia + organic, dis. (mg/L as N)
Alamo River at Outlet (10254730)									
8-17-88	—	—	—	—	—	—	—	—	—
10-20-88	—	—	—	—	—	9.5	—	0.39	—
10-20-88	—	—	—	2,840	8.6	—	0.37	—	—
11-14-88	0.42	—	2,450	—	—	11	—	.52	—
12-16-88	.20	—	2,240	—	—	8.4	—	1.3	—
1-19-89	.39	12	2,200	—	—	7.7	—	2.3	—
1-19-89	—	—	—	2,680	10	—	2.9	—	—
2-16-89	.33	—	2,070	—	—	8.4	—	4.4	—
3-15-89	.34	—	2,140	—	—	9.4	—	4.2	—
4-11-89	.36	13	2,070	—	—	9.5	—	1.3	—
4-11-89	—	—	—	2,910	8.7	—	1.3	—	—
5-22-89	.29	13	2,050	—	—	6.1	—	.65	—
6-20-89	.36	13	2,090	—	—	6.3	—	.94	—
7-27-89	.31	14	2,230	—	—	6.0	—	.54	—
7-27-89	—	—	—	2,310	6.2	—	.70	—	—
8-27-89	.40	13	2,500	—	—	5.9	—	.83	1.8
8-27-89	2.0	—	—	—	—	—	—	—	—
Alamo River at Border (324032115220501)									
8-17-88	—	—	—	—	—	—	—	—	—
10-21-88	—	—	—	—	—	15	—	0.14	—
10-21-88	—	—	—	1,300	16	—	0.12	—	—
11-13-88	.49	—	2,540	—	—	13	—	.73	—
12-17-88	.80	—	3,490	—	—	13	—	.12	—
1-18-89	1.0	15	3,940	—	—	1.7	—	1.0	—
1-18-89	—	—	—	4,120	1.7	—	1.0	—	—
2-15-89	.78	—	3,580	—	—	8.0	—	.10	—
3-16-89	.75	—	—	—	—	1.3	—	.14	—
4-14-89	.87	20	3,690	—	—	1.1	—	.42	—
5-23-89	.59	18	3,140	—	—	.91	—	.19	—
6-21-89	.95	20	4,260	—	—	1.4	—	.28	—
7-28-89	1.0	22	3,900	—	—	1.6	—	.17	—
7-28-89	—	—	—	3,990	1.7	—	.11	—	—
8-28-89	.90	20	3,720	—	—	1.3	—	.13	.4
8-28-89	1.5	—	—	—	—	—	—	—	—
San Felipe Creek West of Highway 78 (330722115511201)									
8-20-88	—	25	—	—	—	<.1	0.13	—	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989–Continued

Date	Phosphorus, hydro. + ortho dis. (mg/L as P)	Aluminum, total recoverable (µg/L as Al)	Aluminum, dissolved (µg/L as Al)	Antimony, total (µg/L as Sb)	Antimony, dissolved (µg/L as Sb)	Arsenic, total (µg/L as As)	Arsenic, dissolved (µg/L as As)	Boron, total recoverable (µg/L as B)	Boron, dissolved (µg/L as B)
Alamo River at Outlet (10254730)									
8-17-88	—	—	—	—	—	—	—	—	—
10-20-88	—	—	—	—	—	—	—	—	—
10-20-88	—	6,400	—	<1	—	7	—	660	—
11-14-88	—	—	—	—	—	—	—	—	660
12-16-88	—	—	—	—	—	—	—	—	570
1-19-89	—	—	10	—	—	—	5	—	550
1-19-89	—	6,500	—	—	—	6	—	570	—
2-16-89	—	—	—	—	—	—	—	—	480
3-15-89	—	—	—	—	—	—	—	—	560
4-11-89	—	—	<10	—	—	—	6	—	540
4-11-89	—	12,000	—	—	—	2	—	570	—
5-22-89	—	—	<10	—	—	—	6	—	560
6-20-89	—	—	20	—	—	—	6	—	550
7-27-89	—	—	20	—	—	—	7	—	640
7-27-89	—	6,700	—	—	—	9	—	560	—
8-27-89	0.21	—	<10	—	—	—	7	—	710
8-27-89	—	—	—	—	—	—	—	—	—
Alamo River at Border (324032115220501)									
8-17-88	—	—	—	—	—	—	—	—	—
10-21-88	—	—	—	—	—	—	—	—	—
10-21-88	—	530	—	<1	—	4	—	1,100	—
11-13-88	—	—	—	—	—	—	—	—	820
12-17-88	—	—	—	—	—	—	—	—	1,200
1-18-89	—	—	10	—	—	—	3	—	1,600
1-18-89	—	420	—	—	—	4	—	1,600	—
2-15-89	—	—	—	—	—	—	—	—	1,200
3-16-89	—	—	—	—	—	—	—	—	1,500
4-14-89	—	—	10	—	—	—	6	—	1,700
5-23-89	—	—	<10	—	—	—	4	—	1,400
6-21-89	—	—	10	—	—	—	3	—	1,900
7-28-89	—	—	10	—	—	—	5	—	2,000
7-28-89	—	1,000	—	—	—	6	—	1,900	—
8-28-89	.04	—	<10	—	—	—	4	—	1,900
8-28-89	—	—	—	—	—	—	—	—	—
San Felipe Creek West of Highway 78 (330722115511201)									
8-20-88	—	—	—	—	—	—	3	—	4,100

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Iron, total recoverable (µg/L as Fe)	Iron, dissolved (µg/L as Fe)	Lithium, total recoverable (µg/L as Li)	Lithium, dissolved (µg/L as Li)	Manganese, total recoverable (µg/L as Mn)	Manganese, dissolved (µg/L as Mn)	Molybdenum, total recoverable (µg/L as Mo)	Molybdenum, dissolved (µg/L as Mo)	Selenium, total (µg/L as Se)
Alamo River at Outlet (10254730)									
8-17-88 . . .	—	—	—	—	—	—	—	—	—
10-20-88 . . .	—	—	—	—	—	—	—	—	—
10-20-88 . . .	6,400	—	—	—	260	—	15	—	9
11-14-88 . . .	—	10	—	—	—	<10	—	—	—
12-16-88 . . .	—	20	—	—	—	10	—	—	—
1-19-89 . . .	—	20	—	160	—	40	—	12	—
1-19-89 . . .	5,900	—	170	—	300	—	15	—	6
2-16-89 . . .	—	<10	—	—	—	<10	—	—	—
3-15-89 . . .	—	20	—	—	—	10	—	—	—
4-11-89 . . .	—	10	—	160	—	20	—	12	—
4-11-89 . . .	13,00	—	170	—	450	—	13	—	2
5-22-89 . . .	—	30	—	160	—	20	—	12	—
6-20-89 . . .	—	40	—	170	—	30	—	14	—
7-27-89 . . .	—	30	—	—	—	10	—	13	—
7-27-89 . . .	7,100	—	170	—	300	—	10	—	8
8-27-89 . . .	—	20	—	—	—	20	—	17	—
8-27-89 . . .	—	—	—	—	—	—	—	—	10
Alamo River at Border (324032115220501)									
8-17-88 . . .	—	—	—	—	—	—	—	—	—
10-21-88 . . .	—	—	—	—	—	—	—	—	—
10-21-88 . . .	410	—	—	—	120	—	29	—	10
11-13-88 . . .	—	20	—	—	—	60	—	—	—
12-17-88 . . .	—	30	—	—	—	110	—	—	—
1-18-89 . . .	—	40	—	210	—	420	—	29	—
1-18-89 . . .	430	—	200	—	490	—	32	—	4
2-15-89 . . .	—	<10	—	—	—	<10	—	—	—
3-16-89 . . .	—	60	—	—	—	70	—	—	—
4-14-89 . . .	—	20	—	210	—	400	—	25	—
5-23-89 . . .	—	40	—	190	—	280	—	21	—
6-21-89 . . .	—	50	—	220	—	260	—	36	—
7-28-89 . . .	—	40	—	—	—	190	—	35	—
7-28-89 . . .	820	—	210	—	280	—	31	—	5
8-28-89 . . .	—	30	—	—	—	160	—	43	—
8-28-89 . . .	—	—	—	—	—	—	—	—	4
San Felipe Creek West of Highway 78 (330722115511201)									
8-20-88 . . .	—	260	—	—	—	30	—	72	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Selenium, dissolved (µg/L as Se)	Strontium, total recoverable (µg/L as Sr)	Strontium, dissolved (µg/L as Sr)	Uranium, natural dissolved (µg/L as U)	Carbon, organic total (mg/L as C)	Sediment, suspended (mg/L)	Sediment, suspended (% finer than 0.062 mm)	Tritium, total (pCi/L)	Stable-isotope ratio (permil) $^{2}H/^{1}H$	$^{18}O/^{16}O$
Alamo River at Outlet (10254730)										
8-17-88	—	—	—	—	—	—	—	100	-99.0	-12.15
10-20-88	—	—	—	—	—	—	—	—	-96.5	-11.90
10-20-88	—	—	—	—	—	557	69	—	—	—
11-14-88	10	—	—	—	—	—	—	—	-97.5	-12.15
12-16-88	8	—	—	—	—	—	—	—	-100.5	-12.35
1-19-89	6	—	2,800	—	—	—	—	—	-101.0	-12.00
1-19-89	—	3,000	—	—	—	389	94	—	—	—
2-16-89	7	—	—	—	—	—	—	—	-88.9	-11.10
3-15-89	8	—	—	—	—	—	—	—	-97.5	-12.00
4-11-89	8	—	2,800	—	—	—	—	—	-99.0	-12.05
4-11-89	—	2,800	—	—	—	849	74	—	—	—
5-22-89	8	—	2,800	—	—	—	—	—	-98.0	-11.95
6-20-89	6	—	2,700	—	—	—	—	—	-101.0	-11.90
7-27-89	8	—	2,700	—	—	—	—	—	-97.5	-11.50
7-27-89	—	2,900	—	—	—	543	76	—	—	—
8-27-89	10	—	3,100	17	9.3	—	—	—	-96.5	-11.80
8-27-89	—	—	—	—	—	—	—	—	—	—
Alamo River at Border (324032115220501)										
8-17-88	—	—	—	—	—	—	—	96	-102.5	-12.35
10-21-88	—	—	—	—	—	—	—	—	-98.0	-11.80
10-21-88	—	—	—	—	—	—	—	—	—	—
11-13-88	8	—	—	—	—	—	—	—	—	—
12-17-88	10	—	—	—	—	—	—	—	-98.0	-11.70
1-18-89	3	—	4,000	—	—	—	—	—	-95.0	-11.30
1-18-89	—	4,000	—	—	—	90	58	—	—	—
2-15-89	8	—	—	—	—	—	—	—	-101.0	-11.70
3-16-89	3	—	—	—	—	—	—	—	-96.5	-11.50
4-14-89	3	—	3,900	—	—	—	—	—	-94.0	-10.85
5-23-89	3	—	3,400	—	—	—	—	—	-92.5	-10.65
6-21-89	4	—	4,100	—	—	—	—	—	-93.0	-10.55
7-28-89	5	—	3,600	—	—	—	—	—	-91.5	-10.55
7-28-89	—	3,600	—	—	—	74	58	—	—	—
8-28-89	5	—	3,700	21	7.6	—	—	—	-93.0	-10.80
8-28-89	—	—	—	—	—	—	—	—	—	—
San Felipe Creek West of Highway 78 (330722115511201)										
8-20-88	17	—	—	—	—	—	—	—	-59.0	-6.05

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Time	Gage height (ft)	Discharge, mean daily (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Calcium, total recoverable (mg/L as Ca)	Calcium, dissolved (mg/L as Ca)	Magnesium, total recoverable (mg/L as Mg)
				East Highline Canal (324152115165501)					
10-24-88	1310	—	—	1,120	8.00	25.0	—	76	—
11-13-88	1005	—	—	1,010	8.10	20.0	—	75	—
12-17-88	0910	—	—	1,010	8.30	14.0	—	74	—
1-18-89	1300	—	—	1,250	—	11.0	—	87	—
1-18-89	1301	—	—	1,240	7.70	11.0	76	—	32
2-15-89	1520	—	—	1,070	8.40	13.5	—	77	—
3-16-89	1055	—	—	947	8.30	19.0	—	71	—
4-11-89	1340	—	—	1,060	8.23	23.0	—	77	—
4-11-89	1354	—	—	1,060	8.33	23.0	73	—	29
5-23-89	1050	—	—	1,080	—	25.0	—	82	—
6-21-89	0800	—	—	1,020	8.30	26.0	—	74	—
7-28-89	1420	—	—	1,050	8.33	—	—	74	—
7-28-89	1421	—	—	1,060	8.27	30.0	65	—	27
8-28-89	0800	—	—	1,100	8.31	26.0	—	77	—
				New River at Border (10254970)					
8-17-88	1020	—	301	4,590	—	—	—	—	—
10-21-88	1030	9.63	239	4,300	7.30	26.0	—	—	—
10-21-88	1031	9.63	239	4,340	7.40	26.0	170	—	77
11-13-88	0825	—	215	4,130	7.40	22.0	—	160	—
12-17-88	1030	—	296	3,690	7.70	16.0	—	160	—
1-18-89	1030	9.37	257	4,210	7.80	15.0	—	160	—
1-18-89	1031	9.37	257	4,260	7.50	15.0	160	—	80
2-15-89	1345	9.34	242	4,300	7.90	15.5	—	190	—
3-16-89	1200	9.24	242	4,920	7.90	20.0	—	190	—
4-11-89	1510	9.08	225	5,420	7.92	27.5	—	220	—
4-11-89	1515	9.08	225	5,440	7.34	27.5	190	—	96
5-23-89	1230	9.94	212	5,230	7.90	25.0	—	190	—
6-21-89	0930	8.76	194	4,750	7.60	28.0	—	190	—
7-28-89	1045	8.62	192	4,980	7.71	30.5	—	190	—
7-28-89	1046	—	192	5,000	7.29	30.5	180	—	96
8-28-89	0920	9.15	221	4,390	7.79	—	—	170	—
8-28-89	0921	—	221	4,400	7.62	—	—	—	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Magnesium, dissolved (mg/L as Mg)	Sodium, total recoverable (mg/L as Na)	Sodium, dissolved (mg/L as Na)	Potassium, total recoverable (mg/L as K)	Potassium, dissolved (mg/L as K)	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate, dissolved (mg/L as SO_4)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)
East Highline Canal (324152115165501)									
10-24-88	31	—	110	—	4.1	152	290	100	0.3
11-13-88	—	—	—	—	—	140	260	84	—
12-17-88	—	—	—	—	—	145	260	88	—
1-18-89	31	—	130	—	4.4	162	300	120	—
1-18-89	—	130	—	2.8	—	163	—	—	—
2-15-89	—	—	—	—	—	146	280	93	—
3-16-89	—	—	—	—	—	139	250	72	—
4-11-89	29	—	110	—	3.9	147	260	92	—
4-11-89	—	100	—	2.9	—	147	—	—	—
5-23-89	30	—	100	—	4.3	152	270	93	.3
6-21-89	27	—	93	—	4.3	143	260	84	.3
7-28-89	28	—	100	—	4.5	143	270	90	—
7-28-89	—	91	—	3.6	—	143	—	—	—
8-28-89	29	—	110	—	4.4	139	280	97	—
New River at Border (10254970)									
8-17-88	—	—	—	—	—	—	—	—	—
10-21-88	—	—	—	—	—	—	—	—	—
10-21-88	—	610	—	19	—	224	—	—	—
11-13-88	—	—	—	—	—	248	620	930	—
12-17-88	—	—	—	—	—	236	570	780	—
1-18-89	79	—	580	—	16	266	630	880	—
1-18-89	—	590	—	16	—	247	—	—	—
2-15-89	—	—	—	—	—	248	660	950	—
3-16-89	—	—	—	—	—	250	740	1,100	—
4-11-89	120	—	800	—	13	253	750	1,300	—
4-11-89	—	680	—	29	—	249	—	—	—
5-23-89	110	—	770	—	30	251	730	1,200	.6
6-21-89	99	—	700	—	27	238	660	1,100	.5
7-28-89	100	—	740	—	24	229	760	1,100	—
7-28-89	—	680	—	24	—	225	—	—	—
8-28-89	85	—	600	—	19	232	680	870	—
8-28-89	—	—	—	—	—	226	690	850	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Bromide, dissolved (mg/L as Br)	Silica, dissolved (mg/L as SiO_2)	Solids, residue at 180 °C, dissolved (mg/L)	Solids, residue at 105 °C, total (mg/L)	Nitrogen, NO_2+ NO_3, total (mg/L as N)	Nitrogen, NO_2+ NO_3, dissolved (mg/L as N)	Nitrogen, ammonia, total (mg/L as N)	Nitrogen, ammonia, dissolved (mg/L as N)	Nitrogen, ammonia + organic, dis. (mg/L as N)
				East Highline Canal (324152115165501)					
10-24-88	—	11	737	—	—	0.17	—	0.02	—
11-13-88	0.06	—	653	—	—	.18	—	.04	—
12-17-88	.06	—	678	—	—	.24	—	.03	—
1-18-89	.07	11	800	—	—	.20	—	.04	—
1-18-89	—	—	—	837	0.20	—	<0.01	—	—
2-15-89	.06	—	698	—	—	.31	—	.03	—
3-16-89	<.05	—	—	—	—	.27	—	.04	—
4-11-89	.06	10	687	—	—	.31	—	.04	—
4-11-89	—	—	—	742	.30	—	.03	—	—
5-23-89	.06	9.8	700	—	—	.27	—	.02	—
6-21-89	.06	9.3	674	—	—	.22	—	.05	—
7-28-89	.06	10	683	—	—	.20	—	.01	—
7-28-89	—	—	—	697	.20	—	<.01	—	—
8-28-89	.07	10	685	—	—	.15	—	.02	0.2
				New River at Border (10254970)					
8-17-88	—	—	—	—	—	—	—	—	—
10-21-88	—	—	—	—	—	0.27	—	3.7	—
10-21-88	—	—	—	2,760	0.30	—	4.9	—	—
11-13-88	1.2	—	2,580	—	—	.50	—	3.8	—
12-17-88	.91	—	2,350	—	—	.73	—	4.2	—
1-18-89	1.0	16	2,630	—	—	.70	—	5.8	—
1-18-89	—	—	—	2,790	.70	—	5.9	—	—
2-15-89	1.1	—	2,670	—	—	.84	—	7.6	—
3-16-89	1.4	—	—	—	—	.50	—	5.2	—
4-11-89	1.6	20	3,370	—	—	.34	—	5.5	—
4-11-89	—	—	—	3,620	.40	—	4.9	—	—
5-23-89	.45	16	3,270	—	—	.23	—	3.0	—
6-21-89	1.3	17	3,050	—	—	.19	—	3.3	—
7-28-89	1.4	20	3,150	—	—	<.1	—	1.9	—
7-28-89	—	—	—	3,280	<.1	—	3.2	—	—
8-28-89	1.0	20	2,590	—	—	.19	—	2.4	1.9
8-28-89	1.2	—	—	—	—	—	—	—	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Phosphorus, hydro. + ortho dis. (mg/L as P)	Aluminum, total recoverable (µg/L as Al)	Aluminum, dissolved (µg/L as Al)	Antimony, total (µg/L as Sb)	Antimony, dissolved (µg/L as Sb)	Arsenic, total (µg/L as As)	Arsenic, dissolved (µg/L as As)	Boron, total recoverable (µg/L as B)	Boron, dissolved (µg/L as B)
East Highline Canal (324152115165501)									
10-24-88	—	—	<10	—	<1	—	2	—	160
11-13-88	—	—	—	—	—	—	—	—	140
12-17-88	—	—	—	—	—	—	—	—	130
1-18-89	—	—	<10	—	—	—	2	—	170
1-18-89	—	40	—	—	—	2	—	180	—
2-15-89	—	—	—	—	—	—	—	—	130
3-16-89	—	—	—	—	—	—	—	—	120
4-11-89	—	—	<10	—	—	—	2	—	160
4-11-89	—	660	—	—	—	7	2	170	—
5-23-89	—	—	<10	—	—	—	2	—	130
6-21-89	—	—	<10	—	—	—	2	—	120
7-28-89	—	—	<10	—	—	—	3	—	140
7-28-89	—	210	—	—	—	4	—	150	—
8-28-89	<0.01	—	10	—	—	—	3	—	150
New River at Border (10254970)									
8-17-88	—	—	—	—	—	—	—	—	—
10-21-88	—	—	—	—	—	—	—	—	—
10-21-88	—	610	—	<1	—	5	—	910	—
11-13-88	—	—	—	—	—	—	—	—	820
12-17-88	—	—	—	—	—	—	—	—	710
1-18-89	—	—	10	—	—	—	4	—	780
1-18-89	—	350	—	—	—	4	—	820	—
2-15-89	—	—	—	—	—	—	—	—	750
3-16-89	—	—	—	—	—	—	—	—	990
4-11-89	—	—	20	—	—	—	13	—	1,100
4-11-89	—	790	—	—	—	13	—	1,100	—
5-23-89	—	—	<10	—	—	—	5	—	1,100
6-21-89	—	—	10	—	—	—	5	—	980
7-28-89	—	—	30	—	—	—	8	—	1,100
7-28-89	—	410	—	—	—	9	—	1,000	—
8-28-89	0.75	—	20	—	—	—	6	—	900
8-28-89	—	—	—	—	—	—	—	—	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Iron, total recoverable (µg/L as Fe)	Iron, dissolved (µg/L as Fe)	Lithium, total recoverable (µg/L as Li)	Lithium, dissolved (µg/L as Li)	Manganese, total recoverable (µg/L as Mn)	Manganese, dissolved (µg/L as Mn)	Molybdenum, total recoverable (µg/L as Mo)	Molybdenum, dissolved (µg/L as Mo)	Selenium, total (µg/L as Se)
East Highline Canal (324152115165501)									
10-24-88	—	3	—	—	—	<10	—	4	—
11-13-88	—	13	—	—	—	3	—	—	—
12-17-88	—	<3	—	—	—	1	—	—	—
1-18-89	—	3	—	58	—	4	—	7	—
1-18-89	50	—	60	—	20	—	14	—	8
2-15-89	—	<3	—	—	—	1	—	—	—
3-16-89	—	210	—	—	—	33	—	—	—
4-11-89	—	5	—	49	—	2	—	6	—
4-11-89	630	—	50	—	60	—	8	—	8
5-23-89	—	4	—	47	—	2	—	4	—
6-21-89	—	8	—	43	—	2	—	5	—
7-28-89	—	5	—	—	—	<1	—	4	—
7-28-89	200	—	50	—	30	—	4	—	2
8-28-89	—	10	—	—	—	<10	—	6	2
New River at Border (10254970)									
8-17-88	—	—	—	—	—	—	—	—	—
10-21-88	—	—	—	—	—	—	—	—	—
10-21-88	560	—	—	—	100	—	14	—	2
11-13-88	—	20	—	—	—	50	—	—	—
12-17-88	—	30	—	—	—	60	—	—	—
1-18-89	—	30	—	300	—	90	—	5	—
1-18-89	480	—	290	—	130	—	9	—	2
2-15-89	—	<10	—	—	—	<10	—	—	—
3-16-89	—	60	—	—	—	160	—	—	—
4-11-89	—	30	—	540	—	170	—	5	—
4-11-89	1,000	—	510	—	220	—	11	—	2
5-23-89	—	40	—	480	—	160	—	4	—
6-21-89	—	40	—	440	—	130	—	5	—
7-28-89	—	50	—	—	—	110	—	6	—
7-28-89	720	—	380	—	160	—	9	—	2
8-28-89	—	30	—	—	—	70	—	8	—
8-28-89	—	—	—	—	—	—	—	—	1

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Selenium, dissolved (µg/L as Se)	Strontium, total recoverable (µg/L as Sr)	Strontium, dissolved (µg/L as Sr)	Uranium, natural dissolved (µg/L as U)	Carbon, organic total (mg/L as C)	Sediment, suspended (mg/L)	Sediment, suspended (% finer than 0.062 mm)	Tritium, total (pCi/L)	Stable-isotope ratio (permil) $^{2}H/^{1}H$	Stable-isotope ratio (permil) $^{18}O/^{16}O$
East Highline Canal (324152115165501)										
10-24-88	3	---	---	---	---	---	---	---	-102.0	-13.00
11-13-88	2	---	---	---	---	---	---	---	-103.0	-12.80
12-17-88	2	---	---	---	---	---	---	---	-104.5	-13.10
1-18-89	2	---	1,200	---	---	---	---	---	-102.0	-12.70
1-18-89	---	1,200	---	---	---	---	---	---	---	---
2-15-89	2	---	---	---	---	---	---	---	-100.0	-12.90
3-16-89	2	---	---	---	---	---	---	---	-103.0	-13.10
4-11-89	2	---	1,100	---	---	---	---	---	-103.5	-12.95
4-11-89	---	1,100	---	---	---	86	76	---	---	---
5-23-89	2	---	1,100	---	---	---	---	---	-102.5	-12.80
6-21-89	2	---	1,000	---	---	---	---	---	-101.0	-13.00
7-28-89	2	---	1,100	---	---	---	---	---	-103.0	-12.80
7-28-89	---	1,000	---	---	---	---	---	---	---	---
8-28-89	2	---	1,000	22	3.2	---	---	---	-102.5	-12.65
New River at Border (10254970)										
8-17-88	---	---	---	---	---	---	---	88	-96.5	-11.55
10-21-88	---	---	---	---	---	---	---	---	-96.5	-11.75
10-21-88	---	---	---	---	---	48	63	---	---	---
11-13-88	2	---	---	---	---	---	---	---	-96.5	-11.65
12-17-88	2	---	---	---	---	---	---	---	-99.0	-12.10
1-18-89	2	---	2,900	---	---	---	---	---	-99.0	-11.85
1-18-89	---	2,900	---	---	---	34	59	---	---	---
2-15-89	1	---	---	---	---	---	---	---	-85.0	-10.35
3-16-89	2	---	---	---	---	---	---	---	-98.0	-11.65
4-11-89	2	---	3,700	---	---	---	---	---	-97.0	-11.35
4-11-89	---	3,300	---	---	---	49	71	---	---	---
5-23-89	1	---	3,700	---	---	---	---	---	-94.0	-10.85
6-21-89	1	---	3,200	---	---	---	---	---	-97.0	-10.80
7-28-89	2	---	3,300	---	---	---	---	---	-89.5	-10.25
7-28-89	---	3,400	---	---	---	41	54	---	---	---
8-28-89	1	---	2,800	8.4	17	---	---	---	-94.0	-11.15
8-28-89	---	---	---	---	---	---	---	---	---	---

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Time	Gage height (ft)	Discharge, mean daily (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Calcium, total recoverable (mg/L as Ca)	Calcium, dissolved (mg/L as Ca)	Magnesium, total recoverable (mg/L as Mg)
				New River at Outlet (1025550)					
8-17-88	1225	—	655	4,500	—	—	—	—	—
10-20-88	1730	—	647	4,360	7.70	25.5	—	—	—
10-20-88	1731	—	647	4,380	7.60	25.5	190	—	90
11-14-88	1120	—	580	4,590	7.80	—	—	180	—
12-16-88	1225	—	673	4,180	7.80	15.5	—	180	—
1-19-89	1315	—	580	4,900	7.50	15.0	200	—	180
1-19-89	1316	5.55	580	4,850	7.90	15.0	—	170	—
2-16-89	1100	5.92	643	4,250	7.80	14.0	—	180	—
3-15-89	1220	6.02	662	4,350	7.70	23.0	—	180	—
4-10-89	1545	—	694	4,700	7.32	28.0	—	190	—
4-10-89	1550	—	694	4,820	7.51	28.0	200	—	94
5-22-89	1515	5.68	608	4,280	7.60	26.0	—	180	—
6-20-89	1100	5.61	592	4,250	7.60	29.0	—	160	—
7-28-89	0725	5.42	600	4,610	7.88	29.0	—	200	—
7-28-89	0726	—	600	4,630	7.34	29.0	200	—	96
8-27-89	1430	5.56	598	4,440	7.82	27.5	—	180	—
8-27-89	1431	—	598	4,400	7.60	—	—	—	—
				Trifolium Drain 1 (330459115430101)					
10-21-88	0830	1.26	—	3,590	7.40	22.0	—	—	—
10-21-88	0831	1.26	—	3,590	7.40	22.0	170	—	96
11-14-88	1025	—	—	3,320	7.80	18.0	—	140	—
12-16-88	1040	—	—	2,560	7.80	15.0	—	130	—
1-19-89	1540	.55	—	3,930	7.90	15.0	—	140	—
1-19-89	1541	.55	—	3,960	7.80	15.0	150	—	98
2-16-89	1145	—	—	5,170	8.20	15.0	—	190	—
3-15-89	1130	.84	—	2,950	8.10	22.0	—	120	—
4-10-89	1420	.82	—	—	—	28.0	—	—	—
4-10-89	1425	.82	—	—	—	28.0	—	—	—
5-02-89	1050	1.05	—	3,030	7.89	28.0	110	—	80
5-02-89	1055	1.05	—	2,980	7.67	28.0	—	130	—
5-22-89	1430	.53	—	5,930	7.80	30.0	—	200	—
6-20-89	0955	.82	—	3,410	7.30	27.0	—	150	—
7-28-89	0900	.76	—	3,610	8.04	26.5	—	140	—
7-28-89	0901	—	—	3,620	7.10	26.5	130	—	91
8-27-89	1345	.68	—	5,200	8.08	30.0	—	200	—
8-27-89	1346	—	—	5,200	8.04	—	—	—	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Magnesium, dissolved (mg/L as Mg)	Sodium, total recoverable (mg/L as Na)	Sodium, dissolved (mg/L as Na)	Potassium, total recoverable (mg/L as K)	Potassium, dissolved (mg/L as K)	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate, dissolved (mg/L as SO_4)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)
New River at Outlet (1025550)									
8-17-88	—	—	—	—	—	—	—	—	—
10-20-88	—	—	—	—	—	—	—	—	—
10-20-88	—	610	—	10	—	225	—	—	—
11-14-88	—	—	—	—	—	240	780	990	—
12-16-88	—	—	—	—	—	237	720	870	—
1-19-89	—	700	—	12	—	227	—	—	—
1-19-89	87	—	700	—	14	248	750	1,000	—
2-16-89	—	—	—	—	—	207	730	870	—
3-15-89	—	—	—	—	—	210	770	900	—
4-10-89	99	—	640	—	29	197	710	1,000	—
4-10-89	—	690	—	2.5	—	202	—	—	—
5-22-89	98	—	600	—	16	226	720	910	0.5
6-20-89	83	—	610	—	17	211	710	880	.5
7-28-89	98	—	630	—	17	229	810	920	—
7-28-89	—	620	—	19	—	224	—	—	—
8-27-89	90	—	600	—	15	227	800	880	—
8-27-89	—	—	—	—	—	226	800	840	—
Trifolium Drain 1 (330459115430101)									
10-21-88	—	—	—	—	—	—	—	—	—
10-21-88	—	450	—	7.1	—	237	—	—	—
11-14-88	—	—	—	—	—	242	800	480	—
12-16-88	—	—	—	—	—	218	650	340	—
1-19-89	95	—	550	—	11	237	880	670	—
1-19-89	—	580	—	7.1	—	237	—	—	—
2-16-89	—	—	—	—	—	279	1,200	880	—
3-15-89	—	—	—	—	—	193	740	460	—
4-10-89	—	—	—	—	—	—	—	—	—
4-10-89	—	—	—	—	—	—	—	—	—
5-02-89	—	4.7	—	6.7	—	244	—	------	
5-02-89	72	—	410	—	11	243	690	410	—
5-22-89	150	—	890	—	16	342	1,400	1,100	0.9
6-20-89	91	—	460	—	12	244	770	550	6
7-28-89	93	—	490	—	11	179	790	610	—
7-28-89	—	450	—	12	—	183	—	—	—
8-27-89	130	—	710	—	16	346	1,300	800	—
8-27-89	—	—	—	—	—	309	1,300	840	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Bromide, dissolved (mg/L as Br)	Silica, dissolved (mg/L as SiO_2)	Solids, residue at 180 °C, dissolved (mg/L)	Solids, residue at 105 °C, total (mg/L)	Nitrogen, NO_2+ NO_3, total (mg/L as N)	Nitrogen, NO_2+ NO_3, dissolved (mg/L as N)	Nitrogen, ammonia, total (mg/L as N)	Nitrogen, ammonia, dissolved (mg/L as N)	Nitrogen, ammonia + organic, dis. (mg/L as N)
				New River at Outlet (1025550)					
8-17-88	—	—	—	—	—	—	—	—	—
10-20-88	—	—	—	—	—	4.3	—	2.7	—
10-20-88	—	—	—	3,130	4.3	—	2.8	—	—
11-14-88	1.2	—	2,960	—	—	5.5	—	2.5	—
12-16-88	1.0	—	2,720	—	—	4.9	—	2.4	—
1-19-89	—	—	3,350	4.3	—	4.9	—	—	
1-19-89	1.3	15	3,050	—	—	< 1	—	01	—
2-16-89	.92	—	2,700	—	—	5.2	—	2.5	—
3-15-89	.99	—	2,820	—	—	6.1	—	3.8	—
4-10-89	1.4	16	2,910	—	—	6.0	—	3.5	—
4-10-89	—	—	—	4,190	6.0	—	3.2	—	—
5-22-89	.85	15	2,720	—	—	4.0	—	1.5	—
6-20-89	1.0	15	2,720	—	—	3.8	—	1.6	—
7-28-89	1.1	18	3,000	—	—	5.3	—	1.2	—
7-28-89	—	—	—	3,080	5.4	—	1.3	—	—
8-27-89	1.3	17	2,850	—	—	3.1	—	.72	0.9
8-27-89	1.0	—	—	—	—	—	—	—	—
				Trifolium Drain 1 (330459115430101)					
10-21-88	—	—	—	—	—	25	—	4.1	—
10-21-88	—	—	—	2,690	17	—	4.4	—	—
11-14-88	0.35	—	2,240	—	—	14	—	5.5	—
12-16-88	.09	—	1,780	—	—	10	—	.12	—
1-19-89	.37	14	2,660	—	—	15	—	43	—
1-19-89	—	—	—	2,970	13	—	.23	—	—
2-16-89	.70	—	3,600	—	—	20	—	.20	—
3-15-89	.31	—	1,990	—	—	8.7	—	1.5	—
4-10-89	—	—	—	—	—	13.0	—	.57	—
4-10-89	—	—	—	—	12	—	.56	—	—
5-02-89	—	—	—	2,160	7.0	—	.18	—	—
5-02-89	.26	15	2,010	—	—	6.8	—	.18	—
5-22-89	.79	21	4,070	—	—	13	—	85	—
6-20-89	.33	16	2,330	—	—	6.6	—	1.5	—
7-28-89	.38	15	2,370	—	—	6.5	—	.36	—
7-28-89	—	—	—	2,400	17	—	8.0	—	—
8-27-89	.69	24	3,580	—	—	11	—	06	0.4
8-27-89	.71	—	—	—	—	—	—	—	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Phosphorus, hydro. + ortho dis. (mg/L as P)	Aluminum, total recoverable (µg/L as Al)	Aluminum, dissolved (µg/L as Al)	Antimony, total (µg/L as Sb)	Antimony, dissolved (µg/L as Sb)	Arsenic, total (µg/L as As)	Arsenic, dissolved (µg/L as As)	Boron, total recoverable (µg/L as B)	Boron, dissolved (µg/L as B)
				New River at Outlet (1025550)					
8-17-88	—	—	—	—	—	—	—	—	—
10-20-88	—	—	—	—	—	—	—	—	—
10-20-88	—	7,000	—	<1	—	7	—	980	—
11-14-88	—	—	—	—	—	—	—	—	1,000
12-16-88	—	—	—	—	—	—	—	—	930
1-19-89	—	3,500	—	—	—	6	—	1,100	—
1-19-89	—	—	10	—	—	—	4	—	1,100
2-16-89	—	—	—	—	—	—	—	—	820
3-15-89	—	—	—	—	—	—	—	—	960
4-10-89	—	—	10	—	—	—	7	—	1,100
4-10-89	—	9,500	—	—	—	10	—	1,200	—
5-22-89	—	—	<10	—	—	—	6	—	970
6-20-89	—	—	20	—	—	—	5	—	990
7-28-89	—	—	20	—	—	—	7	—	1,100
7-28-89	—	6,300	—	—	—	10	—	1,100	—
8-27-89	0.37	—	<10	—	—	—	6	—	1,000
8-27-89	—	—	—	—	—	—	—	—	—
				Trifolium Drain 1 (330459115430101)					
10-21-88	—	—	—	—	—	—	—	—	—
10-21-88	—	2,200	—	<1	—	3	—	930	—
11-14-88	—	—	—	—	—	—	—	—	770
12-16-88	—	—	—	—	—	—	—	—	520
1-19-89	—	—	20	—	—	—	2	—	980
1-19-89	—	4,000	—	—	—	3	—	1,000	—
2-16-89	—	—	—	—	—	—	—	—	1,300
3-15-89	—	—	—	—	—	—	—	—	650
4-10-89	—	—	—	—	—	—	—	—	—
4-10-89	—	—	—	—	—	—	—	—	—
5-02-89	—	3,600	—	—	—	3	—	720	—
5-02-89	—	—	20	—	—	—	3	—	690
5-22-89	—	—	<10	—	—	—	2	—	1,700
6-20-89	—	—	10	—	—	—	3	—	840
7-28-89	—	—	<10	—	—	—	4	—	860
7-28-89	—	1,600	—	—	—	4	—	840	—
8-27-89	0.04	—	20	—	—	—	3	—	1,500
8-27-89	—	—	—	—	—	—	—	—	—

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Iron, total recoverable (µg/L as Fe)	Iron, dissolved (µg/L as Fe)	Lithium, total recoverable (µg/L as Li)	Lithium, dissolved (µg/L as Li)	Manganese, total recoverable (µg/L as Mn)	Manganese, dissolved (µg/L as Mn)	Molybdenum, total recoverable (µg/L as Mo)	Molybdenum, dissolved (µg/L as Mo)	Selenium, total (µg/L as Se)
New River at Outlet (1025550)									
8-17-88 . . .	—	—	—	—	—	—	—	—	—
10-20-88 . . .	—	—	—	—	—	—	—	—	—
10-20-88 . . .	5,900	—	—	—	320	—	15	—	4
11-14-88 . . .	—	30	—	—	—	70	—	—	—
12-16-88 . . .	—	30	—	—	—	120	—	—	—
1-19-89 . . .	3,500	—	410	—	360	—	14	—	5
1-19-89 . . .	—	20	—	420	—	200	—	8	—
2-16-89 . . .	—	<10	—	—	—	<10	—	—	—
3-15-89 . . .	—	20	—	—	—	160	—	—	—
4-10-89 . . .	—	20	—	580	—	120	—	9	—
4-10-89 . . .	9,700	—	600	—	490	—	12	—	4
5-22-89 . . .	—	30	—	360	—	90	—	7	—
6-20-89 . . .	—	40	—	380	—	110	—	9	—
7-28-89 . . .	—	40	—	—	—	80	—	10	—
7-28-89 . . .	7,200	—	380	—	420	—	11	—	5
8-27-89 . . .	—	20	—	—	—	60	—	13	—
8-27-89 . . .	—	—	—	—	—	—	—	—	5
Trifolium Drain 1 (330459115430101)									
10-21-88 . . .	—	—	—	—	—	—	—	—	—
10-21-88 . . .	1,800	—	—	—	90	—	18	—	10
11-14-88 . . .	—	<10	—	—	—	<10	—	—	—
12-16-88 . . .	—	20	—	—	—	30	—	—	—
1-19-89 . . .	—	20	—	320	—	70	—	13	—
1-19-89 . . .	3,900	—	300	—	200	—	16	—	7
2-16-89 . . .	—	<10	—	—	—	<10	—	—	—
3-15-89 . . .	—	<10	—	—	—	20	—	—	—
4-10-89 . . .	—	—	—	—	—	—	—	—	—
4-10-89 . . .	—	—	—	—	—	—	—	—	—
5-02-89 . . .	3,800	—	200	—	150	—	19	—	6
5-02-89 . . .	—	30	—	240	—	60	—	10	—
5-22-89 . . .	—	20	—	520	—	60	—	18	—
6-20-89 . . .	—	40	—	270	—	70	—	12	—
7-28-89 . . .	—	30	—	—	—	30	—	10	—
7-28-89 . . .	1,700	—	240	—	90	—	10	—	8
8-27-89 . . .	—	20	—	—	—	30	—	24	—
8-27-89 . . .	—	—	—	—	—	—	—	—	10

Table 5. Data from periodic sampling of streams, East Highline Canal, and Trifolium Drain 1, August 1988–August 1989--Continued

Date	Selenium, dissolved (µg/L as Se)	Strontium, total recoverable (µg/L as Sr)	Strontium, dissolved (µg/L as Sr)	Uranium, natural dissolved (µg/L as U)	Carbon, organic total (mg/L as C)	Sediment, suspended (mg/L)	Sediment, suspended (% finer than 0.062 mm)	Tritium, total (pCi/L)	Stable-isotope ratio (permil) $^{2}H/^{1}H$	Stable-isotope ratio (permil) $^{18}O/^{16}O$
New River at Outlet (1025550)										
8-17-88	—	—	—	—	—	505	55	90	-97.0	-11.75
10-20-88	—	—	—	—	—	—	—	—	-97.0	-11.75
10-20-88	—	—	—	—	—	—	—	—	—	—
11-14-88	5	—	—	—	—	—	—	—	-97.0	-11.80
12-16-88	4	—	—	—	—	351	59	—	-99.0	-11.95
1-19-89	—	3,900	—	—	—	—	—	—	—	—
1-19-89	4	—	3,700	—	—	—	—	—	-95.0	-11.45
2-16-89	4	—	—	—	—	—	—	—	-95.0	-11.80
3-15-89	4	—	—	—	—	—	—	—	-92.5	-11.15
4-10-89	4	—	3,300	—	—	613	73	—	-98.5	-11.55
4-10-89	—	3,600	—	—	—	—	—	—	—	—
5-22-89	4	—	3,400	—	—	—	—	—	-96.0	-11.45
6-20-89	4	—	3,400	—	—	—	—	—	-96.0	-11.40
7-28-89	5	—	3,500	—	—	564	66	—	-95.5	-11.05
7-28-89	—	3,300	—	—	—	—	—	—	—	—
8-27-89	4	—	3,500	14	12	—	—	—	-95.0	-11.30
8-27-89	—	—	—	—	—	—	—	—	—	—
Trifolium Drain 1 (330459115430101)										
10-21-88	—	—	—	—	—	222	74	—	-99.5	-12.10
10-21-88	—	—	—	—	—	—	—	—	—	—
11-14-88	6	—	—	—	—	—	—	—	-101.0	-12.25
12-16-88	6	—	—	—	—	—	—	—	-100.0	-12.25
1-19-89	6	—	2,700	—	—	—	—	—	-98.0	-11.85
1-19-89	—	2,800	—	—	—	—	—	—	—	—
2-16-89	9	—	—	—	—	243	93	—	-93.0	-11.85
3-15-89	6	—	—	—	—	—	—	—	-99.0	-12.15
4-10-89	—	—	—	—	—	—	—	—	-98.5	-12.10
4-10-89	—	—	—	—	—	246	94	—	—	—
5-02-89	—	2,400	—	—	—	243	85	—	—	—
5-02-89	5	—	2,400	—	—	—	—	—	-101.0	-12.25
5-22-89	10	—	4,300	—	—	—	—	—	-96.5	-11.55
6-20-89	5	—	2,800	—	—	—	—	—	-99.0	-12.00
7-28-89	7	—	2,900	—	—	—	—	—	-99.0	-11.90
7-28-89	—	2,600	—	—	—	—	—	—	—	—
8-27-89	10	—	4,100	120	6.7	—	—	—	-96.0	-11.35
8-27-89	—	—	—	—	—	—	—	—	—	—

Table 6. Annual average tritium concentrations in the lower Colorado River at Imperial Dam, 1965–88

[Concentrations are given, in picocuries per liter, unadjusted and adjusted for radioactive decay ($\lambda = 0.0556$ per year) to 1988]

Year	Unadjusted	Decay-adjusted to 1988	Year	Unadjusted	Decay-adjusted to 1988
1965	1,060	293	1977	422	229
1966	1,410	415	1978	365	209
1967	2,290	712	1979	310	188
1968	1,960	642	1980	266	170
1969	1,700	589	1981	253	171
1970	1,370	503	1982	221	158
1971	1,110	432	1983	186	140
1972	931	382	1984	154	123
1973	800	347	1985	125	106
1974	675	310	1986	109	97
1975	579	281	1987	99	94
1976	483	248	1988	90	90

Table 7. Depth-profile data along a transect between the mouth of the Alamo River and the Salton Sea, August 1988

[Site locations, which are shown in figure 3, are listed in order from the river to the Salton Sea. The deepest sample at each site is immediately above bottom sediment. µS/cm, microsiemen per centimeter at 25°C; °C, degree Celsius; mg/L, milligram per liter; ft, foot]

Delta site number	Water depth (ft)	Specific conductance (µS/cm)	Water temperature (°C)	pH (standard units)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)
1	2.3	2,910	30.3	7.5	4.9	64
	8.9	2,900	30.3	7.5	5.0	66
2	.7	2,840	30.8	7.5	4.9	65
	3.3	2,840	30.8	7.5	4.9	65
	6.6	2,840	30.8	7.5	4.9	65
9	1.6	3,150	30.9	7.7	4.3	57
10	1.3	5,000	30.9	8.1	4.2	56
	2.9	51,000	30.3	8.2	1.2	18
3	.3	52,130	29.9	8.3	4.5	69
	1.6	52,180	29.9	8.1	5.0	77
4	1.6	47,200	33.8	8.5	9.8	172
	3.3	51,500	32.2	8.5	10.0	167
	4.9	53,130	30.8	8.5	9.3	150
	6.6	53,250	30.2	8.5	9.4	145
	8.9	53,250	29.8	8.3	4.7	72

Table 8. Particle-size distribution in cores from the Imperial Valley

[ft, foot. Location of sites shown in figure 2]

Depth of core (ft)	Percentage finer than size, in millimeters, indicated									
	Sand				Silt				Clay	
	1	0.5	0.25	0.125	0.062	0.031	0.016	0.008	0.004	0.002
S-417 (Northern Site) Lysimeter Hole--(Site 8)										
15-15.5	--	--	--	100	99	99	98	89	72	61
20-20.5	--	--	100	98	86	70	58	47	40	32
S-417 (Northern Site) Piezometer Hole										
74-74.7	--	100	98	58	6	3	2	2	2	1
141-141.5	--	--	--	100	99	98	93	86	68	57
195.7-196.3	100	90	42	17	7	5	4	3	3	2
S-154 (Middle Site) Lysimeter Hole--(Site 50)										
13-13.5	--	--	100	99	98	94	83	71	57	48
S-154 (Middle Site) Piezometer Hole										
26-26.5	--	100	96	50	38	37	35	31	24	21
56-56.5	--	--	--	100	94	75	49	37	34	31
71-71.5	--	--	--	100	89	60	22	12	12	9
101-101.5	--	--	--	100	99	98	95	88	72	60
S-371 (Southern Site) Lysimeter Hole--(Site 98)										
12-12.5	--	--	100	99	96	73	41	26	23	22
13-13.5	--	--	--	100	99	98	98	78	59	49
18-18.5	--	--	--	100	94	69	36	20	18	17
19-19.5	--	--	100	99	96	91	91	79	63	52
S-371 (Southern Site) Piezometer Hole										
17-17.5	--	--	--	--	100	99	94	69	47	42
24-24.5	--	100	99	75	44	37	33	27	22	19
34-34.5	--	--	100	99	98	96	88	72	57	46
65-65.5	--	--	100	99	97	95	86	73	58	49
65.8-66	--	100	99	28	12	9	7	6	5	4
81-81.5	--	--	100	99	97	95	89	75	58	47
106-106.5	100	99	77	32	16	12	11	98	6	5

Table 9. Lithologic description and perforated intervals for piezometers in the Imperial Valley

[Depth of clay-rich, low-permeability zones indicated in italics. Perforated interval: Asterisk indicates that piezometer is placed in a separate hole. ft, foot; cm, centimeter; mm, millimeter]

Depth (ft)	Perforated interval (ft)	Lithologic description
		S-417 (Northern Site)--Site 8
0-69	29-34 49-54	Clay and fine silt; increase in silt with depth; invertebrate shells near 25 ft; moderate brown (5YR4/4) trending to dark yellowish brown (10YR4/2) at bottom of interval.
69-85	70-75	Silt and fine sand; dark-gray or black thin stringers or small blebs in brown matrix
85-181		Clay and silt; moderate yellowish brown (10YR4/2) in top 20 ft of interval to olive gray (5Y4/1) in bottom 20 ft; olive-gray (5Y4/1) to greenish-gray (5GY6/1) thin (<1 cm) horizontal and vertical (up to several centimeters in length and a few millimeters in diameter) bands in dark-yellowish-brown (10YR4/2) matrix in core from 140-142 ft.
	194-199	Fine to medium sand; numerous small (1-3 mm) *Turritella* shells in core from 195-197 ft.
		S-154 (Middle Site)--Site 50
0-21		Clay and silt with small amount of fine sand at 16-18 ft; dark yellowish brown (5-10YR4/2-4)
21-32	23-28*	Very fine sand, clay, and silt.
32-34		Thin clay layer.
34-42	35-40	Very fine sand, clay, and silt similar to material from 20-32 ft.
42-64	50-55	Silt and clay; moderate yellowish brown (5-10YR4-5/4).
64-76	66-71	Silt; dark yellowish brown (5-10YR3-4/2).
76-80		Thin clay layer.
80-96	90-95	Silt similar to material from 64-76 ft.
96-102		Clay and fine silt; dark yellowish brown (5-10YR4/2-4); numerous very small (<1 mm) *Turritella* shells in core from 100-102 ft.
		S-371 (Southern Site)--Site 98
0-18		Silt and clay with silt increasing with depth; silt and fine sand lens from 7 to 9 ft; dark yellowish brown (10YR4/2) at top grading to moderate brown (5-10YR4-5/4) at bottom.
18-25	18-23	Unsorted fine sand, silt, and clay; moderate brown (5YR4/4).
25-74	34-39* 44-49 60-65	Numerous thin (up to a few feet thick) strata alternating between silt and clay, clay and silt, and fine sand and silt; dark yellowish brown (10YR4-5/2-4).
74-103		Clay and silt; numerous 1-mm gastropod and *Turritella* shells in core from 80-82 ft; moderate brown (5-10YR4-5/4).
103-114	109-114	Fine to medium sand.

Table 10. Data from lysimeters and piezometers at three sites in the Imperial Valley

[Perforated interval and water level in feet below land surface (negative water-level values, including <0, above land surface). Altitude of land surface in feet above or below (-) sea level. µS/cm, microsiemen per centimeter at 25°C; °C, degree Celsius; mg/L, milligram per liter, µg/L, microgram per liter; pCi/L, picocurie per liter; —, no data; <, actual value less than value shown. The analysis for each sample is displayed as one line on four consecutive pages]

Perforated interval	Latitude (north)	Longitude (west)	Date	Time	Water level	Altitude of land surface	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Calcium (mg/L as Ca)
			S-147 (Northern site) Lysimeter--(Site 8)							
5 . . .	33°11'27"	115°33'16"	7-19-89	1805	—	-208	25,400	—	—	—
8 . . .			5-02-89	1007	—	-208	74,500	7.3	—	2,000
			7-19-89	1800	—	-208	70,300	—	—	—
14 . . .			5-02-89	1005	—	-208	84,000	7.3	—	2,900
			7-19-89	1755	—	-208	83,000	—	—	—
19 . . .			5-02-89	1000	—	-208	77,000	7.3	—	2,900
			7-19-89	1745	—	-208	75,900	—	—	—
			S-417 (Northern site) Piezometer							
29-34 . .	33°11'28"	115°33'44"	4-18-89	1230	5.45	-213	48,800	6.4	29.0	1,800
49-54 . .			4-18-89	1000	2.15	-213	35,600	6.5	30.0	1,100
70-75 . .			4-17-89	1200	<0	-213	36,900	6.6	31.5	850
			8-24-89	0800	—	-213	—	—	—	—
			8-24-89	0805	—	-213	—	—	—	—
194-199 .			4-16-89	1800	<0	-213	22,700	6.5	36.0	310
			8-24-89	0900	—	-213	—	—	—	—
			S-154 (Middle Site) Lysimeter--(Site 50)							
9 . . .	32°53'54"	115°31'00"	5-02-89	0918	—	-138	67,500	7.3	—	3,300
			7-19-89	0915	—	-138	68,300	—	—	—
14 . . .			5-02-89	0916	—	-138	61,300	7.4	—	3,000
			7-19-89	0910	—	-138	60,600	—	—	—
19 . . .			5-02-89	0915	—	-138	54,800	7.2	—	3,100
			7-18-89	0900	—	-138	54,000	—	—	—
			7-19-89	0901	—	-138	54,000	—	—	—
			S-154 (Middle site) Piezometer							
23-28 . .	32°53'48"	115°31'01"	4-14-89	1600	3.58	-137	49,000	6.9	27.0	2,800
35-40 . .			4-14-89	1530	3.33	-137	43,900	7.1	26.0	2,400
50-55 . .			4-16-89	1500	-0.21	-137	20,500	7.0	25.0	1,000
			4-18-89	0800	-.21	-137	21,600	7.0	25.0	890
66-71 . .			4-16-89	1430	<0	-137	20,200	7.0	26.0	780
90-95 . .			4-16-89	1330	<0	-137	20,700	7.1	26.5	790
			S-371 (Southern site) Lysimeter--(Site 98)							
12.5 . .	32°44'40"	115°32'35"	5-02-89	0835	—	-18.8	3,010	7.9	—	150
			7-18-89	1935	—	-18.8	3,620	—	—	—
18 . . .			5-02-89	0835	—	-18.8	1,900	7.9	—	160
			7-18-89	1930	—	-18.8	2,480	—	—	—
			S-371 (Southern site) Piezometer							
18-23 . .	32°44'42"	115°32'33"	4-14-89	1400	15.31	-14.6	2,380	7.7	27.5	57
34-39 . .	32°44'42"	115°32'30"	4-14-89	1230	13.65	-14.6	19,400	7.4	28.0	1,000
44-49 . .	32°44'42"	115°32'33"	4-14-89	1300	14.15	-14.6	22,300	7.3	27.5	1,000
60-65 . .			4-14-89	1130	14.65	-14.6	17,000	7.1	27.5	580
109-114 .			4-14-89	1030	14.55	-14.6	15,700	7.4	29.0	410

Table 10. Data from lysimeters and piezometers at three sites in the Imperial Valley--Continued

Perforated interval	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)	Alkalinity, lab (mg/L as $CaCO_3$)	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)	Fluoride (mg/L as F)	Bromide (mg/L as Br)	Silica (mg/L as SiO_2)
S-147 (Northern site) Lysimeter--(Site 8)									
5	—	—	—	—	—	—	—	—	—
8	2,800	13,000	130	435	4,400	30,000	0.5	22	23
	—	—	—	—	—	—	—	—	—
14	3,900	12,000	170	272	3,300	31,000	.5	28	25
	—	—	—	—	—	—	—	—	—
19	3,600	12,000	140	242	3,300	34,000	.3	27	31
	—	—	—	—	—	—	—	—	—
S-417 (Northern site) Piezometer									
29-34	2,300	6,600	74	644	3,400	18,000	0.1	16	29
49-54	1,500	5,400	53	782	3,800	12,000	.2	9.4	43
70-75	1,700	6,800	57	889	6,800	11,000	.2	10	56
	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—
194-199	490	3,900	77	717	620	6,700	.6	6.6	63
	—	—	—	—	—	—	—	—	—
S-154 (Middle Site) Lysimeter--(Site 50)									
9	2,200	10,000	65	172	2,500	28,000	0.1	45	24
	—	—	—	—	—	—	—	—	—
14	2,400	8,500	83	206	2,500	25,000	.2	42	24
	—	—	—	—	—	—	—	—	—
19	2,400	7,300	74	234	2,500	21,000	.2	39	17
	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—
S-154 (Middle site) Piezometer									
23-28	2,000	5,500	54	203	2,200	19,000	0.4	37	21
35-40	1,700	5,000	47	202	1,800	17,000	.2	32	20
50-55	650	2,400	28	395	260	7,500	.3	15	16
	570	2,500	30	383	310	6,900	.3	14	22
66-71	360	2,800	14	399	470	6,900	.3	14	22
90-95	470	3,000	7.0	368	940	6,800	.3	10	21
S-371 (Southern site) Lysimeter--(Site 98)									
12.5	56	240	5.4	355	910	240	0.5	0.23	21
	—	—	—	—	—	—	—	—	—
18	66	450	8.6	309	500	180	.4	.15	20
	—	—	—	—	—	—	—	—	—
S-371 (Southern site) Piezometer									
18-23	30	390	12	264	480	270	0.8	0.59	20
34-39	580	2,600	21	241	2,900	5,800	.4	8.3	17
44-49	580	2,900	26	251	2,500	6,700	.7	11	20
60-65	290	2,500	17	252	750	5,200	.5	9.1	26
109-114	210	2,400	21	261	510	4,900	.5	8.5	32

Table 10. Data from lysimeters and piezometers at three sites in the Imperial Valley--Continued

Perforated interval	Solids, residue at 180°C (mg/L)	Nitrogen, NO_2+NO_3 (mg/L as N)	Nitrogen, ammonia (mg/L as N)	Aluminum (µg/L as Al)	Arsenic (µg/L as As)	Boron (µg/L as B)	Iron (µg/L as Fe)	Lithium (µg/L as Li)	Manganese (µg/L as Mn)
			S-147 (Northern site) Lysimeter--(Site 8)						
5	—	3.30	0.04	—	—	—	—	—	—
8	57,300	7.00	1.60	60	4	6,100	590	3,000	390
	—	5.00	1.30	—	—	—	—	—	—
14	65,900	.850	1.70	90	8	4,900	320	3,200	11,000
	—	.210	.38	—	—	—	—	—	—
19	57,900	<.080	1.60	60	9	2,500	490	3,000	5,100
	—	.410	.98	—	—	—	—	—	—
			S-417 (Northern site) Piezometer						
29-34	33,800	0.230	2.8	60	5	4,700	220	2,400	8,000
49-54	25,700	.160	6.7	50	2	5,000	340	2,600	3,600
70-75	31,200	<.100	21.0	50	91	6,400	23,000	5,100	400
	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—
194-199	13,800	<.100	28.0	30	67	11,000	4,800	4,500	210
	—	—	—	—	—	—	—	—	—
			S-154 (Middle Site) Lysimeter--(Site 50)						
9	49,500	110	1.6	80	2	840	340	1,000	4,600
	—	120	.38	—	—	—	—	—	—
14	46,500	34.0	1.6	70	5	1,400	390	1,900	4,200
	—	29.0	3.7	—	—	—	—	—	—
19	40,000	1.10	2.0	90	6	2,500	490	880	5,800
	—	—	—	—	—	—	—	—	—
	—	<.100	.27	—	—	—	—	—	—
			S-154 (Middle site) Piezometer						
23-28	33,400	5.80	0.89	<50	2	3,200	220	740	8,600
35-40	29,900	1.40	1.2	40	2	2,600	170	680	14,000
50-55	14,000	<.100	1.3	50	5	1,800	310	440	4,600
	13,600	<.100	1.2	1,600	7	1,600	730	410	3,600
66-71	13,200	<.100	5.5	20	46	3,200	6,400	260	1,200
90-95	13,400	<.100	3.6	50	59	3,500	6,000	730	2,400
			S-371 (Southern site) Lysimeter--(Site 98)						
12.5	2,140	8.10	0.03	20	1	310	30	140	80
	—	9.40	.04	—	—	—	—	—	—
18	1,350	.470	.03	20	2	370	14	140	19
	—	.320	.04	—	—	—	—	—	—
			S-371 (Southern site) Piezometer						
18-23	1,450	0.190	0.19	30	13	570	10	70	170
34-39	13,200	.320	.36	<20	6	2,400	60	540	780
44-49	15,000	<.100	.53	50	4	2,900	80	600	3,400
60-65	10,700	.150	.08	20	2	3,500	80	1,500	3,000
109-114	9,620	<.100	5.7	20	3	3,600	40	2,000	1,500

Table 10. Data from lysimeters and piezometers at three sites in the Imperial Valley--Continued

Perforated interval	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)	Strontium (µg/L as Sr)	Tritium, total (pCi/L)	Stable-isotope ratio (permil) $^{2}H/^{1}H$	$^{18}O/^{16}O$	$^{13}C/^{12}C$	$^{15}N/^{14}N$	$^{34}S/^{32}S$	Carbon-14 (percent modern)
S-147 (Northern site) Lysimeter--(Site 8)										
5	—	—	—	—	—	—	—	17.70	—	—
8	90	24	54,000	110	-80.5	-8.10	—	—	—	—
	—	—	—	—	—	—	—	33.10	—	—
14	100	20	79,000	21	-69.5	-6.50	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
19	99	91	71,000	15	-68.0	-6.25	—	—	—	—
	—	—	—	—	—	—	—	78.70	—	—
S-417 (Northern site) Piezometer										
29-34	5	4	48,000	6.4	-59.5	-5.15	—	—	4.00	—
49-54	6	1	27,000	14	-60.5	-5.70	—	—	7.00	—
70-75	4	<1	22,000	2.2	-67.5	-6.75	—	—	6.00	—
	—	—	—	—	—	—	-3.50	—	—	2.5
	—	—	—	—	—	—	—	—	—	2.6
194-199	10	<1	11,000	.3	-77.5	-7.95	—	—	22.10	—
	—	—	—	—	—	—	-4.60	—	—	1.3
S-154 (Middle Site) Lysimeter--(Site 50)										
9	70	120	54,000	—	-75.5	-7.85	—	—	—	—
	—	—	—	—	—	—	—	67.30	—	—
14	75	73	60,000	2.6	-78.5	-8.40	—	—	—	—
	—	—	—	—	—	—	—	102.00	—	—
19	50	2	55,000	1.9	-83.5	-8.75	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
S-154 (Middle site) Piezometer										
23-28	16	9	59,000	0.6	-85.5	-8.75	—	—	0.90	—
35-40	15	4	49,000	5.5	-87.0	-9.10	—	—	.20	—
50-55	11	<1	20,000	7.3	-88.5	-9.55	—	—	28.00	—
	12	<1	18,000	3.8	-89.0	-9.75	—	—	33.50	—
66-71	24	<1	14,000	1.3	-87.5	-9.30	—	—	20.80	—
90-95	15	<1	16,000	.6	-87.5	-9.35	—	—	9.40	—
S-371 (Southern site) Lysimeter--(Site 98)										
12.5	26	7	2,100	95	-99.5	-12.20	—	—	—	—
	—	—	—	—	—	—	—	10.20	—	—
18	59	15	2,500	91	-102.0	-12.10	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
S-371 (Southern site) Piezometer										
18-23	23	<1	980	88	-103.5	-13.00	—	—	-0.1	—
34-39	23	19	18,000	11	-96.0	-11.35	—	—	.30	—
44-49	24	<1	20,000	6.7	-89.5	-10.10	—	—	.70	—
60-65	31	<1	11,000	1.3	-84.0	-9.20	—	—	8.20	—
109-114	35	<1	9,800	2.6	-84.0	-9.05	—	—	13.20	—

Table 11. Selenium and water-extractable sulfate, chloride, and selenium concentrations in soils from 15 fields

[Soils data on dry-weight basis; aqueous data are from analysis of extract using 5 to 1 ratio of water to soil. See text (p. 12–13) for description of soil identifier. Concentrations in ppm (parts per million) and ppb (parts per billion). Laboratory standard is a soil from the San Joaquin Valley. <, less than indicated reporting limit; --- designates insufficient sample for analysis]

Soil identifier	Laboratory number	Soil	Water extract		
		Selenium (ppm)	Sulfate (ppm)	Chloride (ppm)	Selenium (ppb)
		Field at S-226 (Site 6)			
H-53-0-3	D-322562	0.5	5,200	2,900	63
H-53-0-6	D-322563	.3	2,400	4,500	76
H-53-25-3	D-322564	.5	11,000	2,300	73
H-53-25-6	D-322565	.5	8,800	4,500	76
H-53-50-3	D-322566	.4	12,000	1,900	91
H-53-50-6	D-322567	.3	1,300	4,200	70
M-41-0-3	D-322568	.6	5,200	3,500	130
M-41-0-6	D-322569	.3	1,300	4,900	90
M-41-25-3	D-322570	.3	6,600	2,400	76
M-41-25-6	D-322571	.3	1,200	4,200	73
M-41-50-3	D-322572	.4	10,000	3,100	97
M-41-50-6	D-322573	.6	4,800	4,900	90
T-7-0-3	D-322574	.3	12,000	2,700	53
T-7-0-6	D-322575	.6	4,700	4,200	54
T-7-25-3	D-322576	.4	11,000	2,800	51
T-7-25-6	D-322577	.7	4,700	4,200	74
T-7-50-3	D-322578	.3	8,200	2,500	52
T-7-50-6	D-322579	.3	3,200	4,000	46
H-53-0-3 duplicate	D-322580	.5	5,200	2,700	88
Laboratory standard	D-322581	1.1	1,000	240	10
		Field at S-269 (Site 7)			
H-12-0-3	D-322582	0.1	9,600	400	46
H-12-0-6	D-322583	.6	1,500	420	35
H-12-12-3	D-322584	.1	3,500	410	46
H-12-16-6	D-322585	.9	4,900	520	53
H-12-25-3	D-322586	.4	10,000	330	110
H-12-25-6	D-322587	.8	2,300	460	39
T-2A-0-3	D-322588	.1	11,000	820	11
T-2A-0-6	D-322589	.1	5,200	1,300	28
T-2A-12-3	D-322590	.1	11,000	840	14
T-2A-12-6	D-322591	.1	4,700	1,700	47
T-2A-25-3	D-322592	.1	11,000	1,300	17
T-2A-25-6	D-322593	.1	4,800	1,800	47
H-12-0-3 duplicate	D-322594	.1	9,600	390	46
Laboratory standard	D-322595	1.1	1,000	270	10

Table 11. Selenium and water-extractable sulfate, chloride, and selenium concentrations in soils from 15 fields--Continued

Soil identifier	Laboratory number	Soil	Water extract		
		Selenium (ppm)	Sulfate (ppm)	Chloride (ppm)	Selenium (ppb)
		Field at S-417 (Site 8)			
H-32-0-3	D-322462	0.3	8,100	340	22
H-32-0-6	D-322463	.1	11,000	2,500	79
H-32-25-3	D-322464	.2	7,400	1,800	41
H-32-25-6	D-322465	.2	7,800	2,600	63
H-32-50-3	D-322466	.3	11,000	2,000	68
H-32-50-6	D-322467	.2	11,000	2,800	89
M-24-0-3	D-322468	.2	12,000	780	40
M-24-0-6	D-322469	.7	9,800	1,800	100
M-24-25-3	D-322470	.3	12,000	1,800	36
M-24-25-6	D-322471	.4	11,000	2,300	37
M-24-50-3	D-322472	.4	8,400	1,700	23
M-24-50-6	D-322473	.5	5,400	2,400	200
T-18-0-3	D-322474	.2	10,000	450	34
T-18-0-6	D-322475	.2	11,000	640	27
T-18-25-3	D-322476	.2	12,000	1,000	26
T-18-25-6	D-322477	.1	10,000	1,200	23
T-18-50-3	D-322478	.3	10,000	1,500	20
T-18-50-6	D-322479	.3	5,000	1,600	26
H-32-0-3 duplicate	D-322480	.3	7,000	380	20
Laboratory standard	D-322481	.9	1,200	320	9
		Field at S-94 (Site 30)			
H-13-0-3	D-322596	0.3	1,000	180	14
H-13-0-6	D-322597	.2	11,000	45	18
H-13-23-3	D-322598	.3	7,200	110	14
H-13-23-6	D-322599	.2	10,000	300	28
H-13-46-3	D-322600	.4	6,900	230	16
H-13-46-6	D-322601	.2	11,000	180	14
M-11-0-3	D-322602	.5	4,200	380	15
M-11-0-6	D-322603	.4	3,500	890	18
M-11-23-3	D-322604	.3	5,400	450	10
M-11-23-6	D-322605	.2	2,300	670	8
M-11-46-3	D-322606	.2	4,300	260	8
M-11-46-6	D-322607	.3	62	780	12
T-9-0-3	D-322608	.3	6,700	800	7
T-9-0-6	D-322609	.4	5,400	970	12
T-9-23-3	D-322610	.2	11,000	540	7
T-9-23-6	D-322611	.3	9,600	1,200	14
T-9-46-3	D-322612	.1	1,700	74	3
T-9-46-6	D-322613	.3	6,300	980	13
H-13-0-3 duplicate	D-322614	.4	1,200	170	13
Laboratory standard	D-322615	1.1	1,100	270	11

Table 11. Selenium and water-extractable sulfate, chloride, and selenium concentrations in soils from 15 fields--Continued

Soil identifier	Laboratory number	Soil	Water extract		
		Selenium (ppm)	Sulfate (ppm)	Chloride (ppm)	Selenium (ppb)
		Field at S-142 (Site 33)			
H-6A-0-3	D-322482	0.3	8,500	560	17
H-6A-0-6	D-322483	.1	1,000	220	11
H-6A-33-3	D-322484	.4	5,000	320	10
H-6A-33-6	D-322485	.1	1,500	250	11
H-6A-66-3	D-322486	.3	4,300	440	7
H-6A-66-6	D-322487	.2	2,200	300	11
M-4B-0-3	D-322488	.5	3,700	440	21
M-4B-0-6	D-322489	.1	1,000	220	10
M-4B-33-3	D-322490	.5	11,000	800	70
M-4B-33-6	D-322491	.2	2,500	420	40
M-4B-66-3	D-322492	.2	4,800	320	11
M-4B-66-6	D-322493	.2	1,800	700	7
T-2B-0-3	D-322494	.2	3,800	820	22
T-2B-0-6	D-322495	.2	2,600	640	13
T-2B-33-3	D-322496	.3	12,000	920	61
T-2B-33-6	D-322497	.2	4,500	650	14
T-2B-66-3	D-322498	.2	5,600	680	33
T-2B-66-6	D-322499	.2	2,200	580	13
H-6A-0-3 duplicate	D-322500	.3	8,500	550	19
Laboratory standard	D-322501	1.1	1,200	290	8
		Field at S-241 (Site 41)			
H-20-0-3	D-322616	0.5	15,000	2,400	34
H-20-0-6	D-322617	.4	12,000	2,200	31
H-20-62-3	D-322618	.5	14,000	1,800	24
H-20-62-6	D-322619	.3	6,400	2,000	35
H-20-124-3	D-322620	.4	13,000	1,800	21
H-20-124-6	D-322621	.2	11,000	2,000	21
M-18-0-3	D-322622	.4	13,000	690	23
M-18-0-6	D-322623	.3	6,400	1,600	25
M-18-62-3	D-322624	.3	10,000	290	11
M-18-62-6	D-322625	.4	13,000	1,400	28
M-18-124-3	D-322626	.4	12,000	160	17
M-18-124-6	D-322627	.3	11,000	420	27
T-14-0-3	D-322628	.4	14,000	570	60
T-14-0-6	D-322629	---	---	---	---
T-14-62-3	D-322630	.2	11,000	610	29
T-14-62-6	D-322631	.2	12,000	1,900	17
T-14-124-3	D-322632	.2	7,600	530	18
T-14-124-6	D-322633	.2	12,000	2,100	13
H-20-0-3 duplicate	D-322634	.5	14,000	2,400	35
Laboratory standard	D-322635	1.2	990	240	10

Table 11. Selenium and water-extractable sulfate, chloride, and selenium concentrations in soils from 15 fields--Continued

Soil identifier	Laboratory number	Soil	Water extract		
		Selenium (ppm)	Sulfate (ppm)	Chloride (ppm)	Selenium (ppb)
		Field at S-154 (Site 50)			
H-23-0-3	D-325043	0.6	720	120	11
H-23-0-6	D-325044	.4	1,000	290	6
H-23-44-3	D-325045	.4	9,700	390	9
H-23-44-6	D-325046	.4	2,700	2,000	16
H-23-89-3	D-325047	.2	2,500	500	4
H-23-89-6	D-325048	.3	4,000	2,300	35
M-17-0-3	D-325049	.2	4,000	330	7
M-17-0-6	D-325050	.2	1,900	2,800	8
M-17-49-3	D-325051	.3	4,200	470	8
M-17-49-6	D-325052	.5	4,400	3,600	15
M-17-98-3	D-325053	.3	8,800	680	10
M-17-98-6	D-325054	.5	5,000	3,700	16
T-5-0-3	D-325055	.3	10,000	1,400	12
T-5-0-6	D-325056	.4	1,600	3,900	9
T-5-49-3	D-325057	.2	10,000	1,200	12
T-5-49-6	D-325058	.4	5,600	3,700	12
T-5-98-3	D-325059	.4	10,000	1,700	17
T-5-98-6	D-325060	.4	2,500	3,500	11
H-23-0-3 duplicate	D-325061	.2	10,000	200	7
Laboratory standard	D-325062	1.0	1,100	280	11
		Field at S-265 (Site 67)			
H-30-0-3	D-322522	0.1	7,500	82	3
H-30-0-6	D-322523	.1	6,600	160	6
H-30-25-3	D-322524	.1	6,800	320	<3
H-30-25-6	D-322525	.1	2,700	360	4
H-30-50-3	D-322526	.1	4,300	45	3
H-30-50-6	D-322527	.2	6,300	560	15
M-30-0-3	D-322528	.1	530	51	3
M-40-0-6	D-322529	.1	550	82	3
M-30-25-3	D-322530	.1	560	140	6
M-30-25-6	D-322531	.1	3,100	230	12
M-30-50-3	D-322532	.1	260	97	3
M-30-50-6	D-322533	.1	320	44	3
T-30-0-3	D-322534	.2	990	130	9
T-30-0-6	D-322535	.1	1,900	200	6
T-30-25-3	D-322536	.2	7,700	330	18
T-30-25-6	D-322537	.1	1,400	340	10
T-30-50-3	D-322538	.1	10,000	180	10
T-30-50-6	D-322539	.2	2,200	720	34
H-30-0-3 duplicate	D-322540	.1	9,400	100	3
Laboratory standard	D-322541	1.0	920	250	9

Table 11. Selenium and water-extractable sulfate, chloride, and selenium concentrations in soils from 15 fields--Continued

Soil identifier	Laboratory number	Soil	Water extract		
		Selenium (ppm)	Sulfate (ppm)	Chloride (ppm)	Selenium (ppb)
		Field at S-4 (Site 75)			
H-12C-0-3	D-322502	0.2	5,400	140	4
H-12C-0-6	D-322503	.2	5,400	790	15
H-12C-18-3	D-322504	.1	9,200	380	7
H-12C-18-6	D-322505	.2	2,800	790	25
H-12C-36-3	D-322506	.1	7,200	380	4
H-12C-36-6	D-322507	.2	4,300	1,200	25
M-9C-0-3	D-322508	.1	3,800	140	<3
M-9C-0-6	D-322509	.1	3,500	790	12
M-9C-18-3	D-322510	.1	12,000	290	7
M-9C-18-6	D-322511	.2	2,400	1,400	40
M-9C-36-3	D-322512	.1	5,000	310	4
M-9C-36-6	D-322513	.1	4,000	780	25
T-6C-0-3	D-322514	.1	9,600	500	13
T-6C-0-6	D-322515	.2	4,500	1,100	22
T-6C-18-3	D-322516	.2	8,200	360	4
T-6C-18-6	D-322517	.2	1,200	1,600	65
T-6C-36-3	D-322518	.1	7,800	1,000	22
T-6C-36-6	D-322519	.2	4,500	1,700	50
H-12C-0-3 duplicate	D-322520	.2	5,400	150	3
Laboratory standard	D-322521	1.1	950	200	8
		Field at S-72 (Site 79)			
H-8-0-3	D-322382	0.3	7,700	200	18
H-8-0-6	D-322383	.1	2,600	270	11
H-8-11-3	D-322384	.2	10,000	120	4
H-8-11-6	D-322385	.1	3,600	270	12
H-8-23-3	D-322386	.2	3,500	110	3
H-8-23-6	D-322387	.1	2,800	170	9
M-5-0-3	D-322388	.2	7,600	140	8
M-5-0-6	D-322389	.1	2,900	130	7
M-5-11-3	D-322390	.2	3,600	140	5
M-5-11-6	D-322391	.1	3,200	210	6
M-5-23-3	D-322392	.1	9,200	120	3
M-5-23-6	D-322393	.1	2,000	230	4
T-2-0-3	D-322394	---	---	---	---
T-2-0-6	D-322395	.1	1,000	470	5
T-2-11-3	D-322396	.1	6,000	320	8
T-2-11-6	D-322397	.1	3,900	380	8
T-2-23-3	D-322398	.1	6,000	310	6
T-2-23-6	D-322399	.1	2,300	400	10
H-8-0-3 duplicate	D-322400	.3	6,300	180	19
Laboratory standard	D-322401	.9	1,200	280	8

Table 11. Selenium and water-extractable sulfate, chloride, and selenium concentrations in soils from 15 fields--Continued

Soil identifier	Laboratory number	Soil	Water extract		
		Selenium (ppm)	Sulfate (ppm)	Chloride (ppm)	Selenium (ppb)
		Field at S-352 (Site 87)			
H-10-0-3	D-322542	0.1	5,200	1,100	14
H-10-0-6	D-322543	1.2	6,400	1,700	52
H-10-50-3	D-322544	.1	5,100	980	15
H-10-50-6	D-322545	1.3	12,000	2,000	75
H-10-100-3	D-322546	.1	5,700	540	13
H-10-100-6	D-322547	1.0	11,000	2,300	43
M-8-0-3	D-322548	.3	12,000	800	44
M-8-0-6	D-322549	.7	2,600	1,400	120
M-8-28-3	D-322550	.5	14,000	2,200	110
M-8-28-6	D-322551	.8	9,700	3,200	110
M-8-57-3	D-322552	.4	13,000	1,600	53
M-8-57-6	D-322553	.6	11,000	2,800	81
T-4-0-3	D-322554	.6	11,000	2,800	73
T-4-0-6	D-322555	.6	7,600	3,400	35
T-4-14-3	D-322556	.5	11,000	2,500	67
T-4-14-6	D-322557	.5	12,000	3,400	81
T-4-28-3	D-322558	.4	13,000	3,000	49
T-4-28-6	D-322559	.6	7,400	3,800	48
H-10-0-3 duplicate	D-322560	.1	5,200	1,100	13
Laboratory standard	D-322561	1.1	1,200	290	10
		Field at S-423 (Site 93)			
H-2C-0-3	D-322442	0.3	2,300	190	5
H-2C-0-6	D-322443	.1	4,900	130	16
H-2C-26-3	D-322444	.2	9,400	110	3
H-2C-26-6	D-322445	.1	5,800	610	12
H-2C-53-3	D-322446	.1	11,000	270	9
H-2C-53-6	D-322447	.1	1,500	350	12
M-2C-0-3	D-322448	.1	9,400	110	6
M-2C-0-6	D-322449	.4	450	430	35
M-2C-26-3	D-322450	.1	9,600	310	7
M-2C-26-6	D-322451	.3	2,600	430	16
M-2C-53-3	D-322452	.1	2,200	140	3
M-2C-53-6	D-322453	.2	3,500	310	13
T-2C-0-3	D-322454	.3	9,400	570	13
T-2C-0-6	D-322455	.2	1,700	800	41
T-2C-26-3	D-322456	.3	12,000	940	18
T-2C-26-6	D-322457	.3	1,800	960	23
T-2C-53-3	D-322458	.3	8,600	960	33
T-2C-53-6	D-322459	.2	3,400	1,100	11
H-2C-0-3 duplicate	D-322460	.2	2,700	190	3
Laboratory standard	D-322461	.9	1,200	280	9

Table 11. Selenium and water-extractable sulfate, chloride, and selenium concentrations in soils from 15 fields--Continued

Soil identifier	Laboratory number	Soil	Water extract		
		Selenium (ppm)	Sulfate (ppm)	Chloride (ppm)	Selenium (ppb)
		Field at S-371 (Site 98)			
H-4A-0-3	D-322402	0.2	8,600	59	3
H-4A-0-6	D-322403	.1	5,900	250	4
H-4A-25-3	D-322404	.2	1,400	110	3
H-4A-25-6	D-322405	.1	4,500	340	4
H-4A-53-3	D-322406	.2	9,800	38	<3
H-4A-53-6	D-322407	.3	7,100	270	<3
M-7A-0-3	D-322408	.1	7,000	120	<3
M-7A-0-6	D-322409	.1	6,600	380	<3
M-7A-25-3	D-322410	.1	7,400	120	<3
M-7A-25-6	D-322411	.1	5,000	470	3
M-7A-53-3	D-322412	.1	1,500	87	<3
M-7A-53-6	D-322413	<.1	4,000	560	<3
T-10A-0-3	D-322414	.1	1,400	110	<3
T-10A-0-6	D-322415	.1	2,400	370	4
T-10A-25-3	D-322416	.1	4,600	190	3
T-10A-25-6	D-322417	.1	4,000	400	10
T-10A-53-3	D-322418	.1	5,200	140	<3
T-10A-53-6	D-322419	.1	5,100	170	4
H-4A-0-3 duplicate	D-322420	.2	9,100	61	3
Laboratory standard	D-322421	1.0	1,100	250	9
		Field at S-176 (Site 104)			
H-9-0-3	D-322422	0.2	6,100	90	7
H-9-0-6	D-322423	.3	5,000	240	19
H-9-84-3	D-322424	.1	6,600	72	6
H-9-84-6	D-322425	.5	4,200	140	43
H-9-169-3	D-322426	.2	6,500	65	6
H-9-169-6	D-322427	.1	2,200	110	6
M-8-0-3	D-322428	.1	5,800	65	5
M-8-0-6	D-322429	.1	2,000	95	4
M-8-84-3	D-322430	.2	930	25	3
M-8-84-6	D-322431	.2	6,200	210	12
M-8-169-3	D-322432	.3	7,700	380	32
M-8-169-6	D-322433	.2	5,600	580	21
T-6-0-3	D-322434	.2	8,600	57	7
T-6-0-6	D-322435	.1	3,400	260	13
T-6-84-3	D-322436	.2	9,600	120	19
T-6-84-6	D-322437	.1	3,000	230	13
T-6-169-3	D-322438	.2	8,800	14	6
T-6-169-6	D-322439	<.1	1,200	1,600	5
H-9-0-3 duplicate	D-322440	.1	5,400	80	6
Laboratory standard	D-322441	.9	880	210	7

Table 11. Selenium and water-extractable sulfate, chloride, and selenium concentrations in soils from 15 fields--Continued

Soil identifier	Laboratory number	Soil	Water extract		
		Selenium (ppm)	Sulfate (ppm)	Chloride (ppm)	Selenium (ppb)
		Field at S-344 (Site 110)			
H-10-0-3	D-322362	0.2	7,300	210	22
H-10-0-6	D-322363	.2	6,700	770	19
H-10-83-3	D-322364	.2	8,800	420	8
H-10-83-6	D-322365	.2	6,400	980	18
H-10-166-3	D-322366	.3	6,400	520	16
H-10-166-6	D-322367	.2	3,700	1,300	16
M-8-0-3	D-322368	<.1	2,600	28	4
M-8-0-6	D-322369	.1	3,000	120	3
M-8-83-3	D-322370	.1	11,000	370	7
M-8-83-6	D-322371	.1	6,000	520	15
M-8-166-3	D-322372	.1	5,400	290	5
M-8-166-6	D-322373	.1	3,600	300	4
T-2-0-3	D-322374	.1	60,000	730	11
T-2-0-6	D-322375	.2	8,000	1,800	11
T-2-83-3	D-322376	.1	13,000	1,400	17
T-2-83-6	D-322377	.2	1,400	2,900	20
T-2-166-3	D-322378	.2	8,400	510	14
T-2-166-6	D-322379	.2	6,600	1,900	20
H-10-0-3 duplicate	D-322380	.2	7,100	220	13
Laboratory standard	D-322381	.9	1,100	270	11

Table 12. Arsenic, selenium, and boron, and water-extractable sulfate, chloride, and selenium concentrations in soils from 15 fields

[Soils data on dry-weight basis; aqueous data are from analysis of extract using 5 to 1 ratio of water to soil. Concentrations in ppm (parts per million) and ppb (parts per billion). See text (p. 12–13) for description of soil identifier; D in soil identifier designates a duplicate analysis. Laboratory standard is a soil from the San Joaquin Valley]

Soil identifier	Soil				Water extract			
	Laboratory number	Arsenic (ppm)	Selenium (ppm)	Boron (ppm)	Laboratory number	Sulfate (ppm)	Chloride (ppm)	Selenium (ppb)
S-226-T-7-0-6	D-317252	10	0.5	2.1	D-318134	4,800	3,700	70
S-269-T-2A-0-6	D-317253	8.8	.2	2.7	D-318135	5,700	1,100	42
S-417-T-18-0-6	D-317247	9.1	.3	2.3	D-318129	11,000	740	40
S-94-T-9-0-6	D-317254	8.9	.3	2.2	D-318136	5,300	1,100	20
S-142-T-2B-0-6	D-317248	5.1	.2	1.3	D-318130	2,500	430	28
S-142-T-2B-0-6D	D-317256	5.0	.1	1.3	D-318138	2,200	430	24
S-241-T-14-0-6	D-317255	8.3	.3	2.4	D-318137	11,000	1,400	34
S-154-H-23-0-3	D-317221	8.3	.5	1.6	D-318143	560	61	10
S-154-H-23-0-6	D-317222	8.5	.4	1.4	D-318144	850	190	6
S-154-H-23-44-3	D-317223	8.0	.4	2.1	D-318145	9,900	400	12
S-154-H-23-44-6	D-317224	8.8	.5	2.2	D-318146	3,300	1,900	12
S-154-H-23-89-3	D-317225	8.1	.4	1.9	D-318147	2,500	400	7
S-154-H-23-89-3D	D-317239	8.2	.3	1.8	D-318161	2,400	360	10
S-154-H-23-89-6	D-317226	10	.6	1.9	D-318148	4,600	2,100	53
S-154-M-17-0-3	D-317227	7.4	.4	1.8	D-318149	4,800	390	7
S-154-M-17-0-6	D-317228	9.1	.5	1.7	D-318150	2,200	2,600	16
S-154-M-17-49-3	D-317229	8.8	.3	1.8	D-318151	4,300	510	13
S-154-M-17-49-6	D-317230	9.7	.8	1.7	D-318152	4,700	3,200	31
S-154-M-17-98-3	D-317231	8.2	.4	2.0	D-318153	9,000	670	17
S-154-M-17-98-6	D-317232	10	.5	1.4	D-318154	5,600	3,600	23
S-154-T-5-0-3	D-317233	8.8	.4	2.2	D-318155	9,900	1,200	16
S-154-T-5-0-6	D-317234	10	.6	1.5	D-318156	1,500	3,700	13
S-154-T-5-0-6D	D-317244	10	.5	1.4	D-318126	1,500	3,800	14
S-154-T-5-49-3	D-317235	9.1	.4	2.0	D-318157	9,800	1,300	20
S-154-T-5-49-3D	D-317240	9.5	.3	1.9	D-318162	9,900	1,300	19
S-154-T-5-49-6	D-317236	10	.5	1.4	D-318158	5,400	3,200	21
S-154-T-5-98-3	D-317237	11	.5	2.2	D-318159	9,200	1,500	26
S-154-T-5-98-6	D-317238	10	.5	1.4	D-318160	2,500	3,500	22
S-265-T-30-0-6	D-317250	6.2	.1	1.4	D-318132	2,100	160	12
S-4-T-6C-0-6	D-317249	9.0	.2	2.1	D-318131	4,500	1,000	28
S-72-H-8-0-3	D-317257	7.5	.4	1.9	D-318139	7,700	140	30
S-72-M-5-0-3	D-317258	7.4	.3	1.7	D-318140	9,800	260	6
S-72-T-2-0-3	D-317259	7.9	.3	1.8	D-318141	10,000	61	18
S-72-T-2-0-6	D-317241	3.9	1	1.1	D-318123	1,100	350	14
S-352-T-4-06	D-317251	9.2	5	1.7	D-318133	7,100	3,200	44
S-423-T-2C-0-6	D-317246	8.4	.2	1.3	D-318128	1,800	860	60
S-371-T-10A-0-6	D-317242	7.2	.1	1.4	D-318124	2,700	220	11
S-176-T-6-0-6	D-317243	6.5	.1	1.3	D-318125	3,700	240	23
S-344-T-2-0-6	D-317245	7.6	.2	1.2	D-318127	7,800	1,600	18
Laboratory Standard	D-317260	9.7	1.1	5.1	D-318142	1,100	190	10

Table 13. Concentrations of selected constituents in near-surface soils from 15 fields

[Concentrations from inductively coupled plasma analysis. ppm, parts per million; <, less than indicated reporting limit. See text (p. 12–13) for description of soil identifier; D in soil identifier designates a duplicate analysis. Laboratory standard is a soil from the San Joaquin Valley. The analysis for each sample is displayed as one line on five consecutive pages]

Soil identifier	Lab. No.	Aluminum (percent)	Arsenic (ppm)	Barium (ppm)	Beryllium (ppm)	Bismuth (ppm)	Cadmium (ppm)	Calcium (percent)	Cerium (ppm)
S-226-T-7-0-6	D-317252	7.9	10	420	2	<10	<2	5.1	66
S-269-T-2A-0-6	D-317253	6.5	<10	560	2	<10	<2	6.2	62
S-417-T-18-0-6	D-317247	6.8	<10	310	2	<10	<2	6.9	61
S-94-T-9-0-6	D-317254	7.8	<10	460	2	<10	<2	4.4	65
S-142-T-2B-0-6	D-317248	5.2	<10	620	1	<10	<2	5.2	49
S-142-T-2B-0-6D	D-317256	5.2	<10	630	1	<10	<2	5.2	51
S-241-T-14-0-6	D-317255	6.9	<10	500	2	<10	<2	6.5	63
S-154-H-23-0-3	D-317221	7.7	<10	500	2	<10	<2	6.2	68
S-154-H-23-0-6	D-317222	7.4	<10	510	2	<10	<2	6.0	64
S-154-H-23-44-3	D-317223	7.3	<10	480	2	<10	<2	7.4	65
S-154-H-23-44-6	D-317224	8.3	<10	470	2	<10	<2	4.7	70
S-154-H-23-89-3	D-317225	7.4	<10	500	2	<10	<2	6.9	66
S-154-H-23-89-3D	D-317239	7.6	<10	510	2	<10	<2	7.1	69
S-154-H-23-89-6	D-317226	8.2	<10	470	2	<10	<2	5.0	70
S-154-M-17-0-3	D-317227	7.1	<10	500	2	<10	<2	7.4	64
S-154-M-17-0-6	D-317228	7.9	<10	460	2	<10	<2	5.0	70
S-154-M-17-49-3	D-317229	7.5	<10	480	2	<10	<2	6.8	64
S-154-M-17-49-6	D-317230	7.9	<10	430	2	<10	<2	5.2	70
S-154-M-17-98-3	D-317231	7.3	<10	510	2	<10	<2	8.1	64
S-154-M-17-98-6	D-317232	7.8	<10	450	2	<10	<2	5.2	68
S-154-T-5-0-3	D-317233	7.5	<10	460	2	<10	<2	6.9	66
S-154-T-5-0-6	D-317234	7.4	<10	390	2	<10	<2	5.0	67
S-154-T-5-0-6D	D-317244	8.1	<10	480	2	<10	<2	5.0	70
S-154-T-5-49-3	D-317235	7.7	<10	270	2	<10	<2	6.3	67
S-154-T-5-49-3D	D-317240	7.6	<10	470	2	<10	<2	6.3	66
S-154-T-5-49-6	D-317236	7.9	<10	440	2	<10	<2	5.5	67
S-154-T-5-98-3	D-317237	8.3	10	200	2	<10	<2	5.2	67
S-154-T-5-98-6	D-317238	8.1	<10	480	2	<10	<2	5.0	70
S-265-T-30-0-6	D-317250	5.6	<10	610	2	<10	<2	6.3	58
S-4-T-6C-0-6	D-317249	7.5	<10	440	2	<10	<2	5.0	63
S-72-H-8-0-3	D-317257	6.9	<10	500	2	<10	<2	4.9	60
S-72-M-5-0-3	D-317258	7.0	<10	500	2	<10	<2	5.2	62
S-72-T-2-0-3	D-317259	7.0	<10	480	2	<10	<2	5.3	62
S-72-T-2-0-6	D-317241	4.8	<10	510	1	<10	<2	3.8	41
S-352-T-4-0-6	D-317251	8.2	<10	320	2	<10	<2	4.6	67
S-423-T-2C-0-6	D-317246	7.9	<10	520	2	<10	<2	4.4	65
S-371-T-10A-0-6	D-317242	6.4	<10	540	2	<10	<2	5.3	61
S-176-T-6-0-6	D-317243	6.0	<10	550	2	<10	<2	4.8	57
S-344-T-2-0-6	D-317245	7.0	<10	500	2	<10	<2	4.7	57
Laboratory standard	D-317260	7.9	<10	860	2	<10	<2	2.2	43

Table 13. Concentrations of selected constituents in near-surface soils from 15 fields--Continued

Soil identifier	Chromium (ppm)	Cobalt (ppm)	Copper (ppm)	Europium (ppm)	Gallium (ppm)	Gold (ppm)	Holmium (ppm)	Iron (percent)
S-226-T-7-0-6	58	13	29	<2	18	<8	<4	3.3
S-269-T-2A-0-6	52	12	24	<2	15	<8	<4	2.8
S-417-T-18-0-6	54	12	25	<2	17	<8	<4	2.9
S-94-T-9-0-6	60	12	26	<2	19	<8	<4	3.3
S-142-T-2B-0-6	39	10	18	<2	12	<8	<4	2.0
S-142-T-2B-0-6D	39	10	20	<2	13	<8	<4	2.0
S-241-T-14-0-6	55	12	25	<2	16	<8	<4	3.0
S-154-H-23-0-3	58	13	28	<2	19	<8	<4	3.3
S-154-H-23-0-6	56	13	27	<2	17	<8	<4	3.1
S-154-H-23-44-3	58	12	26	<2	18	<8	<4	3.1
S-154-H-23-44-6	64	13	31	<2	21	<8	<4	3.5
S-154-H-23-89-3	59	12	27	<2	18	<8	<4	3.1
S-154-H-23-89-3D	62	13	29	<2	20	<8	<4	3.2
S-154-H-23-89-6	61	13	29	<2	20	<8	<4	3.5
S-154-M-17-0-3	58	12	26	<2	18	<8	<4	3.0
S-154-M-17-0-6	64	13	30	<2	19	<8	<4	3.4
S-154-M-17-49-3	59	12	28	<2	19	<8	<4	3.1
S-154-M-17-49-6	63	14	29	<2	20	<8	<4	3.4
S-154-M-17-98-3	58	12	26	<2	18	<8	<4	3.1
S-154-M-17-98-6	55	13	29	<2	19	<8	<4	3.4
S-154-T-5-0-3	49	13	28	<2	19	<8	<4	3.1
S-154-T-5-0-6	50	14	25	<2	19	<8	<4	3.5
S-154-T-5-0-6D	62	14	29	<2	20	<8	<4	3.5
S-154-T-5-49-3	58	13	28	<2	19	<8	<4	3.3
S-154-T-5-49-3D	63	13	28	<2	19	<8	<4	3.3
S-154-T-5-49-6	61	13	28	<2	18	<8	<4	3.4
S-154-T-5-98-3	61	13	28	<2	20	<8	<4	3.4
S-154-T-5-98-6	60	14	30	<2	21	<8	<4	3.5
S-265-T-30-0-6	46	11	20	<2	13	<8	<4	2.3
S-4-T-6C-0-6	55	13	26	<2	18	<8	<4	3.1
S-72-H-8-0-3	54	12	25	<2	17	<8	<4	2.8
S-72-M-5-0-3	56	12	24	<2	16	<8	<4	2.9
S-72-T-2-0-3	55	12	25	<2	17	<8	<4	2.9
S-72-T-2-0-6	23	7	14	<2	10	<8	<4	1.7
S-352-T-4-0-6	63	14	27	<2	21	<8	<4	3.5
S-423-T-2C-0-6	64	13	26	<2	20	<8	<4	3.3
S-372-T-10A-0-6	47	11	23	<2	16	<8	<4	2.6
S-176-T-6-0-6	52	11	22	<2	14	<8	<4	2.6
S-344-T-2-0-6	52	12	23	<2	17	<8	<4	2.8
Laboratory standard	12	15	39	<2	18	<8	<4	3.9

Table 13. Concentrations of selected constituents in near-surface soils from 15 fields--Continued

Soil identifier	Lanthanum (ppm)	Lead (ppm)	Lithium (ppm)	Magnesium (percent)	Manganese (ppm)	Molybdenum (ppm)	Neodymium (ppm)	Nickel (ppm)
S-226-T-7-0-6	39	19	60	1.9	500	<2	33	26
S-269-T-2A-0-6	36	19	49	1.9	500	<2	33	22
S-417-T-18-0-6	35	17	53	1.8	490	<2	33	23
S-94-T-9-0-6	38	20	57	1.8	480	<2	33	26
S-142-T-2B-0-6	29	15	33	1.5	410	<2	28	18
S-142-T-2B-0-6D	29	16	33	1.4	410	<2	28	18
S-241-T-14-0-6	36	18	53	1.9	500	<2	34	24
S-154-H-23-0-3	40	27	57	2.0	490	<2	35	26
S-154-H-23-0-6	37	20	55	1.9	480	<2	34	25
S-154-H-23-44-3	38	20	56	2.0	480	<2	35	25
S-154-H-23-44-6	41	19	64	1.9	490	<2	36	29
S-154-H-23-89-3	38	18	57	2.0	470	<2	35	25
S-154-H-23-89-3D	39	20	58	2.0	490	<2	37	26
S-154-H-23-89-6	40	18	62	2.0	520	<2	35	28
S-154-M-17-0-3	37	19	55	2.0	490	<2	35	24
S-154-M-17-0-6	40	19	61	2.0	530	<2	36	28
S-154-M-17-49-3	38	19	56	1.9	470	<2	36	25
S-154-M-17-49-6	40	20	60	2.0	530	<2	37	28
S-154-M-17-98-3	37	18	56	2.0	480	<2	35	25
S-154-M-17-98-6	40	19	60	2.0	520	<2	35	28
S-154-T-5-0-3	38	18	57	1.9	500	<2	35	25
S-154-T-5-0-6	38	19	57	2.0	550	<2	34	29
S-154-T-5-0-6D	41	20	62	2.0	550	<2	36	28
S-154-T-5-49-3	39	18	58	1.9	500	<2	36	27
S-154-T-5-49-3D	39	21	57	1.9	500	<2	34	26
S-154-T-5-49-6	40	21	60	2.0	550	<2	35	28
S-154-T-5-98-3	39	19	62	2.0	520	<2	35	28
S-154-T-5-98-6	41	21	62	2.0	540	<2	38	29
S-265-T-30-0-6	34	15	36	1.7	510	<2	33	20
S-4-T-6C-0-6	37	18	53	1.9	540	<2	34	25
S-72-H-8-0-3	35	19	48	1.8	500	<2	32	24
S-72-M-5-0-3	37	19	49	1.8	500	<2	33	23
S-72-T-2-0-3	36	19	49	1.8	490	<2	32	23
S-72-T-2-0-6	25	14	29	1.1	300	<2	20	13
S-352-T-4-0-6	39	18	63	1.9	560	<2	35	28
S-423-T-2C-0-6	39	19	59	1.8	490	<2	35	27
S-372-T-10A-0-6	35	19	43	1.7	520	<2	32	22
S-176-T-6-0-6	32	16	41	1.6	460	<2	29	23
S-344-T-2-0-6	34	16	50	1.6	480	<2	30	24
Laboratory standard	25	17	68	1.5	530	<2	22	72

Table 13. Concentrations of selected constituents in near-surface soils from 15 fields--Continued

Soil identifier	Niobium (ppm)	Phosphorus (percent)	Potassium (percent)	Scandium (ppm)	Silver (ppm)	Sodium (ppm)	Strontium (ppm)	Tantalum (ppm)
S-226-T-7-0-6	9	0.08	2.2	12	<2	0.84	290	<40
S-269-T-2A-0-6	<4	.07	2.1	9	<2	1.0	330	<40
S-417-T-18-0-6	<4	.07	2.0	10	<2	.81	450	<40
S-94-T-9-0-6	8	.08	2.1	11	<2	.78	260	<40
S-142-T-2B-0-6	<4	.06	2.1	7	<2	1.0	260	<40
S-142-T-2B-0-6D	<4	.06	2.0	7	<2	1.0	260	<40
S-241-T-14-0-6	<4	.08	2.1	10	<2	.96	340	<40
S-154-H-23-0-3	10	.08	2.2	11	<2	.48	360	<40
S-154-H-23-0-6	7	.08	2.2	11	<2	.52	350	<40
S-154-H-23-44-3	4	.08	2.1	11	<2	.55	390	<40
S-154-H-23-44-6	10	.08	2.3	12	<2	.61	280	<40
S-154-H-23-89-3	7	.08	2.2	11	<2	.59	380	<40
S-154-H-23-89-3D	<4	.07	2.2	11	<2	.60	400	<40
S-154-H-23-89-6	9	.08	2.2	12	<2	.63	300	<40
S-154-M-17-0-3	<4	.08	2.1	10	<2	.58	410	<40
S-154-M-17-0-6	10	.08	2.2	12	<2	.65	270	<40
S-154-M-17-49-3	6	.08	2.1	11	<2	.53	370	<40
S-154-M-17-49-6	10	.08	2.2	12	<2	.69	290	<40
S-154-M-17-98-3	<4	.07	2.1	11	<2	.60	450	<40
S-154-M-17-98-6	9	.08	2.2	12	<2	.68	290	<40
S-154-T-5-0-3	<4	.07	2.1	11	<2	.59	390	<40
S-154-T-5-0-6	<4	.08	1.8	11	<2	.46	270	<40
S-154-T-5-0-6D	9	.08	2.2	12	<2	.66	290	<40
S-154-T-5-49-3	9	.08	2.1	11	<2	.55	350	<40
S-154-T-5-49-3D	6	.07	2.1	11	<2	.55	350	<40
S-154-T-5-49-6	9	.08	2.2	12	<2	.64	310	<40
S-154-T-5-98-3	9	.08	2.4	12	<2	.54	310	<40
S-154-T-5-98-6	9	.08	2.2	12	<2	.65	290	<40
S-265-T-30-0-6	<4	.07	2.0	8	<2	1.0	280	<40
S-4-T-6C-0-6	8	.07	2.1	11	<2	.74	280	<40
S-72-H-8-0-3	<4	.08	2.0	10	<2	.68	280	<40
S-72-M-5-0-3	4	.07	2.0	10	<2	.63	280	<40
S-72-T-2-0-3	<4	.07	2.0	10	<2	.59	280	<40
S-72-T-2-0-6	<4	.04	2.0	6	<2	.78	210	<40
S-352-T-4-0-6	8	.08	2.2	12	<2	.87	270	<40
S-423-T-2C-0-6	9	.08	2.2	11	<2	.69	250	<40
S-372-T-10A-0-6	<4	.06	2.1	9	<2	.81	250	<40
S-176-T-6-0-6	<4	.06	2.0	8	<2	.99	270	<40
S-344-T-2-0-6	<4	.07	2.1	10	<2	.80	270	<40
Laboratory standard	7	.06	1.9	13	<2	1.1	230	<40

Table 13. Concentrations of selected constituents in near-surface soils from 15 fields--Continued

Soil identifier	Thorium (ppm)	Tin (ppm)	Titanium (percent)	Uranium (ppm)	Vanadium (ppm)	Ytterbium (ppm)	Yttrium (ppm)	Zinc (ppm)
S-226-T-7-0-6	11	<10	0.33	<100	110	3	22	86
S-269-T-2A-0-6	9	<10	.30	<100	79	2	20	70
S-417-T-18-0-6	10	<10	.29	<100	86	2	19	75
S-94-T-9-0-6	11	<10	.32	<100	100	3	21	82
S-142-T-2B-0-6	7	<10	.22	<100	55	2	16	51
S-142-T-2B-0-6D	6	<10	.21	<100	55	2	16	51
S-241-T-14-0-6	11	<10	.30	<100	88	2	20	77
S-154-H-23-0-3	11	<10	.32	<100	100	2	22	84
S-154-H-23-0-6	11	<10	.31	<100	98	2	21	81
S-154-H-23-44-3	12	<10	.30	<100	98	2	20	81
S-154-H-23-44-6	12	<10	.35	<100	110	3	23	92
S-154-H-23-89-3	10	<10	.32	<100	99	2	21	82
S-154-H-23-89-3D	11	<10	.31	<100	100	3	22	85
S-154-H-23-89-6	11	<10	.34	<100	110	3	23	91
S-154-M-17-0-3	11	<10	.29	<100	95	2	20	82
S-154-M-17-0-6	12	<10	.34	<100	110	3	23	89
S-154-M-17-49-3	11	<10	.32	<100	100	3	21	82
S-154-M-17-49-6	13	<10	.34	<100	110	3	23	89
S-154-M-17-98-3	10	<10	.29	<100	95	2	20	80
S-154-M-17-98-6	12	<10	.33	<100	110	2	22	88
S-154-T-5-0-3	11	<10	.31	<100	100	3	21	82
S-154-T-5-0-6	9	<10	.08	<100	88	1	17	91
S-154-T-5-0-6D	12	<10	.33	<100	110	3	23	92
S-154-T-5-49-3	11	<10	.33	<100	110	3	22	86
S-154-T-5-49-3D	11	<10	.33	<100	100	3	21	86
S-154-T-5-49-6	12	<10	.33	<100	110	3	22	88
S-154-T-5-98-3	11	<10	.33	<100	110	3	22	88
S-154-T-5-98-6	13	<10	.34	<100	110	3	23	93
S-265-T-30-0-6	8	<10	.26	<100	65	2	19	55
S-4-T-6C-0-6	11	<10	.31	<100	97	2	21	77
S-72-H-8-0-3	10	<10	.28	<100	86	2	20	73
S-72-M-5-0-3	9	<10	.30	<100	86	3	21	74
S-72-T-2-0-3	10	<10	.30	<100	88	2	20	73
S-72-T-2-0-6	5	<10	.18	<100	49	2	14	43
S-352-T-4-0-6	12	<10	.33	<100	110	3	22	91
S-423-T-2C-0-6	12	<10	.32	<100	110	2	21	89
S-372-T-10A-0-6	9	<10	.25	<100	80	2	19	68
S-176-T-6-0-6	8	<10	.26	<100	71	2	19	57
S-344-T-2-0-6	10	<10	.27	<100	86	2	18	74
Laboratory standard	11	<10	.36	<100	130	2	16	110

Table 14. Arsenic and selenium, and water-extractable sulfate, chloride, and selenium concentrations in cores

[Concentrations in parts per million (ppm) and in parts per billion (ppb). Aqueous data are from analysis of extract using 5 to 1 ratio of water to soil. Laboratory standard is a soil from the San Joaquin Valley. <, less than indicated reporting limit; ft, foot]

	Soil			Water extract			
Depth of core (ft)	Laboratory number	Arsenic (ppm)	Selenium (ppm)	Laboratory number	Sulfate (ppb)	Chloride (ppm)	Selenium (ppm)
S-417 (Northern Site) Lysimeter Hole--(Site 8)							
14.5-15	D-328519	8.2	0.4	D-328498	4,000	5,700	95
20.5-21	D-328520	7.2	.3	D-328499	1,200	6,700	55
S-417 (Northern Site) Piezometer Hole							
74.5-75	D-328516	5.0	<0.2	D-328495	1,300	1,500	25
141.5-142	D-328517	11	1.6	D-328496	5,200	2,100	200
196.3-197	D-328518	3.6	<.2	D-328497	180	850	14
S-154 (Middle Site) Lysimeter Hole--(Site 50)							
13.5-14	D-328525	9.0	0.3	D-328504	10,000	5,500	55
S-154 (Middle Site) Piezometer Hole							
26.5-27	D-328521	3.4	<0.2	D-328500	1,100	3,900	5.5
56.5-57	D-328522	5.9	.3	D-328501	170	1,400	18
71.5-72	D-328523	7.1	.3	D-328502	490	1,600	14
101.5-102	D-328524	7.1	.3	D-328503	670	1,300	75
S-371 (Southern Site) Lysimeter Hole--(Site 98)							
12.5-13	D-328532	5.0	<0.2	D-328511	220	83	14
18.5-19	D-328533	5.3	<.2	D-328512	200	79	9.0
S-371 (Southern Site) Piezometer Hole							
17.5-18	D-328526	8.5	<0.2	D-328505	200	88	22
23.5-24	D-328527	5.5	<.2	D-328506	150	120	9.0
34.5-35	D-328528	9.2	.4	D-328507	1,100	1,000	31
65.5-65.8	D-328529	9.2	.4	D-328508	460	960	14
81.5-82	D-328530	7.8	<.2	D-328509	1,100	1,000	5.5
106.5-107	D-328531	2.4	<.2	D-328510	130	730	<5.0
Duplicate at S-154							
56.5-57	D-328534	5.7	0.2	D-328513	150	1,400	18
Duplicate at S-371							
65.5-65.8	D-328535	9.2	0.5	D-328514	420	920	14
Laboratory Standard							
--	D-328536	9.7	1.2	D-328515	1,300	320	20

Table 15. Concentrations of selected elements in cores

[Concentrations from inductively coupled plasma analysis. ft, foot; <, less than indicated reporting limit. The analysis for each sample is displayed as one line on three consecutive pages]

Depth of core (ft)	Laboratory number	Aluminum	Calcium	Iron	Potassium	Magnesium	Sodium	Phosphorus	Titanium	Silver	Arsenic	Gold
		(percent)								(parts per million)		
S-417 (Northern Site) Lysimeter Hole--(Site 8)												
14.5-15	D-328519	7.41	6.57	3.15	2.02	2.11	0.86	0.07	0.31	<2	<10	<8
20.5-21	D-328520	5.90	5.25	2.44	1.65	1.62	1.11	.08	.28	<2	<10	<8
S-417 (Northern Site) Piezometer Hole												
74.5-75	D-328516	3.66	2.81	1.09	1.67	0.75	0.96	0.04	0.17	<2	<10	<8
141.5-142	D-328517	7.44	8.03	3.09	1.92	1.89	.72	.07	.30	<2	10	<8
196.3-197	D-328518	3.93	3.13	1.18	1.86	.38	1.33	.03	.12	<2	<10	<8
S-154 (Middle Site) Lysimeter Hole--(Site 50)												
13.5-14	D-328525	7.19	6.25	3.04	2.09	2.01	0.79	0.08	0.29	<2	<10	<8
S-154 (Middle Site) Piezometer Hole												
26.5-27	D-328521	2.95	2.22	0.79	1.72	0.51	0.85	0.03	0.09	<2	<10	<8
56.5-57	D-328522	6.14	5.09	2.54	1.78	1.66	.90	.08	.27	<2	<10	<8
71.5-72	D-328523	5.69	5.70	2.30	1.98	1.66	1.03	.07	.27	<2	<10	<8
101.5-102	D-328524	8.03	4.73	3.33	2.11	1.95	.54	.08	.33	<2	<10	<8
S-371 (Southern Site) Lysimeter Hole--(Site 98)												
12.5-13	D-328532	4.56	4.56	1.67	1.68	1.23	0.88	0.06	0.19	<2	<10	<8
18.5-19	D-328533	5.28	6.27	2.12	1.92	1.69	.86	.08	.27	<2	<10	<8
S-371 (Southern Site) Piezometer Hole												
17.5-18	D-328526	7.47	5.35	3.21	1.87	1.92	0.50	0.08	0.30	<2	<10	<8
23.5-24	D-328527	5.81	4.79	2.35	1.97	1.50	.71	.07	.25	<2	<10	<8
34.5-35	D-328528	7.10	5.82	3.20	1.93	2.00	.74	.08	.31	<2	<10	<8
65.5-65.8	D-328529	7.70	4.85	3.36	1.93	1.84	.68	.08	.32	<2	10	<8
81.5-82	D-328530	8.07	4.70	3.32	1.75	1.85	.62	.08	.32	<2	<10	<8
106.5-107	D-328531	3.45	1.63	.85	1.83	.31	1.08	.03	.09	<2	<10	<8
Duplicate at S-154												
56.5-57	D-328534	6.19	5.15	2.75	1.58	1.67	0.89	0.08	0.28	<2	<10	<8
Duplicate at S-371												
65.5-65.8	D-328535	7.65	4.81	3.33	1.89	1.83	0.67	0.08	0.32	<2	<10	<8

Table 15. Concentrations of selected elements in cores--Continued

Depth of core (ft)	Barium	Beryllium	Bismuth	Cadmium	Cerium	Cobalt	Chromium	Copper	Europium	Gallium	Holmium	Lanthanum	Lithium	Manganese	Molybdenum
	(parts per million)														
S-417 (Northern Site) Lysimeter Hole--(Site 8)															
14.5-15	480	2	<10	<2	66	12	60	26	<2	18	<4	38	58	554	<2
20.5-21	592	2	<10	<2	58	10	45	18	<2	14	<4	34	40	465	<2
S-417 (Northern Site) Piezometer Hole															
74.5-75	645	<1	<10	<2	35	13	22	9	<2	8	<4	21	19	280	<2
141.5-142	534	2	<10	<2	64	15	61	35	<2	18	<4	37	60	438	<2
196.3-197	696	1	<10	<2	25	4	13	4	<2	8	<4	17	16	178	<2
S-154 (Middle Site) Lysimeter Hole--(Site 50)															
13.5-14	474	2	<10	<2	63	12	59	26	<2	17	<4	36	55	513	<2
S-154 (Middle Site) Piezometer Hole															
26.5-27	531	<1	<10	<2	23	5	12	5	<2	6	<4	14	13	202	<2
56.5-57	588	2	<10	<2	58	12	47	23	<2	14	<4	33	40	458	<2
71.5-72	655	2	<10	<2	56	11	42	22	<2	14	<4	33	37	501	<2
101.5-102	464	2	<10	<2	70	13	66	39	<2	19	<4	41	58	506	<2
S-371 (Southern Site) Lysimeter Hole--(Site 98)															
12.5-13	540	1	<10	<2	45	8	30	13	<2	10	<4	27	25	372	<2
18.5-19	565	1	<10	<2	59	9	41	17	<2	12	<4	33	32	464	<2
S-371 (Southern Site) Piezometer Hole															
17.5-18	511	2	<10	<2	67	13	61	26	<2	18	<4	38	52	530	<2
23.5-24	547	2	<10	<2	55	10	43	18	<2	13	<4	33	36	440	<2
34.5-35	560	2	<10	<2	70	13	58	27	<2	17	<4	40	51	580	<2
65.5-65.8	509	2	<10	<2	70	14	66	28	<2	18	<4	40	56	574	<2
81.5-82	452	2	<10	<2	71	13	66	26	<2	20	<4	41	58	571	<2
106.5-107	627	<1	<10	<2	25	4	12	5	<2	7	<4	16	11	165	<2
Duplicate at S-154															
56.5-57	583	2	<10	<2	60	11	49	24	<2	14	<4	35	41	463	<2
Duplicate at S-371															
65.5-65.8	505	2	<10	<2	70	15	64	27	<2	19	<4	40	56	566	<2

Table 15. Concentrations of selected elements in cores--Continued

Depth of core (ft)	Niobium	Neodymium	Nickel	Lead	Scandium	Tin	Strontium	Tantalum	Thorium	Uranium	Vanadium	Yttrium	Ytterbium	Zinc
	(parts per million)													
S-417 (Northern Site) Lysimeter Hole--(Site 8)														
14.5-15	8	34	25	19	11	<10	468	<40	12	<100	94	22	2	77
20.5-21	8	30	19	17	8	<10	316	<40	9	<100	69	19	2	58
S-417 (Northern Site) Piezometer Hole														
74.5-75	4	17	26	13	4	<10	212	<40	6	<100	32	11	1	54
141.5-142	9	32	33	21	11	<10	534	<40	10	<100	106	21	2	80
196.3-197	<4	13	6	12	3	<10	353	<40	5	<100	24	9	<1	20
S-154 (Middle Site) Lysimeter Hole--(Site 50)														
13.5-14	9	32	25	20	11	<10	374	<40	11	<100	91	21	2	74
S-154 (Middle Site) Piezometer Hole														
26.5-27	<4	12	5	10	2	<10	173	<40	5	<100	19	8	1	15
56.5-57	8	30	24	18	9	<10	273	<40	10	<100	70	20	2	62
71.5-72	8	29	21	18	8	<10	270	<40	9	<100	61	19	2	58
101.5-102	9	33	28	21	12	<10	264	<40	13	<100	106	23	3	85
S-371 (Southern Site) Lysimeter Hole--(Site 98)														
12.5-13	5	24	14	14	6	<10	225	<40	6	<100	44	16	2	35
18.5-19	6	28	18	17	7	<10	260	<40	9	<100	59	20	2	50
S-371 (Southern Site) Piezometer Hole														
17.5-18	8	32	28	20	11	<10	271	<40	11	<100	94	22	2	78
23.5-24	7	27	18	18	8	<10	239	<40	8	<100	66	18	2	55
34.5-35	9	33	26	21	11	<10	286	<40	12	<100	91	23	2	80
65.5-65.8	9	32	29	22	11	<10	263	<40	10	<100	104	23	3	84
81.5-82	10	34	29	22	12	<10	242	<40	12	<100	107	24	3	85
106.5-107	<4	12	5	11	2	<10	194	<40	<4	<100	20	7	<1	16
Duplicate at S-154														
56.5-57	9	31	23	19	9	<10	276	<40	10	<100	71	20	2	62
Duplicate at S-371														
65.5-65.8	10	33	28	23	11	<10	260	<40	12	<100	103	23	2	83

Table 16. Tritium concentration in soil moisture from eight fields in the Imperial Valley, August 1988

[Concentrations in picocuries per liter. See text (p. 12–13) for description of soil identifier]

Soil identifier	Tritium	Soil identifier	Tritium	Soil identifier	Tritium	Soil identifier	Tritium
			Field at S-417 (Site 8)				
H-32-0-3	121	H-32-0-6	88	T-18-0-3	118	T-18-0-6	121
H-32-50-3	146	H-32-50-6	114	T-18-50-3	143	T-18-50-6	106
			Field at S-94 (Site 30)				
H-13-0-3	87	H-13-0-6	156	T-9-0-3	97	T-9-0-6	202
H-13-46-3	106	H-13-46-6	185	T-9-46-3	95	T-9-46-6	189
			Field at S-154 (Site 50)				
H-23-0-3	96	H-23-0-6	96	T-5-0-3	107	T-5-0-6	65
H-23-89-3	111	H-23-89-6	125	T-5-98-3	117	T-5-98-06	63
			Field at S-265 (Site 67)				
H-30-0-3	87	H-30-0-6	140	T-30-0-3	116	T-30-0-6	160
H-30-50-3	112	H-30-50-6	164	T-30-50-3	103	T-30-50-6	204
			Field at S-72 (Site 79)				
H-8-0-3	108	H-8-0-6	203	T-2-0-3	105	T-2-0-6	103
H-8-11-3	95	H-8-11-6	178	T-2-11-3	114	T-2-11-6	171
H-8-23-3	84	H-8-23-6	146	T-2-23-3	102	T-2-23-6	164
			Field at S-423 (Site 93)				
H-2C-0-3	94	H-2C-0-6	149	T-2C-0-3	132	T-2C-0-6	212
H-2C-53-3	135	H-2C-53-6	159	T-2C-53-3	130	T-2C-53-6	205
			Field at S-371 (Site 98)				
H-4A-0-3	95	H-4A-0-6	136	T-10A-0-3	94	T-10A-0-6	148
H-4A-53-3	111	H-4A-53-6	161	T-10A-53-3	95	T-10A-53-6	135
			Field at S-176 (Site 104)				
H-9-0-3	133	H-9-0-6	195	T-6-0-3	96	T-6-0-6	206
H-9-169-3	103	H-9-169-6	130	T-6-169-3	102	T-6-169-6	132

Table 17. Analyses of untreated and acidified irrigation water from the East Highline Canal concentrated by

[Acidification by HNO_3, except HBr used for January 1989 samples. Final volume of the most-concentrated solutions was µS/cm, microsiemen per centimeter at 25°C; °C, degree Celsius; mg/L, milligram per liter, mL, milliliter; µg/L, microgram

Date	Specific conductance (µS/cm)	pH (standard units)	Nitrogen, Ammonia (mg/L as N)	Alkalinity, lab (mg/L as $CaCO_3$)	Calcium (mg/L as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)
Evaporated Irrigation Water										
01-15-89	1,250	8.41	—	164	84	32	140	4.4	320	120
01-15-89	3,750	8.27	—	109	140	120	540	—	1,300	—
01-15-89	7,530	8.19	—	91	230	250	1,200	—	2,900	1,100
01-15-89	19,000	8.10	—	109	610	780	3,200	95	7,900	3,200
04-11-89	14,100	8.34	—	101	540	600	2,300	92	6,000	2,100
05-23-89	10,900	8.12	0.20	105	440	470	1,700	79	4,800	1,500
06-21-89	22,000	8.22	—	127	940	1,100	3,800	4.3	11,000	3,200
07-28-89	28,400	8.14	—	147	640	1,400	5,800	150	13,000	4,300
08-28-89	32,000	8.0	—	104	460	1,700	6,800	260	14,000	5,500
10-04-89	3,780	8.13	—	85	140	120	510	20	1,400	430
10-04-89	6,040	8.13	—	92	220	220	900	33	2,300	740
10-04-89	12,500	8.13	—	107	450	460	2,000	76	5,200	1,800
10-04-89	31,300	8.17	—	152	530	1,300	6,100	230	14,000	5,400
11-01-89	26,200	7.9	—	145	490	1,500	6,600	—	15,000	6,000
12-27-89	1,200	8.5	—	113	81	30	120	—	300	110
12-27-89	33,000	8.1	—	114	680	1,300	5,300	—	13,000	4,600
01-26-90	1,140	8.4	—	121	79	29	110	—	290	100
Evaporated, Acidified Irrigation Water										
01-15-89	—	—	—	—	340	130	550	—	1,300	3,600
01-15-89	—	—	—	—	810	730	3,200	—	4,200	9,900
04-11-89	30,800	1.4	—	—	1,400	530	4,600	63	4,500	1,700
05-23-89	50,900	1.2	—	—	1,300	790	2,900	130	5,800	2,600
06-21-89	77,200	.9	—	—	1,800	1,400	4,500	200	8,000	4,200
07-28-89	52,000	1.5	—	—	800	1,700	5,600	320	8,900	5,700
08-28-89	56,900	1.6	—	—	5,200	11,000	7,800	250	9,000	4,800
11-01-89	39,500	1.7	—	—	910	1,500	5,100	—	7,300	4,800
12-27-89	56,800	2.0	—	—	850	2,600	10,000	—	12,000	6,400
01-26-90	36,100	1.6	—	—	950	2,200	8,500	—	15,000	7,900
Acid-Soluble Precipitate from Evaporation										
01-15-89	—	—	—	—	3,400	140	13	—	3.9	3.92
05-23-89	—	—	—	—	4,400	240	300	—	—	—
06-21-89	—	—	—	—	1,100	110	150	—	—	—
07-28-89	—	—	—	—	7,500	330	31	—	—	—
08-28-89	—	—	—	—	1,500	100	370	—	—	—
10-04-89	—	—	—	—	16,000	730	540	—	—	—
11-01-89	—	—	—	—	7,100	330	370	—	—	—
12-27-89	—	—	—	—	9,900	420	18	—	—	—
01-26-90	—	—	—	—	—	—	—	—	—	—

evaporation in the laboratory

approximately 500 mL. Acid-soluble part of precipitate was dissolved with a small quantity of nitric acid and diluted to 100 mL. per liter; —, no data]

Fluoride (mg/L as F)	Bromide (mg/L as Br)	Nitrogen, NO_2+NO_3 (mg/L as N)	Arsenic (µg/L as As)	Boron (µg/L as B)	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)	Strontium (µg/L as Sr)	Stable-isotope ratio (permil) $^2H/^1H$	$^{18}O/^{16}O$	$^{34}S/^{32}S$	Selenium/chloride (weight ratio x10^{-5})
				Evaporated Irrigation Water							
—	0.073	—	2	180	—	2	—	—	—	—	1.7
—	—	—	—	200	—	6	—	—	—	—	—
—	1.0	—	—	2,100	—	13	—	—	—	—	1.2
—	3.6	—	23	12,000	—	34	—	—	—	—	1.1
—	1.3	—	—	4,300	—	38	—	—	—	-1.10	1.8
—	.99	4.6	—	3,200	72	25	—	58.4	30.14	—	1.7
8.2	2.2	—	43	6,800	160	73	27,000	—	—	—	2.3
11	2.8	—	39	9,700	300	86	26,000	—	—	—	2.0
—	4.4	—	97	11,000	280	89	—	—	—	—	1.6
—	.28	—	8	1,000	21	4	—	-5.4	15.15	—	9
—	.45	—	12	1,700	40	10	—	19.5	21.35	—	1.4
—	1.3	—	18	4,000	100	20	—	66.0	33.75	—	1.1
—	4.0	—	55	12,000	340	77	—	129.4	48.00	—	1.4
—	8.0	9.2	15	11,000	—	87	—	—	—	—	1.4
—	.080	.18	2	180	—	2	—	—	—	—	1.8
—	3.1	5.1	40	8,800	—	67	—	—	—	—	1.5
—	.070	.20	2	160	—	2	—	—	—	—	2.0
				Evaporated, Acidified Irrigation Water							
—	—	—	—	1,200	—	8	—	—	—	—	0.2
—	—	—	—	6,500	—	8	—	—	—	—	.08
—	1.3	—	—	4,300	—	38	—	—	—	-1.50	2.2
—	2.2	—	23	5,200	52	52	—	—	—	—	2.0
9.4	3.3	—	51	1,700	140	100	35,000	—	—	—	2.4
17	5.6	—	39	5,000	330	150	39,000	—	—	—	2.6
—	.38	—	160	10,000	320	120	—	—	—	—	2.5
—	3.8	—	86	9,800	—	82	—	—	—	—	1.7
—	1.5	—	110	17,000	—	160	—	—	—	—	2.5
—	6.3	—	110	14,000	—	150	—	—	—	—	1.9
				Acid-Soluble Precipitate from Evaporation							
130	—	—	—	200	—	11	—	—	—	—	—
—	—	—	—	660	—	25	—	—	—	—	—
—	—	—	—	—	—	8	7,400	—	—	—	—
—	—	—	—	—	—	31	30,000	—	—	—	—
—	48	—	<1	2,500	20	—	—	—	—	—	—
—	—	—	—	—	—	5	—	—	—	—	—
—	—	—	—	—	—	27	—	—	—	—	—
—	—	—	—	—	—	14	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

Table 18. Analyses of undiluted and diluted (with deionized water) water samples from the Salton Sea and the Pacific Ocean

[Seawater samples collected from end of pier at Scripps Institution of Oceanography in La Jolla, California; Salton Sea samples collected from center of south basin, except August 1988 samples are from the Niland boat ramp at North Shore, at Salton City, south basin, and between the deltas of the Alamo and New Rivers (in order listed). °C, degree Celsius; µS/cm, microsiemen per centimeter at 25°C; mg/L, milligram per liter; µg/L, microgram per liter; pCi/L, picocurie per liter; <, less than indicated reporting limit; ~, approximate value; — no data. The analysis for each sample is displayed as one line on four consecutive pages]

Date	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Calcium (mg/L as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)	Alkalinity, lab (mg/L as ($CaCO_3$)
				Salton Sea				
8-17-88	48,200	—	—	—	—	—	—	—
8-17-88	52,200	—	—	—	—	—	—	—
8-17-88	53,200	—	—	—	—	—	—	—
8-24-88	50,400	—	—	—	—	—	—	—
8-25-88	46,200	—	—	—	—	—	—	—
2-16-89	51,700	—	—	1,000	1,300	11,000	180	199
3-16-89	51,700	—	—	—	—	—	—	187
4-11-89	52,000	—	—	840	1,300	11,000	—	192
6-20-89	52,100	—	—	—	—	—	—	178
7-19-89	52,300	—	—	—	—	—	—	175
10-11-89	53,700	8.8	29.5	950	1,300	11,000	220	185
				Salton Sea (diluted)				
2-16-89	6,990	—	—	—	—	—	—	23
2-16-89	913	—	—	—	—	—	—	4.0
3-16-89	4,960	—	—	—	—	—	—	15
4-11-89	7,740	7.7	—	—	1,200	1,200	—	—
6-20-89	10,000	—	—	—	—	—	—	31
6-20-89	1,870	—	—	—	—	—	—	6.0
7-19-89	8,920	—	—	—	—	—	—	26
7-19-89	1,380	—	—	—	—	—	—	5.0
				Seawater				
1-01-89	51,700	—	—	—	—	—	—	—
2-16-89	50,700	—	—	360	1,200	10,000	290	112
3-16-89	50,700	—	—	—	—	—	—	111
4-11-89	50,700	8.0	—	380	1,200	9,000	—	25
6-20-89	51,100	—	—	—	—	—	—	113
7-19-89	51,200	—	—	—	—	—	—	111
10-12-89	51,200	8.1	20.0	360	1,200	10,000	300	111
Ocean average[1]	53,000	~8	—	403	1,260	10,500	390	120
				Seawater (diluted)				
1-01-89	4,460	—	—	—	—	—	—	—
2-16-89	7,850	—	—	—	—	—	—	16
2-16-89	933	—	—	—	—	—	—	3.0
3-16-89	5,480	—	—	—	—	—	—	9.0
4-11-89	5,600	7.7	—	—	97	880	—	—
6-20-89	8,080	—	—	—	—	—	—	17
6-20-89	1,530	—	—	—	—	—	—	4.0
7-19-89	8,240	—	—	—	—	—	—	17
7-19-89	1,220	—	—	—	—	—	—	4.0

See footnote at end of table.

Table 18. Analyses of undiluted and diluted (with deionized water) water samples from the Salton Sea and the Pacific Ocean--Continued

Date	Sulfate (mg/L as SO_4)	Chloride (mg/L as Cl)	Bromide (mg/L as Br)	Silica (mg/L at SiO_2)	Solids, residue as 180°C (mg/L)	Nitrogen, NO_2+NO_3 (mg/L as N)	Nitrogen, ammonia (mg/L as N)	Nitrogen, ammonia + organic (mg/L as N)
				Salton Sea				
8-17-88	—	—	—	—	—	—	—	—
8-17-88	—	—	—	—	—	—	—	—
8-17-88	—	—	—	—	—	—	—	—
8-24-88	—	—	—	—	—	—	—	—
8-25-88	—	—	—	—	—	—	—	—
2-16-89	10,000	17,000	13	—	41,700	—	—	—
3-16-89	9,600	17,000	12	—	—	—	—	—
4-11-89	9,600	16,000	12	—	—	—	—	—
6-20-89	9,800	16,000	12	—	—	—	—	—
7-19-89	9,800	15,000	13	—	—	—	—	—
10-11-89	10,000	17,000	13	12	43,700	<0.100	0.62	3.7
				Salton Sea (diluted)				
2-16-89	1,100	1,700	1.3	—	—	—	—	—
2-16-89	110	190	.15	—	—	—	—	—
3-16-89	730	1,200	.84	—	—	—	—	—
4-11-89	1,100	2,000	.70	—	—	—	—	—
6-20-89	1,500	2,600	1.9	—	—	—	—	—
6-20-89	250	450	—	—	—	—	—	—
7-19-89	1,400	2,300	1.7	—	—	—	—	—
7-19-89	180	300	.24	—	—	—	—	—
				Seawater				
1-01-89	—	21,000	67	—	—	—	—	—
2-16-89	2,800	16,000	64	—	35,100	—	—	—
3-16-89	2,700	20,000	59	—	—	—	—	—
4-11-89	2,600	19,000	60	—	—	—	—	—
6-20-89	2,700	20,000	63	—	—	—	—	—
7-19-89	2,700	19,000	47	—	—	—	—	—
10-12-89	2,300	18,000	64	0.40	35,000	<0.100	0.24	<0.2
Ocean average[1]	2,650	18,900	66	4	34,200	[~0.5 as total nitrogen]		
				Seawater (diluted)				
1-01-89	—	1,300	4.4	—	—	—	—	—
2-16-89	340	2,500	8.1	—	—	—	—	—
2-16-89	32	260	.80	—	—	—	—	—
3-16-89	230	1,600	5.3	—	—	—	—	—
4-11-89	220	1,700	5.2	—	—	—	—	—
6-20-89	350	2,400	8.4	—	—	—	—	—
6-20-89	58	400	1.4	—	—	—	—	—
7-19-89	360	2,600	8.4	—	—	—	—	—
7-19-89	45	320	1.0	—	—	—	—	—

See footnote at end of table.

Table 18. Analyses of undiluted and diluted (with deionized water) water samples from the Salton Sea and the Pacific Ocean--Continued

Date	Phosphorus, hydro. + ortho (mg/L as P)	Aluminum (µg/L as Al)	Arsenic (µg/L as As)	Boron (µg/L as B)	Iron (µg/L as Fe)	Manganese (µg/L as Mn)	Molybdenum (µg/L as Mo)	Selenium (µg/L as Se)
				Salton Sea				
8-17-88	—	—	—	—	—	—	—	—
8-17-88	—	—	—	—	—	—	—	—
8-17-88	—	—	—	—	—	—	—	—
8-24-88	—	—	—	—	—	—	—	—
8-25-88	—	—	—	—	—	—	—	—
2-16-89	—	—	—	11,000	—	—	—	—
3-16-89	—	—	—	11,000	—	—	—	—
4-11-89	—	—	—	11,000	—	—	—	—
6-20-89	—	—	—	12,000	—	—	—	—
7-19-89	—	—	—	12,000	—	—	—	—
10-11-89	0.06	50	9	12,000	340	80	6	2
				Salton Sea (diluted)				
2-16-89	—	—	—	1,100	—	—	—	—
2-16-89	—	—	—	120	—	—	—	—
3-16-89	—	—	—	800	—	—	—	—
4-11-89	—	—	—	1,400	—	—	—	—
6-20-89	—	—	—	1,800	—	—	—	—
6-20-89	—	—	—	280	—	—	—	—
7-19-89	—	—	—	1,600	—	—	—	—
7-19-89	—	—	—	210	—	—	—	—
				Seawater				
1-01-89	—	—	—	4,500	—	—	—	—
2-16-89	—	—	—	4,200	—	—	—	—
3-16-89	—	—	—	4,700	—	—	—	—
4-11-89	—	—	—	450	—	—	—	—
6-20-89	—	—	—	4,500	—	—	—	—
7-19-89	—	—	—	5,000	—	—	—	—
10-12-89	0.03	370	2	4,400	290	60	9	<1
Ocean average[1]	.06	2	3.7	4,400	2	.2	10	.2
				Seawater (diluted)				
1-01-89	—	—	—	310	—	—	—	—
2-16-89	—	—	—	530	—	—	—	—
2-16-89	—	—	—	60	—	—	—	—
3-16-89	—	—	—	380	—	—	—	—
4-11-89	—	—	—	410	—	—	—	—
6-20-89	—	—	—	600	—	—	—	—
6-20-89	—	—	—	100	—	—	—	—
7-19-89	—	—	—	610	—	—	—	—
7-19-89	—	—	—	790	—	—	—	—

See footnote at end of table.

Table 18. Analyses of undiluted and diluted (with deionized water) water samples from the Salton Sea and the Pacific Ocean--Continued

Date	Strontium (µg/L as Sr)	Tritium, Total (pCi/L)	Uranium, natural (µg/L as (U)	Stable-isotope ratio (permil)			Carbon, organic total (mg/L as C)	Chloride/bromide (weight ratio)
				$^{2}H/^{1}H$	$^{18}O/^{16}O$	$^{34}S/^{32}S$		
				Salton Sea				
8-17-88	—	101	—	-37.0	-1.25	—	—	—
8-17-88	—	100	—	-29.5	-.1	—	—	—
8-17-88	—	108	—	-28.0	.15	—	—	—
8-24-88	—	103	—	-32.5	-.74	—	—	—
8-25-88	—	100	—	-37.5	-2.05	—	—	—
2-16-89	—	—	—	—	—	5.50	—	1,308
3-16-89	—	—	—	—	—	—	—	1,417
4-11-89	—	—	—	—	—	—	—	1,333
6-20-89	—	—	—	—	—	—	—	1,333
7-19-89	—	—	—	—	—	—	—	1,154
10-11-89	3,400	—	5.2	-29.5	.05	—	60	1,308
				Salton Sea				
2-16-89	—	—	—	—	—	—	—	1,308
2-16-89	—	—	—	—	—	—	—	1,267
3-16-89	—	—	—	—	—	—	—	1,429
4-11-89	—	—	—	—	—	—	—	2,858
6-20-89	—	—	—	—	—	—	—	1,369
6-20-89	—	—	—	—	—	—	—	—
7-19-89	—	—	—	—	—	—	—	1,353
7-19-89	—	—	—	—	—	—	—	1,250
				Salton Sea (diluted)				
1-01-89	—	—	—	—	—	—	—	313
2-16-89	—	—	—	—	—	—	—	250
3-16-89	—	—	—	—	—	20.70	—	339
4-11-89	—	—	—	—	—	—	—	317
6-20-89	—	—	—	—	—	—	—	318
7-19-89	—	—	—	—	—	—	—	404
10-12-89	7,800	—	2.3	-1.4	-0.35	—	1.1	281
Ocean average[1]	7,700	—	3.2	~0	~0	~21	1	288
				Seawater				
1-01-89	—	—	—	—	—	—	—	295
2-16-89	—	—	—	—	—	—	—	309
2-16-89	—	—	—	—	—	—	—	325
3-16-89	—	—	—	—	—	—	—	302
4-11-89	—	—	—	—	—	—	—	327
6-20-89	—	—	—	—	—	—	—	286
6-20-89	—	—	—	—	—	—	—	286
7-19-89	—	—	—	—	—	—	—	310
7-19-89	—	—	—	—	—	—	—	320

[1]Values from Stumm and Morgan (1970), Riley and Skirrow (1975), and Fritz and Fontes (1980) are for seawater with a salinity of 35 parts per thousand.

Table 19. Biological sampling sites for the detailed study of the Salton Sea area

[Location of sites shown in figure 4]

Site number	Description
	Salton Sea
B1	Salton Sea National Wildlife Refuge--Unit 1
B2	Poe Road
B3	U.S. Navy test base
B4	Salton City
B5	Salton Sea Beach
B6	Desert Shores
B7	Desert Beach
B8	Bob's Playa River Marina
B9	Bombay Beach
B10	S Lateral Drain outlet
B11	Alamo River delta
B12	Red Hill Marina
B13	Obsidian Butte
B14	Bowles Road
B15	New River delta
B16	Whitewater River delta
	Rivers and Creeks
B17	New River at Rio Bend
B18	Alamo River at Garst Road
B19	San Felipe Creek
B20	Salt Creek
B21	Colorado River at Palo Verde
	Drainwater Ditches
B22	Trifolium 5
B23	Trifolium 13
B24	Trifolium 14
B25	Vail Cutoff
B26	Vail 4
B27	Vail 4A
B28	Vail Drain at New River
B29	S Lateral
B30	Z Lateral
B31	81st Street
B32	Johnson Street
	Freshwater Impoundments
B33	Shady Acres Duck Club
B34	RH Pond
B35	HQ Pond
B36	Reidman Pond
B37	Hazard Pond
	Imperial Valley
B38	South Brawley
B39	McKendry Road

Table 20. Biotic samples collected from sites in the study area

[Sites described in table 19]

Species	Sample	Sites
	Vegetation	
Blue-green algae (*Myxophyceae*)	Composite	B32
Filamentous green algae (*Chaetomorpha* sp.)	Composite	B1, B3, B4, B5, B6, B7, B8, B9, B12, B13, B14, B31
Tubular green algae (*Enteromorpha* sp.)	Composite	B1, B2, B3, B4, B5, B6, B7, B8, B9, B12, B13, B14, B31
Common cattail (*Typha latifolia*)	Whole plant	B19, B20, B30, B31, B32
Periphyton	Composite	B1
	Invertebrates	
Asiatic river clam (*Corbicula fluminea*)	Soft-tissue composite	B1, B15, B16, B17, B18, B21, B23, B24, B25, B26, B28, B30, B32
Crayfish (*Procambarus clarki*)	Whole body	B1, B11, B15, B24, B37
Pelagic invertebrate "mixture"	Composite	B1, B23
Pileworm (*Nereis succinea*)	Composite	B1, B11, B27
Waterboatman (*Corixidae*)	Composite	B11, B15, B18
	Fish	
Bairdiella (*Bairdiella icistia*)	Whole body	B10
Longjaw mudsucker (*Gillichthys mirabilis*)	Whole body	B15
Mosquitofish (*Gambusia affinis*)	Whole body	B15, B19, B20, B31, B32, B37
Orangemouth corvina (*Cynoscion xanthulus*)	Whole body	B1
Redfin shiner (*Lythrurus umbratilis*)	Whole body	B16
Sailfin molly (*Poecilia latipinna*)	Whole body	B1, B16, B17, B19, B20, B30, B31, B32, B37
Tilapia (*Tilapia zilli*)	Whole body	B1, B15, B16, B17, B22, B37
	Amphibians	
Bullfrog (*Rana catesbeiana*)	Whole body	B18
	Reptiles	
Spiny softshell turtle (*Trionyx spiniferus*)	Fat/liver/egg	B26, B37
	Birds	
American coot (*Fulica americana*)	Liver	B15, B16, B17, B25, B37
Barn owl (*Tyto alba*)	Muscle	B17
Black-necked stilt (*Himantopus mexicanus*)	Carcass/egg	B1, B11, B15, B16, B17, B24, B25, B29, B34, B36, B37, B39
Cattle egret (*Bubulcus ibis*)	Muscle	B17, B37
Double-crested cormorant (*Phalacrocorax auritus*)	Muscle	B17, B37
Eared grebe (*Podiceps nigricollis*)	Liver/muscle	B13, B15
Great blue heron (*Ardea herodias*)	Muscle	B1
Herring gull (*Larus argentatus*)	Muscle	B37
Northern shoveler (*Anas clypeata*)	Liver/muscle	B1, B11, B16, B33, B37
Ruddy duck (*Oxyura jamaicensis*)	Liver/muscle	B1, B15, B17, B24, B26, B35, B37
White-faced ibis (*Plegadis chihi*)	Liver/muscle	B38
Yuma clapper rail (*Rallus longirostris yumanensis*)	Carcass	B29

Table 21. Chemicals analyzed for in biota in the detailed study of the Salton Sea area

Inorganic Analytes			
Aluminum (Al)	Cadmium (Cd)	Manganese (Mn)	Strontium (Sr)
Antimony (Sb)	Chromium (Cr)	Mercury (Hg)	Thallium (Tl)
Arsenic (As)	Copper (Cu)	Molybdenum (Mo)	Tin (Sn)
Barium (Ba)	Iron (Fe)	Nickel (Ni)	Vanadium (V)
Beryllium (Be)	Lead (Pb)	Selenium (Se)	Zinc (Zn)
Boron (B)	Magnesium (Mg)	Silver (Ag)	

Organic Analytes			
Aldrin	Dicofol	Biphenyl CL-4	Naphthalene
Benzene hexachloride (BHC)	Dieldrin	Biphenyl CL-5	Acenapthene
beta-BHC	Endosulfan I	Biphenyl CL-6	Fluorene
delta-BHC	Endosulfan II	Biphenyl CL-7	Phenanthrene
gamma-BHC	Endosulfan sulfate	Biphenyl CL-8	Anthracene
alpha-Chlordane	Endrin	Biphenyl CL-9	Fluoranthene
cis-Chlordane	Heptachlor	PCB 1016	Pyrene
gamma-Chlordane	Heptachlor epoxide	PCB 1221	Benzo (a) anthracene
trans-Chlordane	Hexachlorobenzene	PCB 1232	Chrysene
Chlorthal-dimethyl (DCPA)	Lindane	PCB 1242	Benzo (b) fluoranthene
o,p′-DDD	Methoxychlor	PCB 1248	Benzo (k) fluoranthene
p,p′-DDD	Mirex	PCB 1254	Benzo (a) pyrene
o,p′-DDD	cis-Nonachlor	PCB 1260	Benzo (e) pyrene
p,p′-DDE	trans-Nonachlor	Total PCB	Perylene
o,p′-DDT	Oxychlordane	Tetradifon	Indeno (1,2,3-cd) pyrene
p,p′-DDT	Biphenyl CL-2	Toxaphene	Dibenz (ah) anthracene
Total DDT	Biphenyl CL-3		Benzo (ghi) perylene

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers

[All chemical data reported in micrograms per gram, dry weight. <, less than indicated reporting limit; ---, not determined. The analysis for each sample is displayed as one line on three consecutive pages. NWR, National Wildlife Refuge]

Record number	Sample number	Species	Matrix	Percent moisture	Silver	Aluminum	Arsenic
		Site B1 (Salton Sea NWR--Unit 1)					
1	LNSS88-22	Ruddy duck	Liver	71.9	<2	5	<0.2
2	LNSS88-42	Ruddy duck	Liver	69.1	<2	6	<.2
3	LNSS88-44	Ruddy duck	Liver	69.4	<2	6	<.2
4	LNSS88-46	Ruddy duck	Liver	71.2	3	7	<.2
5	LNSS88-48	Ruddy duck	Liver	68.4	<2	6	.3
6	LNSS88-50	Ruddy duck	Liver	69.1	<2	<3	<.2
7	LNSS88-21	Ruddy duck	Breast muscle	69.6	<2	4	.3
8	LNSS88-43	Ruddy duck	Breast muscle	70.5	<2	5	<.2
9	LNSS88-45	Ruddy duck	Breast muscle	69.0	<2	<3	<.2
10	LNSS88-49	Ruddy duck	Breast muscle	69.7	<2	<3	<.2
11	LNSS89-33	Periphyton	Composite	64.7	<2	24,100	2.5
12	LNSS89-34	Pileworm	Composite	80.9	<2	24,300	4.1
13	LNSS89-35	Pileworm	Composite	81.9	<2	16,000	2.9
14	LNSS89-36	Pileworm	Composite	84.1	<2	37,800	9.0
15	LNSS89-37	Pileworm	Composite	86.2	<2	17,200	4.4
16	LNSS89-38	Pileworm	Composite	83.5	<2	18,300	4.0
17	SS89-62	Invertebrates	Composite	81.1	<2	4,350	2.9
18	SS89-35	Northern shoveler	Liver	71.8	<2	<3	.2
19	SS89-36	Northern shoveler	Liver	70.6	<2	6	<.1
20	SS89-37	Northern shoveler	Liver	70.5	<2	<3	<.1
21	SS89-40	Northern shoveler	Liver	70.5	<2	3	.3
22	SS89-51	Northern shoveler	Liver	74.4	<2	13	.34
23	SS89-56	Northern shoveler	Liver	70.8	<2	29	<.1
24	LNSS89-02	Ruddy duck	Liver	69.2	<2	8	.35
25	LNSS89-03	Ruddy duck	Liver	72.1	<2	<3	.37
26	LNSS89-05	Ruddy duck	Liver	72.8	<2	<3	.51
27	LNSS89-07	Ruddy duck	Liver	70.7	<2	<3	.30
28	LNSS89-09	Ruddy duck	Liver	70.1	<2	3	.84
29	LNSS89-11	Ruddy duck	Liver	70.3	<2	<3	.52
30	LNSS89-13	Ruddy duck	Liver	70.3	<2	4	.64
31	LNSS89-15	Ruddy duck	Liver	71.7	<2	<3	.53
32	LNSS89-17	Ruddy duck	Liver	69.3	<2	<3	.40
33	LNSS89-19	Ruddy duck	Liver	70.5	<2	9	.50
34	LNSS89-21	Ruddy duck	Liver	71.3	<2	<3	.2
35	LNSS89-23	Ruddy duck	Liver	71.7	<2	<3	.58
36	LNSS89-24	Ruddy duck	Liver	70.9	<2	6	.44
37	LNSS89-25	Ruddy duck	Liver	71.2	<2	<3	.3
38	LNSS89-26	Ruddy duck	Liver	70.1	<2	<3	2
39	LNSS89-27	Ruddy duck	Liver	71.1	<2	<3	.38

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Boron	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Mercury	Magnesium	Manganese
					Site B1 (Salton Sea NWR--Unit 1)						
1	LNSS88-22	6.5	0.1	<0.1	0.99	<1	14	8,810	0.056	765	11
2	LNSS88-42	2	<.1	<.1	.2	<1	129	4,460	1.5	786	23.2
3	LNSS88-44	4	.1	<.1	<.2	2	21.3	3,290	.937	763	24.4
4	LNSS88-46	3	<.1	<.1	2.8	3.0	35.4	2,070	.752	808	17
5	LNSS88-48	4	<.1	<.1	2.3	2	42.9	1,570	.23	651	12
6	LNSS88-50	4	<.1	<.1	<.2	<1	42.4	1,210	.21	769	15
7	LNSS88-21	2	<.1	<.1	<.2	<1	26.8	407	.022	1,010	1.8
8	LNSS88-43	2	<.1	<.1	<.2	<1	30.1	471	.24	1,020	2.7
9	LNSS88-45	<2	<.1	<.1	<.2	<1	24.4	324	.20	1,030	2.4
10	LNSS88-49	2	<.1	<.1	<.2	<1	27.6	368	.033	1,100	2.3
11	LNSS89-33	40	180	.47	<.8	18	11	13,300	.016	12,000	247
12	LNSS89-34	140	162	.3	<.8	18	13	13,100	.021	18,900	242
13	LNSS89-35	83	117	<.1	<.8	12	11	8,270	.032	12,800	215
14	LNSS89-36	94	230	.59	<.8	27	20	19,000	.025	20,600	418
15	LNSS89-37	160	112	<.1	<.8	15	8.5	9,830	.019	16,900	336
16	LNSS89-38	150	142	<.1	<.8	12	8.9	10,100	.033	16,500	381
17	SS89-62	20	44.2	<.1	.3	6.2	21.1	2,850	.047	4,040	54.2
18	SS89-35	5.8	<.1	<.1	1.1	1	26.5	4,100	1.10	772	12
19	SS89-36	5.8	.1	<.1	.89	1	29.9	5,070	4.3	780	11
20	SS89-37	5	<.1	<.1	1.3	<1	19	1,920	.777	701	8.1
21	SS89-40	5	<.1	<.1	1.4	2	16	5,210	.502	701	13
22	SS89-51	4	.2	<.1	2.3	<1	47.5	3,850	.558	707	11
23	SS89-56	3	.2	<.1	2.1	<1	38.1	2,850	.978	687	16
24	LNSS89-02	4.0	.2	<.1	<.8	<1	37.5	1,390	.12	760	11.0
25	LNSS89-03	<3	.2	<.1	1	<1	79.2	2,740	2.09	741	13
26	LNSS89-05	<3	.1	<.1	<.8	<1	140	2,660	2.0	810	10
27	LNSS89-07	<3	.1	<.1	.8	<1	67.5	1,270	.513	807	14
28	LNSS89-09	<3	.2	<.1	<.8	<1	53.9	1,880	.962	743	13
29	LNSS89-11	<3	.1	<.1	1	<1	64.1	1,310	.16	711	13
30	LNSS89-13	<3	.2	<.1	.8	<1	76.0	2,770	.17	847	13
31	LNSS89-15	<3	.31	<.1	1	<2	59.0	3,080	.43	817	13
32	LNSS89-17	<3	.1	<.1	<.8	<2	63.8	3,280	.13	774	17
33	LNSS89-19	<3	.32	<.1	1	<2	125	2,790	.30	954	13
34	LNSS89-21	<3	.1	<.1	<.8	<1	47.9	1,700	.18	856	16
35	LNSS89-23	<3	.2	<.1	<.8	<1	140	3,680	.23	924	14
36	LNSS89-24	<3	.3	<.1	2	<1	104	4,010	.21	896	13
37	LNSS89-25	<3	.1	<.1	<.8	<1	51.4	1,560	.15	700	15
38	LNSS89-26	<3	<.1	<.1	<.8	<1	213	1,960	.25	761	16
39	LNSS89-27	<3	<.1	<.1	<.8	<1	66.1	1,420	.19	694	12

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Molybdenum	Nickel	Lead	Antimony	Selenium	Tin	Strontium	Thallium	Vanadium	Zinc
					Site B1 (Salton Sea NWR--Unit 1)						
1	LNSS88-22	4	<1	<4	—	7.6	—	0.50	<5	0.6	115
2	LNSS88-42	4	<1	<4	—	17.0	—	1.0	<5	<.3	154
3	LNSS88-44	3	2	<4	—	10.9	—	1.1	<5	<.3	135
4	LNSS88-46	3	2	<4	—	10.4	—	.61	<5	1.1	118
5	LNSS88-48	3	2	<4	—	19.9	—	.59	<5	.5	147
6	LNSS88-50	3	<1	<4	—	13.3	—	.65	<5	.6	134
7	LNSS88-21	<1	<1	<4	—	2.8	—	.2	<5	<.3	39.1
8	LNSS88-43	<1	<1	<4	—	3.6	—	.51	<5	<.3	40.4
9	LNSS88-45	<1	<1	<4	—	2.7	—	.38	<5	<.3	35.8
10	LNSS88-49	<1	<1	<4	—	5.5	—	.43	<5	<.3	35.3
11	LNSS89-33	<2	12	10	—	.66	—	242	<4	32	43
12	LNSS89-34	<2	14	10	—	.82	—	376	<4	32	40
13	LNSS89-35	<2	11	9	—	3.4	—	459	<4	22	42
14	LNSS89-36	<3	18	16	—	1.3	—	463	<4	49	61
15	LNSS89-37	<2	9	10	—	1.8	—	343	<4	23	32
16	LNSS89-38	<2	11	9	—	1.6	—	450	<4	24	35
17	SS89-62	<1	2	<4	—	3.1	—	292	<4	7.9	100
18	SS89-35	3	<1	<4	—	9.1	—	.84	<5	.9	114
19	SS89-36	3	<1	<4	—	12	—	1.3	<5	<.3	101
20	SS89-37	2	<1	<4	—	12	—	2.1	<5	<.3	88.9
21	SS89-40	3	<1	<4	—	16	—	.99	<6	<.3	120
22	SS89-51	2	<1	<4	—	25.9	—	3.1	<5	<.3	123
23	SS89-56	3	<1	<4	—	23.7	—	1.1	<5	<.3	99.1
24	LNSS89-02	3.0	<3	<4	—	12	—	1.3	<4	<.7	120
25	LNSS89-03	4.2	<3	<4	—	12	—	.71	<4	<.7	127
26	LNSS89-05	3	<3	<4	—	18	—	.63	<4	<.7	117
27	LNSS89-07	3	<3	<4	—	14.5	—	.56	<4	<.7	110
28	LNSS89-09	3	<3	<4	—	20.4	—	1.9	<4	<.7	106
29	LNSS89-11	3.4	4	<4	—	11	—	.68	<4	<.7	97.1
30	LNSS89-13	4	<3	<4	—	9.6	—	1.4	<4	<.7	139
31	LNSS89-15	3	<3	<4	—	11	—	.72	<4	.9	94.3
32	LNSS89-17	4.5	<3	<4	—	12	—	.65	<4	<.7	142
33	LNSS89-19	4	<4	<4	—	13	—	4.4	<4	<.7	181
34	LNSS89-21	4	<3	<4	—	12	—	.58	<4	<.7	114
35	LNSS89-23	5.4	<3	<4	—	11	—	1.4	<4	<.7	122
36	LNSS89-24	4.8	<3	<4	—	10	—	2.0	<4	<.7	162
37	LNSS89-25	3.6	<3	<4	—	13	—	.64	<4	<.7	109
38	LNSS89-26	3.8	<3	<4	—	18.6	—	.2	<4	<.7	141
39	LNSS89-27	3	<3	<4	—	12	—	.3	<4	<.7	131

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Silver	Aluminum	Arsenic
		Site B1 (Salton Sea NWR--Unit 1)--Continued					
40	LNSS89-28	Ruddy duck	Liver	70.0	<2	<3	0.65
41	LNSS89-29	Ruddy duck	Liver	71.9	<2	<3	.1
42	LNSS89-30	Ruddy duck	Liver	71.7	<2	<3	.2
43	LNSS89-31	Ruddy duck	Liver	69.4	<2	<3	.48
44	LNSS89-32	Ruddy duck	Liver	68.8	<2	<3	.84
45	SS89-33	Ruddy duck	Liver	74.6	<2	5	.30
46	SS89-34	Ruddy duck	Liver	70.8	<2	<3	.2
47	SS89-41	Ruddy duck	Liver	70.4	<2	7	2
48	SS89-42	Ruddy duck	Liver	72.6	<2	19	.2
49	SS89-43	Ruddy duck	Liver	70.6	<2	<3	.3
50	SS89-44	Ruddy duck	Liver	69.2	<2	<3	.1
51	SS89-47	Ruddy duck	Liver	72.4	<2	<3	.53
52	SS89-48	Ruddy duck	Liver	71.4	<2	<3	.84
53	SS89-49	Ruddy duck	Liver	71.0	<2	<3	.3
54	LNSS89-01	Ruddy duck	Breast muscle	70.4	<2	<3	1
55	LNSS89-04	Ruddy duck	Breast muscle	70.9	<2	<3	.3
56	LNSS89-06	Ruddy duck	Breast muscle	72.3	<2	<3	.2
57	LNSS89-08	Ruddy duck	Breast muscle	69.1	<2	<3	.3
58	LNSS89-10	Ruddy duck	Breast muscle	70.4	<2	<3	.2
59	LNSS89-12	Ruddy duck	Breast muscle	71.8	<2	<3	.40
60	LNSS89-14	Ruddy duck	Breast muscle	70.7	<2	<3	.48
61	LNSS89-16	Ruddy duck	Breast muscle	69.3	<2	<3	.31
62	LNSS89-18	Ruddy duck	Breast muscle	70.1	<2	<3	<.2
63	LNSS89-22	Ruddy duck	Breast muscle	70.2	<2	<3	.5
64	LNSS89-22	Ruddy duck	Breast muscle	67.3	<2	<3	<.2
65	SS89-112	Black-necked stilt	Egg	75.1	<2	<3	<.1
66	SS89-113	Black-necked stilt	Egg	74.3	<2	<3	<.1
67	SS89-114	Black-necked stilt	Egg	71.3	<2	<3	<.1
68	SS89-115	Black-necked stilt	Egg	73.4	<2	<3	.1
69	SS89-116	Black-necked stilt	Egg	74.4	<2	<3	<.1
70	SS90a-d	Filamentous green algae	Vegetation	89.1	---	860	<.87
71	SS90e1	Tubular green algae	Vegetation	89.6	---	1,500	6.6
		Site B2 (Poe Road)					
72	SS90e2	Tubular green algae	Vegetation	89.9	---	1,100	4.7
		Site B3 (U.S. Navy Test Base)					
73	SS90a1	Filamentous green algae	Vegetation	86.7	---	230	15
74	SS90e3	Tubular green algae	Vegetation	87.9	---	530	5.0
		Site B4 (Salton City)					
75	SS90a2	Filamentous green algae	Vegetation	83.7	---	230	4.4
76	SS90e4	Tubular green algae	Vegetation	91.5	---	1,500	<1.1
		Site B5 (Salton Sea Beach)					
77	SS90a3	Filamentous green algae	Vegetation	88.1	---	1,800	14

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Boron	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Mercury	Magnesium	Manganese
				Site B1 (Salton Sea NWR--Unit 1)--Continued							
40	LNSS89-28	<3	<0.1	<0.1	<0.8	<1	46.6	1,550	0.23	699	13
41	LNSS89-29	<3	<.1	<.1	<.8	<1	114	2,570	5.5	781	15
42	LNSS89-30	<3	<.1	<.1	<.8	<1	36.3	2,370	.19	800	12
43	LNSS89-31	<3	<.1	<.1	<.8	<1	41.2	956	.18	727	11
44	LNSS89-32	<3	<.1	<.1	<.8	<1	52.8	3,570	.45	762	12
45	SS89-33	2	.1	<.1	2.3	2	167	6,330	.606	769	11
46	SS89-34	3	<.1	<.1	.5	1	29.1	3,470	.14	734	12
47	SS89-41	3	<.1	<.1	2.1	<1	45.7	2,560	1.4	689	14
48	SS89-42	4	.2	<.1	1.1	1	54.4	1,090	.526	779	11
49	SS89-43	4	<.1	<.1	.5	2	40.2	6,100	.19	670	16
50	SS89-44	3	<.1	<.1	.3	<1	71.4	2,550	.23	655	9.4
51	SS89-47	4	<.1	<.1	.8	<1	49.1	3,030	.17	649	11
52	SS89-48	6.6	<.1	<.1	.3	1	28.5	4,020	.22	707	11
53	SS89-49	6.2	<.1	<.1	1.5	<1	62.7	2,230	846	788	11
54	LNSS89-01	<3	<.1	<.1	<.8	<1	52.6	464	.039	1,090	2.0
55	LNSS89-04	4	<.1	<.1	<.7	<1	33.9	427	44	1,020	1.5
56	LNSS89-06	<3	<.1	<.1	<.8	<1	32.8	447	.522	1,160	2.5
57	LNSS89-08	<3	<.1	<.1	<.8	<1	30.0	379	.078	1,080	2.8
58	LNSS89-10	5	<.1	<.1	<.8	<1	33.4	398	.19	1,050	2.5
59	LNSS89-12	<3	<.1	<.1	<.8	<1	31.4	451	.049	1,070	1.2
60	LNSS89-14	<3	<.1	<.1	<.8	<1	59.1	476	.049	1,070	1.6
61	LNSS89-16	<3	<.1	<.1	<.8	<1	24.5	418	.047	1,120	2.0
62	LNSS89-18	<3	<.1	<.1	<.8	<1	56.7	557	.027	1,040	2.6
63	LNSS89-20	<3	.1	<.1	<.8	<1	28.7	384	.036	1,040	1.1
64	LNSS89-22	<3	<.1	<.1	<.8	<1	32.5	406	.024	1,080	2.8
65	SS89-112	<3	.66	<.1	<.5	<2	3.3	101	.46	387	1.3
66	SS89-113	<3	.60	<.1	<.5	<2	3.8	96	.542	329	1.1
67	SS89-114	<3	1.5	<.1	<.5	<2	3.4	96	.14	327	2.8
68	SS89-115	3	.75	<.1	<.5	<2	3.6	129	1.6	388	1.4
69	SS89-116	<3	4.1	<.1	<.5	<2	4.7	140	.736	634	1.4
70	SS90a-d	180	37	<4.4	<4.4	120	11	1,800	---	9,500	130
71	SS80e1	160	38	<4.1	<4.1	<120	<9.1	3,100	---	12,000	83
				Site B2 (Poe Road)							
72	SS90e2	170	36	<4.6	<4.6	<130	<10	2,900	---	12,000	74
				Site B3 (U.S. Navy Test Base)							
73	SS90a1	220	6.3	<3.5	<3.5	<98	<7.7	960	---	6,100	<35
74	SS90e3	150	18	<3.3	<3.3	<92	<7.2	1,400	---	11,000	42
				Site B4 (Salton City)							
75	SS90a2	170	6.4	<2.6	<2.6	<72	<5.7	510	---	5,600	95
76	SS90e4	130	17	<5.6	<5.6	<160	<12	1,800	---	25,000	74
				Site B5 (Salton Sea Beach)							
77	SS90a3	290	46	<3.7	<3.7	<100	<8.1	3,700	---	2,900	180

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Molybdenum	Nickel	Lead	Antimony	Selenium	Tin	Strontium	Thallium	Vanadium	Zinc
					Site B1 (Salton Sea NWR--Unit 1)--Continued						
40	LNSS89-28	3	<3	<4	—	13	—	0.62	<4	<0.7	120
41	LNSS89-29	4.1	<3	<4	—	25.6	—	.3	<4	<.7	114
42	LNSS89-30	3.7	<3	<4	—	11	—	.3	<4	<.7	107
43	LNSS89-31	2	<3	<4	—	13	—	.3	<4	<.7	111
44	LNSS89-32	3	<3	<4	—	11	—	.60	<4	<.7	102
45	SS89-33	4	<1	<4	—	5.2	—	1.2	<5	.91	171
46	SS89-34	3	<1	<4	—	16	—	.51	<5	.3	113
47	SS89-41	3	<1	<4	—	7.4	—	1	<5	.6	135
48	SS89-42	2	<1	<4	—	14	—	3.1	<5	.3	134
49	SS89-43	4.8	<1	<4	—	13	—	.51	<5	.4	119
50	SS89-44	2	<1	<4	—	16	—	.65	<5	<.3	140
51	SS89-47	2	<1	<4	—	8.8	—	.33	<5	<.3	110
52	SS89-48	2	<1	<4	—	13	—	1.6	<5	<.3	106
53	SS89-49	2	<1	<4	—	9.8	—	2.0	<5	7	128
54	LNSS89-01	<1	<3	<4	—	4.5	—	.44	<4	<.7	36
55	LNSS89-04	<1	<3	<4	—	4.5	—	.31	<4	<.6	33
56	LNSS89-06	<1	<3	<4	—	5.8	—	.67	<4	<.7	39
57	LNSS89-08	<1	<3	<4	—	4.8	—	.54	<4	<.7	33
58	LNSS89-10	<1	<3	<4	—	7.2	—	.79	<4	<.6	30
59	LNSS89-12	<1	<3	<4	—	6.5	—	.55	<4	<.7	30
60	LNSS89-14	<1	<3	<4	—	6.0	—	.71	<4	<.7	44
61	LNSS89-16	<1	<3	<4	—	5.6	—	.47	<4	<.7	36
62	LNSS89-18	<1	<3	<4	—	6.7	—	.67	<4	<.7	41
63	LNSS89-20	<1	<3	<4	—	6.6	—	1.0	<4	<.7	30
64	LNSS89-22	<1	<3	<4	—	4.3	—	.63	<4	<.7	35
65	SS89-112	<1	<3	<4	—	4.3	—	17.5	<4	<.7	40
66	SS89-113	<1	<3	<4	—	3.6	—	22.5	<4	<.6	41
67	SS89-114	<1	<3	<4	—	4.9	—	21.8	<4	<.6	53.4
68	SS89-115	<1	<3	<4	—	5.0	—	23.7	<4	<.6	50.0
69	SS89-116	<1	7	<4	—	6.8	—	49.3	<4	<.7	55.2
70	SS90a-d	<34	13	<35	—	1.3	<44	1,300	—	<11	<240
71	SS80e1	<32	6.9	<33	—	<.87	<41	610	—	<10	<220
					Site B2 (Poe Road)						
72	SS90e2	<36	<7.4	<37	—	1.3	<46	320	—	<12	<250
					Site B3 (U.S. Navy Test Base)						
73	SS90a1	<27	5.8	<28	—	1.0	<35	180	—	<8.8	<190
74	SS90e3	<25	7.4	<26	—	<.75	<33	470	—	<8.2	<180
					Site B4 (Salton City)						
75	SS90a2	<20	6.5	<20	—	1.1	<26	220	—	<6.4	<140
76	SS90e4	<43	<9.0	<44	—	<1.1	<56	290	—	<14	<300
					Site B5 (Salton Sea Beach)						
77	SS90a3	<28	25	<29	—	1.7	<37	1,100	—	<9.2	<200

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Silver	Aluminum	Arsenic
		Site B5 (Salton Sea Beach)--Continued					
78	SS90e5	Tubular green algae	Vegetation	86.5	---	3,500	<0.59
		Site B6 (Desert Shores)					
79	SS90a4	Filamentous green algae	Vegetation	87.6	---	220	<0.76
80	SS90e6	Tubular green algae	Vegetation	90.8	---	220	8.0
		Site B7 (Desert Beach)					
81	SS90e10	Tubular green algae	Vegetation	91.2	---	97	<1.1
82	SS90f10	Filamentous green algae	Vegetation	87.3	---	140	5.6
		Site B8 (Bob's Playa River Marina)					
83	SS90e11	Tubular green algae	Vegetation	84.7	---	970	3.6
84	SS90f11	Filamentous green algae	Vegetation	86.5	---	140	16
		Site B9 (Bombay Beach)					
85	SS90e12	Tubular green algae	Vegetation	86.6	---	1,100	<0.68
86	SS90f12	Filamentous green algae	Vegetation	84.0	---	210	2.5
		Site B10 (S Drain Outlet)					
87	SS89-170	Bairdiella	Whole body	71.1	<2	200	12
88	SS89-171	Bairdiella	Whole body	73.9	<2	140	10
89	SS89-172	Bairdiella	Whole body	76.1	<2	27	8.4
90	SS89-173	Bairdiella	Whole body	73.4	<2	76	4.5
91	SS89-174	Bairdiella	Whole body	75.7	<2	100	4.5
		Site B11 (Alamo River Delta)					
92	LNSS88-72	Waterboatman	Composite	75.7	<2.06	1,330	0.295
93	LNSS88-93	Pileworm	Composite	93.4	<7.58	333	22.0
94	LNSS88-61	Crayfish	Whole body	79.1	<2.40	360	.458
95	LNSS88-28	Northern shoveler	Liver	69.6	<2	4	<.2
96	LNSS88-30	Northern shoveler	Liver	70.9	<2	9.8	<.2
97	LNSS88-27	Northern shoveler	Breast muscle	72.6	<2	6	<.2
98	SS89-53	Northern shoveler	Liver	70.3	<2	7	.2
99	SS89-128	Black-necked stilt	Carcass	66.4	<2	140	.3
100	SS89-129	Black-necked stilt	Carcass	66.2	<2	373	.3
101	SS89-130	Black-necked stilt	Carcass	63.7	<2	280	.30
102	SS89-131	Black-necked stilt	Carcass	67.7	<2	170	.40
103	SS89-132	Black-necked stilt	Carcass	63.8	<2	190	.42
		Site B12 (Red Hill Marina)					
104	SS90e13	Tubular green algae	Vegetation	89.1	---	1,400	<0.77
105	SS90f13	Filamentous green algae	Vegetation	81.7	---	330	<.46
		Site B13 (Obsidian Butte)					
106	SS89-143	Eared grebe	Liver	67.0	<2	<3	<0.1

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Boron	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Mercury	Magnesium	Manganese
				Site B5 (Salton Sea Beach)--Continued							
78	SS90e5	160	58	<3.3	28	<93	8.7	4,100	—	14,000	85
				Site B6 (Desert Shores)							
79	SS90a4	390	9.4	<3.7	5.3	<100	<8.2	600	—	8,800	140
80	SS90e6	220	6.2	<5.4	<5.4	200	12	380	—	18,000	120
				Site B7 (Desert Beach)							
81	SS90e10	230	7.6	<4.2	<4.2	<120	14	610	—	23,000	<42
82	SS90f10	170	4.5	<3.2	<3.2	<91	<7.1	240	—	5,600	52
				Site B8 (Bob's Playa River Marina)							
83	SS90e11	<55	31	<2.5	<2.5	<69	<5.5	2,300	—	8,400	79
84	SS90f11	300	<3.6	<3.6	<3.6	<100	<7.9	410	—	5,900	<36
				Site B9 (Bombay Beach)							
85	SS90e12	160	38	<3.7	<3.7	<100	<8.2	2,800	—	11,000	61
86	SS90f12	380	6.6	<2.8	<2.8	<78	<6.1	1,400	—	5,700	<28
				Site B10 (S Drain Outlet)							
87	SS89-170	5	4.5	<0.1	<0.2	<1	1.8	316	0.057	1,080	7.0
88	SS89-171	6	5.3	<.1	<.3	7.0	2.2	297	.045	1,270	6.6
89	SS89-172	6.3	.85	<.1	<.3	1	1.7	189	.049	1,260	1.7
90	SS89-173	6.0	1.7	<.1	<.2	<1	1.5	143	.048	1,190	2.5
91	SS89-174	8.3	1.8	<.1	<.3	3	2.1	188	.045	1,470	2.7
				Site B11 (Alamo River Delta)							
92	LNSS88-72	<20.6	29.1	<0.206	<0.206	2.47	11.9	1,450	<0.103	3,230	45.7
93	LNSS88-93	<75.8	<7.58	<.758	<.758	1.67	18.0	874	<.379	2,800	28.5
94	LNSS88-61	23.9	51.7	<.240	<.240	<.478	75.6	383	<.120	4,000	190
95	LNSS88-28	4	<.1	<.1	.78	1	17	5,030	26.7	789	12
96	LNSS88-30	4	<.1	<.1	2.1	<1	13	7,810	.48	860	10
97	LNSS88-27	2	<.1	<.1	<.2	<1	16	217	2.3	1,170	1.2
98	SS89-53	3	<.1	<.1	5.5	1	20	5,160	.846	664	11
99	SS89-128	5	4.7	<.1	<.3	8.6	6.5	273	.17	1,300	6.3
100	SS89-129	6.6	6.4	<.1	<.2	9.8	6.6	420	.28	1,440	10
101	SS89-130	3	7.6	<.1	<.4	5.3	11	285	.062	1,650	8.1
102	SS89-131	6.4	4.2	<.1	<.2	3	7.2	291	.26	1,440	6.3
103	SS89-132	6.3	3.4	<.1	<.3	3	6.8	269	.25	1,510	6.3
				Site B12 (Red Hill Marina)							
104	SS90e13	130	36	<4.5	<4.5	<130	<10	3,100	—	9,100	120
105	SS90f13	70	6.3	<2.4	<2.4	<66	<5.2	540	—	3,800	27
				Site B13 (Obsidian Butte)							
106	SS89-143	2	<0.1	<0.1	3.8	1	14	4,420	13	616	13

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Molybdenum	Nickel	Lead	Antimony	Selenium	Tin	Strontium	Thallium	Vanadium	Zinc
					Site B5 (Salton Sea Beach)--Continued						
78	SS90e5	<26	7.9	<26	—	0.79	57	1,400	—	14	450
					Site B6 (Desert Shores)						
79	SS90a4	<29	<6.0	<30	—	0.80	<37	490	—	<9.3	<200
80	SS90e6	<41	<8.6	<42	—	1.3	<54	260	—	<13	660
					Site B7 (Desert Beach)						
81	SS90e10	<32	17	<33	—	<1.1	<42	500	—	15	<230
82	SS90f10	<25	5.3	<26	—	1.7	<32	170	—	<8.1	<170
					Site B8 (Bob's Playa River Marina)						
83	SS90e11	<19	7.3	<20	—	0.56	<25	620	—	<6.2	<130
84	SS90f11	<28	9.6	34	—	.62	<36	130	—	<9.0	<190
					Site B9 (Bombay Beach)						
85	SS90e12	<29	<6.0	<29	—	0.78	<37	520	—	<9.3	<200
86	SS90f12	<21	<4.5	<22	—	1.1	<28	360	—	<7.0	<150
					Site B10 (S Drain Outlet)						
87	SS89-170	<1	<2	<4	—	12	—	104	<4	0.4	44.2
88	SS89-171	<1	3	<5	—	12	—	148	<4	.4	51.7
89	SS89-172	<1	<2	<4	—	16	—	44.3	<4	.4	29.3
90	SS89-173	<1	<2	<4	—	12	—	74.3	<4	<.3	50.8
91	SS89-174	<1	<2	<4	—	13	—	51.4	<4	<.3	56.9
					Site B11 (Alamo River Delta)						
92	LNSS88-72	2.55	2.92	6.21	<0.103	3.3	9.01	145	<0.42	4.48	112
93	LNSS88-93	<7.58	<6.06	<15.2	<.379	12.1	<7.58	47.4	<1.6	<7.58	164
94	LNSS88-61	<2.40	<1.91	<4.79	<.120	3.3	5.22	866	<.48	<2.40	84.0
95	LNSS88-28	4	<1	<4	—	17.1	—	.49	<5	.6	107
96	LNSS88-30	4	<1	<4	—	12.4	—	.60	<5	1	141
97	LNSS88-27	<1	<1	<4	—	6.0	—	.37	<5	<.3	39.2
98	SS89-53	2	<1	<4	—	24.3	—	.61	<5	.3	108
99	SS89-128	<1	4	<4	—	8.6	—	145	<4	.98	87.9
100	SS89-129	<1	4	<4	—	4.9	—	226	<4	.5	89.3
101	SS89-130	1	4	<6	—	4.7	—	248	<4	.7	101
102	SS89-131	<1	<2	<4	—	5.7	—	161	<4	.4	102
103	SS89-132	<1	<2	<5	—	5.3	—	228	<4	<.3	105
					Site B12 (Red Hill Marina)						
104	SS90e13	<35	<7.2	<36	—	1.4	<45	470	—	<11	<240
105	SS90f13	<18	<3.8	<19	—	.81	<24	110	—	<5.9	<130
					Site B13 (Obsidian Butte)						
106	SS89-143	<1	<1	<4	—	33.1	—	0.77	<6	<.3	116

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Silver	Aluminum	Arsenic
		Site B13 (Obsidian Butte)--Continued					
107	SS89-145	Eared grebe	Liver	69.5	<2	<3	0.1
108	SS89-147	Eared grebe	Liver	77.5	<2	<4	<.1
109	SS90e14	Tubular green algae	Vegetation	87.6	---	530	<.71
110	SS90f14	Filamentous green algae	Vegetation	86.9	---	82	4.4
		Site B14 (Bowles Road)					
111	SS90e15	Tubular green algae	Vegetation	90.1	---	490	<1.0
112	SS90f15	Filamentous green algae	Vegetation	86.2	---	360	77
		Site B15 (New River Delta)					
113	LNSS88-91	Waterboatman	Composite	74.9	<2.00	51.4	0.709
114	LNSS88-85	Asiatic river clam	Soft tissue	82.9	<2.93	130	1.80
115	LNSS88-63	Crayfish	Whole body	76.2	3.70	550	.685
116	LNSS88-64	Longjaw mudsucker	Whole body	80.2	<2.53	224	.312
117	LNSS88-66	Mosquitofish	Whole body	77.4	<2.22	145	.165
118	SS89-76	Waterboatman	Composite	81.3	<2	3,220	2.0
119	SS89-149	Eared grebe	Liver	70.4	<2	4	.1
120	SS89-151	Eared grebe	Liver	74.2	<2	4	<.1
121	SS89-93	Black-necked stilt	Egg	76.5	<2	<3	<.1
122	SS89-94	Black-necked stilt	Egg	73.3	<2	<3	<.1
123	SS89-95	Black-necked stilt	Egg	74.0	<2	<3	<.1
124	SS89-96	Black-necked stilt	Egg	73.8	<2	<3	<.1
125	SS89-97	Black-necked stilt	Egg	71.3	<2	<3	<.1
126	SS89-98	Black-necked stilt	Egg	79.1	<2	<3	<.1
127	SS89-99	Black-necked stilt	Egg	74.9	<2	<3	.1
128	SS89-100	Black-necked stilt	Egg	75.3	<2	<3	<.1
129	SS89-101	Black-necked stilt	Egg	73.8	<2	<3	<.1
130	SS89-102	Black-necked stilt	Egg	72.7	<2	<3	<.1
131	SS89-133	Black-necked stilt	Carcass	68.4	<2	240	.2
132	SS89-134	Black-necked stilt	Carcass	66.2	<2	210	.2
133	SS89-135	Black-necked stilt	Carcass	66.6	<2	150	.2
134	SS89-136	Black-necked stilt	Carcass	65.5	<2	302	.1
135	SS89-137	Black-necked stilt	Carcass	64.2	<2	230	<.1
		Site B17 (New River at Rio Bend)					
136	LNSS88-68	Sailfin molly	Whole body	72.6	<1.83	135	0.265
137	LNSS88-96	Black-necked stilt	Egg	69.4	---	1.5	<.2
138	LNSS88-138	Black-necked stilt	Egg	70.0	---	1.5	<.2
139	LNSS88-139	Black-necked stilt	Egg	74.5	<2	5	<.2
140	LNSS88-141	Black-necked stilt	Egg	74.0	---	1.7	<.2
141	LNSS88-142	Black-necked stilt	Egg	72.3	<2	5	<.2
142	LNSS88-144	Black-necked stilt	Egg	72.4	---	.91	<.2
143	LNSS88-145	Black-necked stilt	Egg	68.8	<2	5	<.2
144	LNSS88-147	Black-necked stilt	Egg	73.4	---	1.4	<.2
145	LNSS88-148	Black-necked stilt	Egg	73.4	<2	4	<.2
146	LNSS88-150	Black-necked stilt	Egg	75.2	---	1.1	<.2

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Boron	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Mercury	Magnesium	Manganese
					Site B13 (Obsidian Butte)--Continued						
107	SS89-145	<2	0.2	<.1	1.5	<1	14	2,980	12	654	11
108	SS89-147	<2	<.1	<.1	6.7	<1	12	877	3	659	8.9
109	SS90e14	<85	13	<3.9	<3.9	<110	<8.5	1,000	—	7,000	<39
110	SS90f14	110	5.8	<3.2	<3.2	<91	<7.1	230	—	4,900	<32
					Site B14 (Bowles Road)						
111	SS90e15	<99	15	<4.5	<4.5	<130	<9.9	1,000	—	10,000	170
112	SS90f15	<65	34	<3.0	<3.0	<83	7.7	22,000	—	5,400	10,000
					Site B15 (New River Delta)						
113	LNSS88-91	<19.9	5.62	<0.200	<0.200	<0.399	10.8	174	<0.100	1,520	10.0
114	LNSS88-85	<29.2	7.31	<.293	.526	<.585	35.6	284	<.147	1,510	26.1
115	LNSS88-63	<21.0	37.8	<.211	1.39	<.421	99.67	655	<.106	3,500	257
116	LNSS88-64	<25.3	6.11	<.253	.303	1.31	4.19	260	<.127	1,949	35.9
117	LNSS88-66	<22.1	8.67	<.222	<.222	.619	7.04	184	.181	1,940	34.6
118	SS89-76	10	30.2	<.2	<.7	2	8.4	2,450	.12	2,650	55.5
119	SS89-149	<2	.1	<.1	1.8	1	71.9	3,440	7.32	754	13
120	SS89-151	<2	<.1	<.1	1.4	<1	9.6	904	1.02	787	9.3
121	SS89-93	<3	1.4	<.1	<.5	<2	4	68	.667	285	1.2
122	SS89-94	<3	2.3	<.1	<.5	<2	2.9	109	.15	380	1.5
123	SS89-95	<3	1.2	<.1	<.5	<2	1.7	111	.47	459	.87
124	SS89-96	<3	3.0	<.1	<.5	<2	2.2	103	.22	404	1.5
125	SS89-97	<3	0.76	<.1	<.5	<2	2.5	91	.34	391	1.2
126	SS89-98	<3	2.3	<.1	<.5	<2	2.6	82	.26	434	1.2
127	SS89-99	<3	1.1	<.1	<.5	<2	3.1	119	.41	396	1.2
128	SS89-100	<3	1.8	<.1	<.5	<2	2.8	91	1.02	442	2.2
129	SS89-101	<3	5.4	<.1	<.5	<2	3.0	105	.565	395	1.3
130	SS89-102	<3	.70	<.1	<.5	<2	1.6	78	.39	217	1.6
131	SS89-133	2	8.7	<.1	<.3	7.9	30.3	331	.35	1,320	9.6
132	SS89-134	2	7.3	<.1	<.2	7.6	10	291	.43	1,300	8.4
133	SS89-135	3	6.2	<.1	<.3	5.8	9.1	347	.39	1,240	7.8
134	SS89-136	2	7.1	<.1	<.3	11	13	426	.28	1,260	7.8
135	SS89-137	2	5.8	<.1	<.2	6	5.9	303	.26	1,100	5.6
					Site B17 (New River at Rio Bend)						
136	LNSS88-68	<18.2	10.4	<0.183	<0.183	0.839	6.97	196	0.095	1,500	39.4
137	LNSS88-96	—	—	<.01	<.03	.3	3.19	115	.67	—	1.3
138	LNSS88-138	—	—	<.01	<.03	.2	3.34	109	.29	—	1.9
139	LNSS88-139	<2	3.3	<.1	<.4	<1	1.8	120	.14	419	9
140	LNSS88-141	—	—	<.01	<.03	1.4	4.17	124	.56	—	1.8
141	LNSS88-142	4	1.3	<.1	<.4	<1	2.5	71	.26	447	1.3
142	LNSS88-144	—	—	<.009	<.03	.2	3.47	93.8	.25	—	1.4
143	LNSS88-145	3	2.3	<.1	<.4	<1	3.1	84	.44	423	.5
144	LNSS88-147	—	—	<.01	<.03	.2	4.00	116	.38	—	2.94
145	LNSS88-148	3	1.4	<.1	<.4	<1	3.5	110	.25	541	1.4
146	LNSS88-150	—	—	<.01	<.03	.2	3.59	117	.099	—	2.69

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Molybdenum	Nickel	Lead	Antimony	Selenium	Tin	Strontium	Thallium	Vanadium	Zinc
					Site B13 (Obsidian Butte)--Continued						
107	SS89-145	<1	<1	<4	—	35.1	—	0.74	<5	<0.3	102
108	SS89-147	<1	<2	<4	—	32.3	—	1.1	<4	<.3	99.0
109	SS90e14	<30	<6.2	<31	—	<.71	<39	250	—	9.6	<210
110	SS90f14	<25	<5.2	<26	—	<.75	<32	250	—	<8.1	<170
					Site B14 (Bowles Road)						
111	SS90e15	<35	<7.2	<36	—	<1.0	<45	270	—	<11	<240
112	SS90f15	<23	7.8	<23	—	<.58	<30	390	—	26	<160
					Site B15 (New River Delta)						
113	LNSS88-91	<2.00	<1.60	<3.99	<0.100	2.0	4.38	106	<0.40	<2.00	90.4
114	LNSS88-85	<2.93	2.57	<5.85	<.147	6.4	5.32	90.1	<.59	<2.93	217
115	LNSS88-63	<2.11	2.02	<4.21	<.106	2.9	4.16	752	<.42	<2.11	73.1
116	LNSS88-64	<2.53	<2.03	<5.06	<.127	6.1	5.15	227	<.51	<2.53	111
117	LNSS88-66	<2.22	2.30	<4.43	<.111	3.5	5.18	181	<.45	<2.22	137
118	SS89-76	<1	<4	<4	—	1.4	—	71.9	<4	5.6	121
119	SS89-149	<1	<2	<4	—	3.3	—	1.6	<4	<.3	97.2
120	SS89-151	<1	<2	<4	—	2.7	—	2.0	<4	<.3	75.6
121	SS89-93	<1	<3	<4	—	2.7	—	17.2	<4	<.6	30
122	SS89-94	<1	<3	<4	—	3.2	—	25.3	<4	<.7	39
123	SS89-95	<1	<3	<4	—	2.6	—	26.9	<4	<.7	50.8
124	SS89-96	<1	<3	<4	—	2.4	—	71.4	<4	<.7	44
125	SS89-97	<1	<3	<4	—	3.1	—	27.3	<4	<.6	49.6
126	SS89-98	<1	<3	<4	—	3.7	—	42.6	<4	<.6	39
127	SS89-99	<1	<3	<4	—	3.1	—	32.7	<4	<.6	45
128	SS89-100	<1	<3	<4	—	3.3	—	25.1	<4	<.7	42
129	SS89-101	<1	<3	<4	—	2.1	—	24.2	<4	<.7	39
130	SS89-102	<1	<3	<4	—	1.9	—	13.7	<4	<.7	26
131	SS89-133	<1	3	<4	—	7.1	—	190	<4	.4	88.6
132	SS89-134	<1	3	<4	—	7.1	—	194	<4	.4	93.3
133	SS89-135	<1	<2	<4	—	7.2	—	164	<4	<.3	87.2
134	SS89-136	<1	5	<5	—	4.1	—	174	<4	.6	84.7
135	SS89-137	<1	2	<4	—	3.9	—	151	<4	.5	87.4
					Site B17 (New River at Rio Bend)						
136	LNSS88-68	<1.83	<1.46	<3.65	<0.092	2.9	5.40	289	<0.37	<1.83	105
137	LNSS88-96	—	<.2	<.5	—	2.8	—	—	<.5	—	42
138	LNSS88-138	—	.2	1	—	5.6	—	—	<.5	—	45.7
139	LNSS88-139	<1	<2	<4	—	3.6	—	45.7	<4	<4	55.1
140	LNSS88-141	—	1.3	.7	—	5.7	—	—	<.5	—	50.9
141	LNSS88-142	<1	<2	<4	—	3.6	—	38.8	<4	<4	46.5
142	LNSS88-144	—	<.2	.8	—	2.8	—	—	<.4	—	50.7
143	LNSS88-145	<1	<2	<4	—	5.0	—	25.4	<4	<4	48.8
144	LNSS88-147	—	<.2	<.5	—	2.6	—	—	<.5	—	46.2
145	LNSS88-148	<1	<2	<4	—	3.5	—	29.9	<4	<4	47.4
146	LNSS88-150	—	.4	.6	—	4.5	—	—	<.5	—	57.2

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Silver	Aluminum	Arsenic
		Site B17 (New River at Rio Bend)--Continued					
147	LNSS88-151	Black-necked stilt	Egg	70.9	<2	5	<0.2
148	LNSS88-153	Black-necked stilt	Egg	72.5	—	1.3	<.2
149	LNSS88-154	Black-necked stilt	Egg	72.6	<2	4	<.2
150	LNSS88-156	Black-necked stilt	Egg	73.5	—	.8	<.2
151	LNSS88-157	Black-necked stilt	Egg	75.5	<2	<3	<.2
152	LNSS88-159	Black-necked stilt	Egg	73.3	—	.7	<.2
153	LNSS88-160	Black-necked stilt	Egg	70.6	<2	<3	<.2
154	LNSS88-162	Black-necked stilt	Egg	71.7	—	1.2	<.2
155	LNSS88-163	Black-necked stilt	Egg	72.5	<2	<3	<.2
156	LNSS88-165	Black-necked stilt	Egg	73.6	—	1.1	<.2
157	LNSS88-166	Black-necked stilt	Egg	73.6	<2	<3	<.2
158	LNSS88-168	Black-necked stilt	Egg	73.4	—	.6	<.2
159	LNSS88-169	Black-necked stilt	Egg	72.7	<2	<6	<.2
160	LNSS88-171	Black-necked stilt	Egg	74.4	—	.7	<.2
161	LNSS88-174	Black-necked stilt	Egg	73.6	—	.8	<.2
162	LNSS88-177	Black-necked stilt	Egg	73.1	—	1.4	<.2
163	LNSS88-181	Black-necked stilt	Egg	73.1	<2	<3	<.2
164	LNSS88-183	Black-necked stilt	Egg	71.4	—	2.6	.3
165	LNSS88-186	Black-necked stilt	Egg	73.1	—	1	<.2
166	LNSS88-187	Black-necked stilt	Egg	64.4	<2	5	<.2
167	LNSS88-191	Black-necked stilt	Egg	73.4	<2	<3	<.2
168	LNSS88-193	Black-necked stilt	Egg	73.7	—	1.1	<.2
169	LNSS88-202	Black-necked stilt	Egg	73.2	—	.8	<.2
170	LNSS88-205	Black-necked stilt	Egg	73.0	—	2.1	<.2
171	LNSS88-211	Black-necked stilt	Egg	73.2	—	1.2	<.2
172	LNSS88-212	Black-necked stilt	Egg	73.0	<2	<3	<.2
173	LNSS88-214	Black-necked stilt	Egg	73.4	—	.8	<.2
174	LNSS88-229	Black-necked stilt	Egg	70.8	—	1.3	<.2
175	SS89-121	Asiatic river clam	Soft tissue	86.6	<2	110	11
176	SS89-85	Black-necked stilt	Egg	68.9	<2	<3	<.1
177	SS89-86	Black-necked stilt	Egg	75.6	<2	<3	<.1
178	SS89-87	Black-necked stilt	Egg	73.3	<2	<3	<.1
179	SS89-88	Black-necked stilt	Egg	73.8	<2	<3	<.1
180	SS89-89	Black-necked stilt	Egg	72.7	<2	<3	<.1
181	SS89-90	Black-necked stilt	Egg	73.5	<2	<3	<.1
182	SS89-91	Black-necked stilt	Egg	75.1	<2	<3	<.1
183	SS89-92	Black-necked stilt	Egg	73.8	<2	<3	<.2
184	SS89-138	Black-necked stilt	Carcass	66.2	<2	523	.2
185	SS89-139	Black-necked stilt	Carcass	68.6	<2	95	1
186	SS89-140	Black-necked stilt	Carcass	63.9	<2	170	.2
187	SS89-141	Black-necked stilt	Carcass	53.8	<2	100	<.1
		Site B18 (Alamo River at Garst Road)					
188	SS89-64	Waterboatman	Composite	86.6	<2	789	1.0
189	SS89-120	Asiatic river clam	Soft tissue	84.2	<2	862	10
190	SS89-165	Asiatic river clam	Soft tissue	81.1	<2	10,700	10

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Boron	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Mercury	Magnesium	Manganese
				Site B17 (New River at Rio Bend)--Continued							
147	LNSS88-151	<2	2.3	<0.1	<0.4	<1	3.5	110	0.22	437	1.9
148	LNSS88-153	—	—	<.01	<.03	.2	3.46	125	.23	—	1.2
149	LNSS88-154	3	.88	<.1	<.4	<1	3.8	99	.24	401	.9
150	LNSS88-156	—	—	<.01	<.03	<.1	3.76	93.7	.44	—	1.6
151	LNSS88-157	<2	2.6	<.1	<.4	<1	3.6	98	.11	426	1.2
152	LNSS88-159	—	—	<.01	<.03	<.1	3.11	164	.48	—	2.5
153	LNSS88-160	<2	3.2	<.1	<.4	<1	2.8	110	.768	358	1.8
154	LNSS88-162	—	—	<.01	<.03	<.1	2.97	130	.097	—	1.4
155	LNSS88-163	<2	1.4	<.1	<.4	<1	3.7	86	.45	447	1.3
156	LNSS88-165	—	—	<.01	<.03	<.1	2.81	90.4	.37	—	1.9
157	LNSS88-166	<2	1.2	<.1	<.4	<1	3.2	130	.18	478	.98
158	LNSS88-168	—	—	<.01	<.03	<.1	3.74	95.3	.28	—	1.6
159	LNSS88-169	<2	.68	<.1	<.4	<1	3.6	81	.19	378	1.4
160	LNSS88-171	—	—	<.01	<.03	<.1	3.48	98.5	.25	—	1.9
161	LNSS88-174	—	—	<.01	<.03	<.1	3.10	103	.29	—	2.91
162	LNSS88-177	—	—	<.01	<.03	<.1	3.08	111	.30	—	2.3
163	LNSS88-181	<2	.67	<.1	<.4	<1	1.5	74	.10	284	.5
164	LNSS88-183	—	—	<.01	<.03	<.1	3.37	117	.16	—	2.3
165	LNSS88-186	—	—	.01	<.03	<.1	2.1	128	.093	—	1.5
166	LNSS88-187	4	5.8	<.1	<.4	<1	31.8	143	2.1	604	1.8
167	LNSS88-191	3	1.8	<.1	<.4	<1	3.3	97	.11	439	1.1
168	LNSS88-193	—	—	<.01	<.03	<.1	2.56	108	.24	—	1.3
169	LNSS88-202	—	—	<.01	<.03	<.1	3.11	125	.48	—	2.4
170	LNSS88-205	—	—	<.01	.04	<.1	3.47	111	.19	—	1.1
171	LNSS88-211	—	—	<.01	<.03	<.1	2.3	98.6	.14	—	1.2
172	LNSS88-212	3	.79	<.1	<.4	<1	2.4	110	.24	435	.96
173	LNSS88-214	—	—	<.01	<.03	<.1	3.08	98.9	.13	—	.84
174	LNSS88-229	—	—	<.01	<.03	.2	3.23	120	.49	—	1.4
175	SS89-121	<3	95.3	<.1	.6	<2	44.5	285	.19	967	16
176	SS89-85	<3	.97	<.1	<.5	<2	1.9	124	.25	387	3.3
177	SS89-86	<3	1.1	<.1	<.5	<2	2.6	97	.528	418	1.3
178	SS89-87	<3	1.7	<.1	<.5	<2	3.2	104	.29	420	2.1
179	SS89-88	<3	2.4	<.1	<.5	<2	2.2	100	.16	413	2.2
180	SS89-89	<3	2.4	<.1	<.5	<2	3.3	114	2.8	484	2.8
181	SS89-90	<3	.63	<.1	<.5	<2	3.5	100	.38	384	2.6
182	SS89-91	<3	1.2	<.1	<.5	<2	3.5	69	.34	399	2.8
183	SS89-92	<3	1.6	<.1	<.5	<2	3.0	110	.081	355	2.7
184	SS89-138	3	7.4	<.1	<.2	7.3	13	515	.12	1,300	15
185	SS89-139	2	8.0	<.1	<.2	3.0	7.2	255	.071	1,200	26
186	SS89-140	4	7.0	<.1	<.3	5.5	26.3	265	.086	1,410	27
187	SS89-141	<2	2.5	<.1	<.3	3	6.9	195	.20	870	4.0
				Site B18 (Alamo River at Garst Road)							
188	SS89-64	21	11.6	<0.2	<0.7	<2	12	610	0.036	3,960	24.2
189	SS89-120	<3	21.4	<.1	6	<2	31.3	781	.14	1,230	24.4
190	SS89-165	13	129	.35	.7	14	44.0	6,080	.15	4,180	150

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Molybdenum	Nickel	Lead	Antimony	Selenium	Tin	Strontium	Thallium	Vanadium	Zinc
				Site B17 (New River at Rio Bend)--Continued							
147	LNSS88-151	<1	<2	<4	—	4.4	—	28.3	<4	<4	48.5
148	LNSS88-153	—	.2	<.5	—	3.6	—	—	<.5	—	47.4
149	LNSS88-154	<1	<2	<4	—	5.6	—	21.6	<4	<4	41
150	LNSS88-156	—	<.2	2.4	—	4.5	—	—	<.7	—	37.8
151	LNSS88-157	<1	<2	<4	—	6.1	—	27	<4	<4	48.4
152	LNSS88-159	—	<.2	1.7	—	3.5	—	—	<.7	—	62.5
153	LNSS88-160	<1	<2	<4	—	6.3	—	17.3	<4	<4	50.9
154	LNSS88-162	—	<.2	1.6	—	3.8	—	—	<.7	—	49.1
155	LNSS88-163	<1	<2	<4	—	3.9	—	17.1	<4	<4	42.9
156	LNSS88-165	—	<.2	1.7	—	2.9	—	—	<.7	—	35.1
157	LNSS88-166	<1	<2	<4	—	4.7	—	32.5	<4	<4	49.9
158	LNSS88-168	—	<.2	3.4	—	5.4	—	—	<.7	—	43.5
159	LNSS88-169	<1	<2	<4	—	4.5	—	17.9	<4	<4	42.5
160	LNSS88-171	—	<.2	<.5	—	3.3	—	—	<.7	—	45.8
161	LNSS88-174	—	<.2	<.5	—	2.3	—	—	<.7	—	45.1
162	LNSS88-177	—	<.2	1	—	2.6	—	—	<.6	—	49.0
163	LNSS88-181	<1	<2	<4	—	1.7	—	27.7	<4	<4	30.6
164	LNSS88-183	—	<.2	<.5	—	4.0	—	—	<.7	—	45.4
165	LNSS88-186	—	<.2	<.5	—	2.8	—	—	<1	—	51.0
166	LNSS88-187	<1	<2	<4	—	6.6	—	41.7	<4	<4	57.0
167	LNSS88-191	<1	<2	<4	—	5.7	—	34.7	<4	<4	48.1
168	LNSS88-193	—	<.2	<.5	—	3.0	—	—	<.7	—	40.5
169	LNSS88-202	—	<.2	<.5	—	3.5	—	—	<.7	—	54.9
170	LNSS88-205	—	<.2	<.5	—	4.5	—	—	<.6	—	47.8
171	LNSS88-211	—	<.2	<.5	—	4.9	—	—	<.7	—	44.5
172	LNSS88-212	<1	<2	<4	—	4.6	—	27.4	<4	<4	43.9
173	LNSS88-214	—	<.2	<.5	—	2.2	—	—	<.7	—	47.7
174	LNSS88-229	—	<.2	<.5	—	5.0	—	—	<.7	—	46.1
175	SS89-121	<1	<3	<4	—	5.9	—	67.1	<4	.7	105
176	SS89-85	<1	<3	<4	—	3.3	—	25.3	<4	<.6	49.4
177	SS89-86	<1	<3	<4	—	2.6	—	24.1	<4	<.7	43
178	SS89-87	<1	<3	<4	—	5.7	—	25.4	<4	<.7	42
179	SS89-88	<1	<3	<4	—	2.9	—	40.3	<4	<.6	46
180	SS89-89	<1	6	<4	—	3.0	—	37.8	<4	<.6	44
181	SS89-90	<1	<3	<4	—	3.5	—	18.3	<4	<.6	35
182	SS89-91	<1	<3	<4	—	10	—	20.6	<4	<.7	41
183	SS89-92	<1	<3	<4	—	6.7	—	24.4	<4	<.6	44
184	SS89-13	<1	3	<4	—	11.3	—	210	<4	.94	96.0
185	SS89-139	<1	<2	<4	—	7.6	—	203	<4	<.3	95.2
186	SS89-140	<1	<2	<4	—	7.3	—	262	<4	<.3	102
187	SS89-141	<1	<2	<4	—	3.4	—	108	<4	<.3	73.3
				Site B18 (Alamo River at Garst Road)							
188	SS89-64	<1	<4	<4	—	2.6	—	265	<4	2.8	99.5
189	SS89-120	<1	<3	<4	—	5.4	—	28.1	<4	2	107
190	SS89-165	<1	7.6	5	—	5.2	—	117	<4	15	97.2

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Silver	Aluminum	Arsenic
		Site B18 (Alamo River at Garst Road)--Continued					
191	SS89-167	Asiatic river clam	Soft tissue	80.6	<2	5,320	8.4
192	SS89-175	Bullfrog	Whole body	72.5	<2	336	<.2
193	SS89-176	Bullfrog	Whole body	80.1	<2	890	.3
		Site B19 (San Felipe Creek)					
194	SS90-s1	Sediment	Sediment	30.5	---	4,500	1.4
195	SS90v1	Common cattail	Vegetation	87.7	---	230	<.78
196	SS90f1	Mosquitofish	Whole body	76.8	---	110	<.41
197	SS90f1a	Sailfin molly	Whole body	66.4	---	160	1.0
		Site B20 (Salt Creek)					
198	SS90-s4	Sediment	Sediment	52.2	---	12,000	6.4
199	SS90v4	Common cattail	Vegetation	84.0	---	510	<.62
200	SS90f4	Mosquitofish	Whole body	78.0	---	63	<.41
201	SS90f4	Sailfin molly	Whole body	74.4	---	980	12
		Site B21 (Colorado River at Palo Verde)					
202	SS89-117	Asiatic river clam	Soft tissue	85.1	<2	140	7.5
203	SS89-118	Asiatic river clam	Soft tissue	88.9	<2	260	9.5
204	SS89-119	Asiatic river clam	Soft tissue	86.9	<2	230	8.7
		Site B23 (Trifolium 13 Drain)					
205	SS89-122	Asiatic river clam	Soft tissue	89.8	<2	130	12
206	SS89-166	Asiatic river clam	Soft tissue	83.0	<2	3,640	9.7
207	SS89-168	Asiatic river clam	Soft tissue	86.4	<2	2,740	12
		Site B24 (Trifolium 14 Drain)					
208	LNSS88-180	Black-necked stilt	Egg	70.8	---	0.7	<0.2
209	LNSS88-194	Black-necked stilt	Egg	69.4	<2	<3	<.2
210	LNSS88-206	Black-necked stilt	Egg	69.7	<2	<3	<.2
211	LNSS88-208	Black-necked stilt	Egg	71.9	---	1.3	<.2
212	LNSS88-215	Black-necked stilt	Egg	72.5	<2	6	<.2
213	LNSS88-217	Black-necked stilt	Egg	72.6	---	1.6	<.2
214	LNSS88-218	Black-necked stilt	Egg	70.5	<2	<3	<.2
215	LNSS88-223	Black-necked stilt	Egg	72.4	---	.9	<.2
216	LNSS88-224	Black-necked stilt	Egg	68.0	<2	<3	<.2
217	LNSS88-226	Black-necked stilt	Egg	73.1	---	.8	<.2
218	LNSS88-227	Black-necked stilt	Egg	62.5	<2	<3	<.2
219	SS89-45	Ruddy duck	Liver	71.2	<2	<3	<.1
220	SS89-46	Ruddy duck	Liver	71.7	<2	<3	<.1
221	SS89-50	Ruddy duck	Liver	71.7	<2	<3	.65
222	SS90c1	Asiatic river clam	Soft tissue	61.5	---	56	2.9
223	SS90c2	Asiatic river clam	Soft tissue	82.5	---	150	4.9
		Site B25 (Vail Cutoff Drain)					
224	SS89-71	American coot	Liver	72.5	<2	9.7	0.36

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Boron	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Mercury	Magnesium	Manganese
				Site B18 (Alamo River at Garst Road)--Continued							
191	SS89-167	7.5	86.0	0.2	0.6	12	65.7	3,470	0.16	2,700	93.1
192	SS89-175	3	10.8	<.1	<.2	1	16	341	.13	1,260	11
193	SS89-176	5	12.5	<.1	<.2	2	20.5	610	.17	2,120	18
				Site B19 (San Felipe Creek)							
194	SS90-s1	<5.8	83	<0.58	<0.58	6.9	9.4	7,700	<0.055	3,900	200
195	SS90v1	110	11	<4.1	<4.1	<110	190	880	.38	2,800	230
196	SS90f1	<45	<4.3	<1.4	<2.8	6.4	11	140	.23	1,700	20
197	SS90f1a	<9.1	3.9	<.29	<.56	510	21	2,700	.12	670	55
				Site B20 (Salt Creek)							
198	SS90-s4	<8.6	240	<0.86	<0.86	11	28	19,000	<0.080	12,000	380
199	SS90v4	99	23	<2.9	<2.9	<81	<6.4	1,300	<.23	3,700	140
200	SS90f4	<14	4.6	<.44	<.84	7.1	4.5	120	<.17	560	11
201	SS90f4a	<11	14	<.36	<.69	48	12	1,100	<.15	1,800	38
				Site B21 (Colorado River at Palo Verde)							
202	SS89-117	<3	22.6	<0.1	<0.6	<2	27.0	213	0.072	915	10
203	SS89-118	<3	25.5	<.1	<.5	<2	48.8	535	.10	1,050	20.9
204	SS89-119	<3	19.6	<.1	<.6	<2	24.2	313	.096	1,050	14
				Site B23 (Trifolium 13 Drain)							
205	SS89-122	5	30	<0.1	1	<2	58.5	492	0.17	1,390	17
206	SS89-166	8.4	130	.1	.7	8.8	68.1	2,510	.20	1,980	88.2
207	SS89-168	6.9	105	.1	.80	8.3	90.1	2,360	.22	2,090	69.7
				Site B24 (Trifolium 14 Drain)							
208	LNSS88-180	—	—	<0.01	<0.03	<0.1	3.44	123	0.21	—	1.4
209	LNSS88-194	3	.79	<.1	<.4	<1	3.8	93	.36	355	.96
210	LNSS88-206	3	1.2	<.1	<.4	<1	3.4	110	.30	471	1.1
211	LNSS88-208	—	—	<.01	<.03	<.1	3.07	117	1.5	—	1.1
212	LNSS88-215	<2	1.4	<.1	<.4	<1	3.5	120	.27	427	.98
213	LNSS88-217	—	—	<.009	<.03	1.9	3.20	119	.15	—	1.2
214	LNSS88-218	<2	.42	<.1	<.4	<1	2.0	48	.40	208	<.3
215	LNSS88-223	—	—	<.01	<.1	<.4	2.90	83.6	.28	—	.52
216	LNSS88-224	3	.91	<.1	<.4	<1	4.8	110	.13	499	.9
217	LNSS88-226	—	—	<.01	<.03	<.1	3.02	98.0	.26	—	1.1
218	LNSS88-227	4	1.4	<.1	<.4	<1	3.1	120	.11	543	.9
219	SS89-45	<2	<.1	<.1	.4	1	40.1	2,750	.30	639	13
220	SS89-46	2	<.1	<.1	.7	<1	240	2,760	.518	754	16
221	SS89-50	5	<.1	<.1	.6	<1	27.1	870	1.09	637	8.4
222	SS90c1	<25	3.3	<.88	<1.7	<2.9	33	290	<.11	440	<8.8
223	SS90c2	<18	5.6	<.57	<1.1	<2.1	35	240	<.27	910	22
				Site B25 (Vail Cutoff Drain)							
224	SS89-71	<3	0.1	<0.2	<0.7	<2	16	5,120	0.34	828	12

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Molybdenum	Nickel	Lead	Antimony	Selenium	Tin	Strontium	Thallium	Vanadium	Zinc
				Site B18 (Alamo River at Garst Road)--Continued							
191	SS89-167	<1	6.1	<4	—	5.7	—	100	<4	8.8	111
192	SS89-175	<1	<2	<4	—	5.4	—	72.0	<4	.7	220
193	SS89-176	<1	<2	<4	—	3.6	—	183	<4	1.4	114
				Site B19 (San Felipe Creek)							
194	SS90-s1	<1.8	4.6	5.8	—	0.31	<5.8	82	—	12	48
195	SS90v1	<31	9.2	<32	—	1.1	<41	160	—	<10	<220
196	SS90f1	<3.5	3.5	<3.0	—	7.4	<14	190	—	<1.4	210
197	SS90f1a	4.8	280	<.62	—	7.4	3.8	87	—	.88	43
				Site B20 (Salt Creek)							
198	SS90-s4	<2.8	13	13	—	0.89	<8.6	370	—	20	53
199	SS90v4	<22	<4.6	<23	—	<.62	<29	310	—	<7.2	<160
200	SS90f4	<1.1	5.5	<.92	—	6.4	<4.4	200	—	<.44	92
201	SS90f4a	1.0	19	<.76	—	5.5	<3.6	370	—	1.3	82
				Site B21 (Colorado River at Palo Verde)							
202	SS89-117	<1	<3	<4	—	5.2	—	40.8	<4	<0.7	101
203	SS89-118	<1	<3	<4	—	6.2	—	49.3	<4	<.6	144
204	SS89-119	<1	<3	<4	—	4.6	—	47.5	<4	<.7	120
				Site B23 (Trifolium 13 Drain)							
205	SS89-122	<1	<3	<4	—	7.5	—	50.7	<4	0.8	124
206	SS89-166	<1	5.4	<5	—	6.2	—	132	<4	5.2	87.2
207	SS89-168	<1	4	<4	—	6.6	—	219	<4	4.7	86.3
				Site B24 (Trifolium 14 Drain)							
208	LNSS88-180	—	<0.2	<0.5	—	5.7	—	—	<0.7	—	52.1
209	LNSS88-194	<1	<2	<4	—	7.0	—	37.9	<4	<4	46.4
210	LNSS88-206	<1	<2	<4	—	4.8	—	40.4	<4	<4	48.9
211	LNSS88-208	—	<.2	<.5	—	5.9	—	—	<.7	—	48.8
212	LNSS88-215	<1	<2	<4	—	4.6	—	41.6	<4	<4	51.2
213	LNSS88-217	—	<.1	<.4	—	3.8	—	—	<.5	—	47.1
214	LNSS88-218	<1	<2	<4	—	1.6	—	13.2	<4	<4	21
215	LNSS88-223	—	<.4	<.5	—	4.5	—	—	<.5	—	43.7
216	LNSS88-224	<1	<2	<4	—	6.6	—	30.4	<4	<4	53.7
217	LNSS88-226	—	<.2	<.5	—	3.7	—	—	<.7	—	42.1
218	LNSS88-227	<1	<2	<4	—	6.0	—	38.2	<4	<4	56.8
219	SS89-45	2	<1	<4	—	7.7	—	.64	<5	<.3	119
220	SS89-46	3	<1	<4	—	21.7	—	.2	<5	<.3	164
221	SS89-50	1	<1	<4	—	7.1	—	1.0	<5	<.3	90.0
222	SS90c1	2.1	<.88	<1.7	—	4.4	<8.8	33	—	<.79	45
223	SS90c2	<1.4	<.57	1.4	—	6.3	<5.7	30	—	<.57	96
				Site B25 (Vail Cutoff Drain)							
224	SS89-71	3	<4	<4	—	7.9	—	2.4	<4	<0.8	128

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Silver	Aluminum	Arsenic
		Site B25 (Vail Cutoff Drain)--Continued					
225	SS89-72	American coot	Liver	71.6	<2	3	0.3
226	SS89-73	American coot	Liver	74.7	<2	16	.2
227	SS89-66	Black-necked stilt	Egg	72.3	<2	<3	<.1
228	SS89-67	Black-necked stilt	Egg	72.5	<2	<3	<.1
229	SS89-68	Black-necked stilt	Egg	72.0	<2	<3	<.1
230	SS89-69	Black-necked stilt	Egg	73.0	<2	<3	.1
231	SS89-70	Black-necked stilt	Egg	72.5	<2	<3	.1
232	SS90c3	Asiatic river clam	Soft tissue	82.7	--	790	6.0
		Site B26 (Vail 4 Drain)					
233	LNSS88-32	Ruddy duck	Liver	69.0	<2	<3	<0.2
234	SS89-160	Spiny softshell turtle	Liver	78.5	<2	15	<.1
235	SS89-162	Spiny softshell turtle	Liver	79.5	<2	14	<.1
236	SS89-164	Spiny softshell turtle	Liver	81.2	<2	24	<.1
		Site B27 (Vail 4A Drain)					
237	SS89-63	Pileworm	Whole body	85.0	<2	2,410	3.3
238	SS89-65	Pileworm	Whole body	85.8	<2	4,180	3.3
		Site B29 (S Lateral Drain)					
239	SS89-169	Yuma clapper rail	Carcass	6.3	<2	11,100	2.9
240	SS89-123	Black-necked stilt	Carcass	59.7	<2	210	.3
241	SS89-124	Black-necked stilt	Carcass	67.6	<2	210	.2
242	SS89-125	Black-necked stilt	Carcass	66.5	<2	260	.2
243	SS89-126	Black-necked stilt	Carcass	67.4	<2	230	.3
244	SS89-127	Black-necked stilt	Carcass	62.6	<2	330	.2
		Site B30 (Z Lateral Drain)					
245	SS90-s5	Sediment	Sediment	66.2	--	20,000	10
246	SS90v5	Common cattail	Vegetation	82.2	--	61	<.46
247	SS90c5	Asiatic river clam	Soft tissue	70.5	--	1,300	2.3
248	SS90f5	Sailfin molly	Whole body	76.2	--	910	<.40
		Site B31 (81st Street Drain)					
249	SS90-s2	Sediment	Sediment	63.6	--	14,000	6.2
250	SS90a5	Filamentous green algae	Vegetation	78.5	--	4,600	8.0
251	SS90e7	Tubular green algae	Vegetation	87.5	--	3,200	2.4
252	SS90v2	Common cattail	Vegetation	85.0	--	84	<.63
253	SS90f2	Mosquitofish	Whole body	77.3	--	51	<.38
254	SS90f2a	Sailfin molly	Whole body	79.6	--	950	3.8
		Site B32 (Johnson Street Drain)					
255	SS90-s3	Sediment	Sediment	38.1	--	12,00	4.5
256	SS90b9	Blue-green algae	Vegetation	92.2	--	5,600	7.4
257	SS90v3	Common cattail	Vegetation	85.3	--	140	<.64
258	SS90c4	Asiatic river clam	Soft tissue	76.5	--	240	7.3

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Boron	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Mercury	Magnesium	Manganese
					Site B25 (Vail Cutoff Drain)--Continued						
225	SS89-72	<3	<0.1	<0.2	1	<2	19.9	2,080	0.52	763	12
226	SS89-73	4	<.1	<.2	<.7	<2	23.7	2,500	.46	753	7.1
227	SS89-66	<3	.98	<.1	<.5	<2	3.6	98.7	.35	411	2.8
228	SS89-67	<3	.80	<.1	<.5	<2	1.9	108	.091	372	1.8
229	SS89-68	<3	.78	<.1	<.6	<2	3.2	108	.34	385	1.3
230	SS89-69	<3	.47	<.1	<.5	<2	3.2	97	.25	390	1.4
231	SS89-70	<3	.78	<.1	<.5	<2	2.9	107	1.6	433	1.2
232	SS90c3	<18	8.9	< 57	<1.1	<2.1	47	710	<.23	1,200	39
					Site B26 (Vail 4 Drain)						
233	LNSS88-32	5	<0.1	<0.1	<0.2	<1	22.2	2,430	0.15	706	12
234	SS89-160	2	.1	<.1	.3	<1	41.7	1,150	.20	650	6.2
235	SS89-162	3	.2	<.1	.3	<1	63.2	1,480	.12	665	5.0
236	SS89-164	5	.2	<.1	<.3	<1	22.8	1,470	.26	770	5.4
					Site B27 (Vail 4A Drain)						
237	SS89-63	27	24.8	<0.2	<0.7	2	9.9	1,920	0.069	5,180	48.9
238	SS89-65	22	36.4	<.2	<.7	3	20.7	2,920	.030	4,980	72.5
					Site B29 (S Lateral Drain)						
239	SS89-169	14	105	0.38	0.2	28	18	6,560	0.28	9,930	126
240	SS89-123	4	5.0	<.1	<.4	12	24.3	322	.21	1,420	9.4
241	SS89-124	3	4.8	<.1	<.2	3.4	10	301	.16	1,490	16
242	SS89-125	3	4.5	<.1	<.3	8.6	7.8	347	.21	1,370	7.2
243	SS89-126	2	3.7	<.1	<.2	12	6.7	325	.21	1,390	12
244	SS89-127	4	8.4	<.1	<.3	14	35.0	554	.689	1,250	11
					Site B30 (Z Lateral Drain)						
245	SS90-s5	<13	370	<1.3	<1.3	15	32	35,000	<0.12	22,000	650
246	SS90v5	<51	6.2	<2.3	<2.3	<64	<5.1	170	<.19	2,000	150
247	SS90c5	<9.0	18	<.29	1.2	<1.1	15	1,200	<.14	1,000	34
248	SS90f5	<11	13	<.36	<.68	44	16	980	<.17	1,500	32
					Site B31 (81st Street Drain)						
249	SS90-s2	<13	190	<1.3	<1.3	14	26	22,000	<0.11	17,000	380
250	SS90a5	180	100	<2.3	<2.3	69	14	9,400	---	8,900	180
251	SS90e7	130	71	<3.3	<3.3	<92	<7.2	5,300	---	12,000	96
252	SS90v2	<68	6.8	<3.1	<3.1	<87	<6.8	200	<.26	1,800	140
253	SS90f2	<13	5.1	<.44	<.83	8.5	13	160	<.16	1,400	20
254	SS90f2a	<15	29	<.47	<.90	27	27	1,400	<.17	1,800	47
					Site B32 (Johnson Street Drain)						
255	SS90-s3	<7.8	90	<0.78	<0.78	7.1	15	20,000	<0.062	8,400	290
256	SS90b9	270	83	<6.1	8.0	<170	13	8,400	<.1	25,000	180
257	SS90v3	<75	8.6	<3.4	<3.4	<95	<7.5	310	<.26	2,200	160
258	SS90c4	<13	3.8	<.41	<.78	<1.5	30	260	<.14	700	12

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Molybdenum	Nickel	Lead	Antimony	Selenium	Tin	Strontium	Thallium	Vanadium	Zinc
					Site B25 (Vail Cutoff Drain)--Continued						
225	SS89-72	5.4	<4	<4	—	16.3	—	1.3	<4	<0.8	121
226	SS89-73	4	<4	<4	—	8.4	—	1.5	<4	<.8	120
227	SS89-66	<1	<3	12	—	4.1	—	41	<4	<.6	48.0
228	SS89-67	<1	<3	<4	—	4.2	—	15.5	<4	<.7	41
229	SS89-68	<1	<3	<4	—	3.7	—	25.3	<4	<.7	48
230	SS89-69	<1	<3	<4	—	3.7	—	23.9	<4	<.7	42
231	SS89-70	<1	<3	<4	—	3.8	—	34.2	<4	<.6	48.7
232	SS90c3	<1.4	<.57	<1.2	—	5.6	<5.7	29	—	1.1	93
					Site B26 (Vail 4 Drain)						
233	LNSS88-32	2	<1	<4	—	6.4	—	0.50	<5	0.5	175
234	SS89-160	<1	<1	<4	—	10	—	2.5	<5	<.3	93.6
235	SS89-162	1	<1	<4	—	14	—	5.8	<5	<.3	85.6
236	SS89-164	<1	<1	<4	—	12	—	5.5	<5	<.3	90.0
					Site B27 (Vail 4A Drain)						
237	SS89-63	<1	<4	<4	—	8.6	—	301	<4	4.3	89.7
238	SS89-65	<1	<4	5	—	7.2	—	378	<4	7.4	76.1
					Site B29 (S Lateral Drain)						
239	SS89-169	<1	12	6	—	4.8	—	375	<4	16	101
240	SS89-123	<1	6.2	<6	—	3.6	—	205	<4	.8	94.4
241	SS89-124	<1	<2	<4	—	6.7	—	142	<4	.4	102
242	SS89-125	<1	4	<4	—	3.5	—	188	<4	.4	91.0
243	SS89-126	<1	5.9	<4	—	3.2	—	172	<4	4	97.5
244	SS89-127	1	3	<5	—	4.2	—	126	<4	.7	94.7
					Site B30 (Z Lateral Drain)						
245	SS90-s5	<4.2	23	21	—	1.6	13	460	—	33	98
246	SS90v5	<18	<3.7	<18	—	<.46	<23	98	—	<5.7	<120
247	SS90c5	<.70	1.1	<.61	—	2.9	<2.9	33	—	2.1	52
248	SS90f5	<.86	19	<.75	—	5.3	<3.6	180	—	1.4	76
					Site B31 (81st Street Drain)						
249	SS90-s2	<4.2	10	6.3	—	3.8	<13	1,200	—	29	65
250	SS90a5	<17	48	<18	—	.98	<23	520	—	17	<120
251	SS90e7	<25	12	<26	—	<.73	<33	830	—	17	<180
252	SS90v2	<24	<5.0	<25	—	<.63	<31	140	—	<7.8	<170
253	SS90f2	<1.0	4.7	<.91	—	4.7	<4.4	180	—	1.2	160
254	SS90f2a	1.6	9.3	<1.0	—	5.8	<4.7	310	—	3.5	100
					Site B32 (Johnson Street Drain)						
255	SS90-s3	<2.5	4.9	1.6	—	0.55	<7.8	160	—	27	61
256	SS90b9	<47	12	<48	—	1.8	<61	650	—	<15	<330
257	SS90v3	<26	<5.4	<27	—	<.64	<34	200	—	<8.5	<180
258	SS90c4	<.98	<.41	<.86	—	2.6	<4.1	26	—	.49	89

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Silver	Aluminum	Arsenic
		Site B32 (Johnson Street Drain)--Continued					
259	SS90f3	Mosquitofish	Whole body	75.2	—	2,000	23
260	SS90f3a	Sailfin molly	Whole body	75.4	—	1,600	<0.36
		Site B33 (Shady Acres Duck Club)					
261	LNSS88-54	Northern shoveler	Liver	70.5	<2	6	0.2
262	LNSS88-58	Northern shoveler	Liver	71.0	<2	20	.3
263	LNSS88-60	Northern shoveler	Liver	71.1	<2	15	.4
264	LNSS88-53	Northern shoveler	Breast Muscle	73.0	<2	70	<.2
265	LNSS88-57	Northern shoveler	Breast muscle	72.3	<2	7	<.2
		Site B34 (RH Pond)					
266	LNSS88-97	Black-necked stilt	Egg	68.9	<2	<3	<0.2
267	LNSS88-99	Black-necked stilt	Egg	72.5	—	1.2	<.2
268	LNSS88-100	Black-necked stilt	Egg	71.7	<2	<3	<.2
269	LNSS88-102	Black-necked stilt	Egg	71.4	—	1	<.2
270	LNSS88-103	Black-necked stilt	Egg	71.5	<2	4	.4
271	LNSS88-105	Black-necked stilt	Egg	62.5	—	1.1	<.2
272	LNSS88-106	Black-necked stilt	Egg	72.7	<2	<3	<.2
273	LNSS88-108	Black-necked stilt	Egg	68.6	—	1.1	<.2
274	LNSS88-109	Black-necked stilt	Egg	71.1	<2	3	<.2
275	LNSS88-127	Black-necked stilt	Egg	73.7	<2	5	<.2
276	LNSS88-133	Black-necked stilt	Egg	72.1	<2	4	<.2
		Site B35 (HQ Pond)					
277	LNSS88-34	Ruddy duck	Liver	71.1	<2	<3	<0.2
278	LNSS88-36	Ruddy duck	Liver	70.0	<2	6	<.2
279	LNSS88-38	Ruddy duck	Liver	74.1	6.4	4	<.2
280	LNSS88-40	Ruddy duck	Liver	69.3	<2	7	<.2
281	LNSS88-35	Ruddy duck	Breast muscle	70.3	<2	<3	<.2
282	LNSS88-39	Ruddy duck	Breast muscle	71.3	<2	<3	<.2
		Site B36 (Reidman Pond)					
283	LNSS88-172	Black-necked stilt	Egg	71.6	<2	<3	<0.2
284	LNSS88-175	Black-necked stilt	Egg	73.7	<2	<3	<.2
285	LNSS88-178	Black-necked stilt	Egg	74.1	<2	<3	<.2
286	LNSS88-184	Black-necked stilt	Egg	73.5	<2	<3	<.2
287	LNSS88-189	Black-necked stilt	Egg	74.0	—	1.9	<.2
288	LNSS88-196	Black-necked stilt	Egg	74.3	—	1.7	<.2
289	LNSS88-197	Black-necked stilt	Egg	73.2	<2	6	<.2
290	LNSS88-199	Black-necked stilt	Egg	72.3	—	3.2	<.2
291	LNSS88-200	Black-necked stilt	Egg	72.3	<2	<3	<.2
292	LNSS88-203	Black-necked stilt	Egg	72.5	<2	5	<.2
293	LNSS88-209	Black-necked stilt	Egg	71.1	<2	<3	<.2
294	LNSS88-220	Black-necked stilt	Egg	73.1	—	1.5	<.2
295	LNSS88-221	Black-necked stilt	Egg	70.3	<2	<3	<.2
296	LNSS88-230	Black-necked stilt	Egg	72.2	<2	<3	<.2

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Boron	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Mercury	Magnesium	Manganese
					Site B32 (Johnson Street Drain)--Continued						
259	SS90f3	<12	23	<0.39	<0.74	55	7.7	2,600	<0.15	2,200	55
260	SS90f3a	<14	34	<.45	<.85	13	23	1,700	<.18	2,100	47
					Site B33 (Shady Acres Duck Club)						
261	LNSS88-54	4	0.3	<0.1	1.8	2	59.4	9,500	0.681	778	16
262	LNSS88-58	5	.3	<.1	.82	2	20.9	6,340	.970	737	7.9
263	LNSS88-60	6.3	.2	<.1	1.3	2	84.9	4,810	7.96	711	10
264	LNSS88-53	<2	.54	<.1	<.2	<1	22.6	316	.16	1,150	3.1
265	LNSS88-57	3	<.1	<.1	<.2	<1	20.2	302	.20	1,090	1.4
					Site B34 (RH Pond)						
266	LNSS88-97	5	0.50	<0.1	<0.4	<1	3.7	80	0.45	433	0.99
267	LNSS88-99	—	—	<.01	<.03	.2	3.45	112	.077	—	1.2
268	LNSS88-100	4	.72	<.1	<.4	<1	3.6	110	.074	457	1.3
269	LNSS88-102	—	—	<.01	<.03	.3	3.08	91.7	.44	—	1.8
270	LNSS88-103	6	.2	<.1	<.4	<1	3.7	100	.33	403	4.5
271	LNSS88-105	—	—	<.01	<.03	<.1	3.17	113	.10	—	1.9
272	LNSS88-106	4	.81	<.1	<.4	<1	2.9	87	.094	412	1.4
273	LNSS88-108	—	—	<.01	<.03	.3	3.22	112	.75	—	2.2
274	LNSS88-109	4	.2	<.1	<.4	<1	3.2	100	.746	421	2.7
275	LNSS88-127	2	.38	<.1	<.4	<1	4.5	76	2.7	448	3.5
276	LNSS88-133	2	.78	<.1	<.4	<1	3.3	100	.905	483	1.9
					Site B35 (HQ Pond)						
277	LNSS88-34	3	<0.1	<0.1	<0.2	<1	66.6	1,100	0.835	785	14
278	LNSS88-36	5	.1	<.1	<.2	<1	13	5,680	.16	832	12
279	LNSS88-38	5	<.1	<.1	.5	<1	118	811	.13	796	11
280	LNSS88-40	4	.2	<.1	2.0	<1	30.6	1,480	1.3	802	22.4
281	LNSS88-35	3	<.1	<.1	<.2	<1	28.8	589	.046	1,040	2.0
282	LNSS88-39	<2	<.1	<.1	<.2	<1	32.5	436	.24	1,040	2.2
					Site B36 (Reidman Pond)						
283	LNSS88-172	3	2.9	<0.1	<0.4	<1	3.2	93	0.44	410	1.8
284	LNSS88-175	<2	1.2	<.1	<.4	<1	4.4	110	.616	391	.5
285	LNSS88-178	<2	1.6	<.1	<.4	<1	3.5	90	.46	480	.5
286	LNSS88-184	4	1.4	<.1	<.4	<1	3.4	97	.47	435	.9
287	LNSS88-189	—	—	<.01	<.03	<.1	3.32	111	.35	—	1.2
288	LNSS88-196	—	—	<.01	.35	<.1	3.46	131	.34	—	1.1
289	LNSS88-197	3	.61	<.1	<.4	<1	4.3	86	.702	433	.96
290	LNSS88-199	—	—	<.01	<.03	<.1	3.50	104	.36	—	1.4
291	LNSS88-200	3	1.3	<.1	<.4	<1	3.5	95	.25	463	1.0
292	LNSS88-203	4	1.8	<.1	<.4	<1	3.8	97	.39	550	.9
293	LNSS88-209	2	1.8	<.1	<.4	<1	3.5	100	.16	426	.9
294	LNSS88-220	—	—	<.01	<.03	.80	3.61	118	.41	—	1.4
295	LNSS88-221	2	1.4	<.1	<.4	<1	4.0	97	.40	507	.9
296	LNSS88-230	<2	1.2	<.1	<.4	<1	3.5	74	.565	379	.9

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Molybdenum	Nickel	Lead	Antimony	Selenium	Tin	Strontium	Thallium	Vanadium	Zinc
					Site B32 (Johnson Street Drain)--Continued						
259	SS90f3	1.3	18	<0.82	—	2.6	<3.9	200	—	2.9	74
260	SS90f3a	<1.1	6.0	<.94	—	2.5	<4.5	240	—	2.3	73
					Site B33 (Shady Acres Duck Club)						
261	LNSS88-54	4	<1	<4	—	9.98	—	2.1	<5	0.4	121
262	LNSS88-58	4	2	<4	—	11	—	2.1	<5	.99	108
263	LNSS88-60	5.3	1	<4	—	20	—	2.1	<5	.8	113
264	LNSS88-53	<1	<1	<4	—	4.0	—	2.9	<5	.4	42.1
265	LNSS88-57	<1	<1	<4	—	3.9	—	.62	<5	<.3	45.6
					Site B34 (RH Pond)						
266	LNSS88-97	<1	<2	<4	—	4.0	—	26.3	<4	<4	43.5
267	LNSS88-99	—	.3	<.5	—	4.3	—	—	<.5	—	45.3
268	LNSS88-100	<1	<2	<4	—	4.7	—	22.9	<4	<4	52.2
269	LNSS88-102	—	.3	<.9	—	2.9	—	—	<.5	—	47.0
270	LNSS88-103	<1	<2	<4	—	2.6	—	30.5	<4	<4	45.3
271	LNSS88-105	—	<.2	<.5	—	4.4	—	—	<.4	—	52.2
272	LNSS88-106	<1	<2	<4	—	3.4	—	24.3	<4	<4	44.8
273	LNSS88-108	—	.3	.6	—	4.1	—	—	<.5	—	49.7
274	LNSS88-109	<1	<2	<4	—	3.2	—	43.8	<4	<4	40.4
275	LNSS88-127	<1	<2	<4	—	5.5	—	25.2	<4	<4	38.5
276	LNSS88-133	<1	<2	<4	—	5.4	—	74.7	<4	<4	42.8
					Site B35 (HQ Pond)						
277	LNSS88-34	2	<1	<4	—	9.8	—	0.59	<5	0.3	165
278	LNSS88-36	3	<1	<4	—	7.9	—	2.9	<5	4	162
279	LNSS88-38	2	<1	<4	—	26	—	1.6	<5	.5	148
280	LNSS88-40	2	<1	<4	—	16	—	6.9	<5	<.3	147
281	LNSS88-35	<1	<1	<4	—	3.1	—	.61	<5	<.3	37.9
282	LNSS88-39	<1	<1	<4	—	5.4	—	.52	<5	<.3	40.4
					Site B36 (Reidman Pond)						
283	LNSS88-172	<1	<2	<4	—	3.9	—	16.0	<4	<4	45.9
284	LNSS88-175	<1	<2	<4	—	5.3	—	29.5	<4	<4	45.8
285	LNSS88-178	<1	<2	<4	—	6.0	—	30.1	<4	<4	46.2
286	LNSS88-184	<1	<2	<4	—	13.5	—	23.8	<4	<4	44.9
287	LNSS88-189	—	<.2	.5	—	5.6	—	—	<.6	—	47.8
288	LNSS88-196	—	<.2	<.5	—	4.0	—	—	<.7	—	48.2
289	LNSS88-197	<1	<2	<4	—	35	—	23.4	<4	<4	41
290	LNSS88-199	—	<.2	.6	—	4.7	—	—	<.7	—	48.0
291	LNSS88-200	<1	<2	<4	—	6.1	—	21.1	<4	<4	48.2
292	LNSS88-203	<1	<2	<4	—	5.2	—	25.8	<4	<4	45.8
293	LNSS88-209	<1	<2	<4	—	4.3	—	26.2	<4	<4	49.0
294	LNSS88-220	—	<.2	<.5	—	5.1	—	—	<.7	—	48.9
295	LNSS88-221	<1	<2	<4	—	5.9	—	24.4	<4	<4	49
296	LNSS88-230	<1	<4	<5	—	5.2	—	11	<4	<.3	40.1

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Silver	Aluminum	Arsenic
		Site B37 (Hazard Pond)					
297	LNSS88-24	Northern shoveler	Liver	71.4	<2	89	<0.2
298	LNSS88-26	Northern shoveler	Liver	68.7	<2	51	<.2
299	LNSS88-52	Northern shoveler	Liver	69.9	<2	10	<.2
300	LNSS88-56	Northern shoveler	Liver	68.9	<2	<3	.2
301	LNSS88-23	Northern shoveler	Breast muscle	72.9	<2	15	<.2
302	LNSS88-51	Northern shoveler	Breast muscle	72.3	<2	50	<.2
303	LNSS88-55	Northern shoveler	Breast muscle	71.5	<2	6	<.2
304	LNSS88-02	Ruddy duck	Liver	70.7	<2	5	.4
305	LNSS88-04	Ruddy duck	Liver	73.9	<2	5	.5
306	LNSS88-06	Ruddy duck	Liver	72.2	<2	10	.2
307	LNSS88-08	Ruddy duck	Liver	70.0	<2	14	.4
308	LNSS88-10	Ruddy duck	Liver	71.2	2	34	.67
309	LNSS88-12	Ruddy duck	Liver	71.2	<2	12	.4
310	LNSS88-14	Ruddy duck	Liver	73.3	2	5	.3
311	LNSS88-16	Ruddy duck	Liver	71.9	<2	3	.5
312	LNSS88-18	Ruddy duck	Liver	69.9	<2	<3	.4
313	LNSS88-20	Ruddy duck	Liver	70.6	<2	23	.4
314	LNSS88-111	Black-necked stilt	Egg	73.6	—	.8	<.2
315	LNSS88-112	Black-necked stilt	Egg	72.6	<2	3	<.2
316	LNSS88-114	Black-necked stilt	Egg	74.8	—	3.3	<.2
317	LNSS88-115	Black-necked stilt	Egg	75.1	<2	5	<.2
318	LNSS88-117	Black-necked stilt	Egg	73.1	—	1.3	<.2
319	LNSS88-118	Black-necked stilt	Egg	70.4	<2	5	<.2
320	LNSS88-120	Black-necked stilt	Egg	74.3	—	.7	<.2
321	LNSS88-121	Black-necked stilt	Egg	67.5	<2	4	<.2
322	LNSS88-123	Black-necked stilt	Egg	72.6	—	5.2	<.2
323	LNSS88-124	Black-necked stilt	Egg	72.8	<2	4	<.2
324	LNSS88-126	Black-necked stilt	Egg	72.3	—	2.4	<.2
325	LNSS88-129	Black-necked stilt	Egg	72.9	—	.8	<.2
326	LNSS88-130	Black-necked stilt	Egg	72.0	<2	5	<.2
327	LNSS88-132	Black-necked stilt	Egg	74.8	—	1.4	<.2
328	LNSS88-135	Black-necked stilt	Egg	73.5	—	2.4	<.2
329	LNSS88-136	Black-necked stilt	Egg	71.7	<2	4	.61
330	SS89-154	Spiny softshell turtle	Liver	74.9	<2	26	<.1
331	SS89-156	Spiny softshell turtle	Liver	72.6	<2	12	<.1
332	SS89-158	Spiny softshell turtle	Liver	78.2	<2	9.8	<.1
333	SS89-52	Northern shoveler	Liver	72.4	<2	<3	<.1
334	SS89-54	Northern shoveler	Liver	73.3	<2	9.6	<.1
335	SS89-55	Northern shoveler	Liver	71.6	<2	<3	.2
336	SS89-74	Black-necked stilt	Egg	74.6	<2	<3	<.1
337	SS89-75	Black-necked stilt	Egg	71.5	<2	<3	.1
338	SS89-77	Black-necked stilt	Egg	67.7	<2	<3	<.1
339	SS89-83	Black-necked stilt	Egg	76.2	<2	<3	.2
340	SS89-84	Black-necked stilt	Egg	75.0	<2	<3	.2

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Boron	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Mercury	Magnesium	Manganese
					Site B37 (Hazard Pond)						
297	LNSS88-24	6	0.61	<0.1	2.6	<1	91.2	3,510	1.07	874	19
298	LNSS88-26	3	.2	<.1	2.9	<1	57.5	4,220	1.5	799	15
299	LNSS88-52	<2	<.1	<.1	1.6	1	35.5	647	2.7	789	11
300	LNSS88-56	3	<.1	<.1	1.1	2	58.2	1,670	3.6	772	17
301	LNSS88-23	<2	.1	<.1	<.2	<1	25.4	278	.22	1,090	1.9
302	LNSS88-51	<2	.31	<.1	<.2	<1	24.1	295	.695	1,080	2.1
303	LNSS88-55	<2	<.1	<.1	<.2	<1	20.6	208	.27	1,080	1.9
304	LNSS88-02	5	.77	<.1	<.2	<1	37.8	1,810	.13	915	17
305	LNSS88-04	7.3	1.3	<.1	<.2	<1	26.9	2,180	1.02	967	17
306	LNSS88-06	4	.85	<.1	1.5	<1	163	2,560	.650	898	18
307	LNSS88-08	6	1.0	<.1	5.0	<1	66.5	1,380	.23	902	15
308	LNSS88-10	5	1.4	<.1	<.2	<1	205	1,380	4.6	885	14
309	LNSS88-12	5.9	.70	<.1	<.2	<1	115	3,770	.507	865	16
310	LNSS88-14	3	.82	<.1	.6	<1	191	4,680	2.3	946	15
311	LNSS88-16	5	.63	<.1	2.7	<1	91.4	3,060	.29	751	11
312	LNSS88-18	5	.61	<.1	.5	<1	51.4	1,990	.16	739	12
313	LNSS88-20	3	.2	<.1	.81	<1	48.6	1,370	.548	820	14
314	LNSS88-111	—	—	<.01	<.03	<.1	3.12	110	.22	—	1.8
315	LNSS88-112	3	.40	<.1	<.4	<1	3.2	93	.30	469	1.7
316	LNSS88-114	—	—	<.01	<.03	.2	6.22	130	.21	—	2.36
317	LNSS88-115	3	1.3	<.1	<.4	<1	3.7	110	.16	518	.8
318	LNSS88-117	—	—	<.01	<.03	.3	3.22	104	.13	—	1.2
319	LNSS88-118	<2	.90	<.1	<.4	<1	3.5	84	.37	374	2.4
320	LNSS88-120	—	—	<.01	<.03	.2	46.0	94.3	.29	—	1.2
321	LNSS88-121	<2	.31	<.1	<.4	<1	3.2	90	.26	478	1.9
322	LNSS88-123	—	—	<.01	<.03	.2	3.46	109	.086	—	2.2
323	LNSS88-124	<2	.60	<.1	<.4	<1	3.7	81	.839	564	2.0
324	LNSS88-126	—	—	<.01	<.03	.4	3.99	105	.14	—	1.1
325	LNSS88-129	—	—	<.01	<.03	.2	3.60	90.4	.012	—	2.1
326	LNSS88-130	<2	2.4	<.1	<.4	<1	3.8	110	.17	524	.9
327	LNSS88-132	—	—	<.01	<.03	.2	3.53	128	.19	—	1.1
328	LNSS88-135	—	—	<.01	<.03	.2	3.35	92.9	.69	—	2.74
329	LNSS88-136	<2	.52	<.1	<.4	<1	3.5	94	.20	376	1.8
330	SS89-154	2	.78	<.1	<.3	<1	25.9	1,940	.20	502	6.9
331	SS89-156	2	.1	<.1	<.3	<1	19	605	.23	423	5.2
332	SS89-158	3	.3	<.1	<.3	<1	24.6	1,150	.20	651	4.4
333	SS89-52	4	<.1	<.1	2.0	<1	83.5	3,220	.645	736	14
334	SS89-54	4	.1	<.1	1.3	1	69.4	3,640	.986	719	12
335	SS89-55	4	<.1	<.1	2.4	<1	37.3	2,870	1.2	756	16
336	SS89-74	<3	2.2	<.1	<.6	<2	2.9	103	.48	390	1.5
337	SS89-75	3	.46	<.1	<.5	<2	3.0	90	.781	321	.69
338	SS89-77	<3	.48	<.1	<.5	<2	2.4	67	1.8	255	1.1
339	SS89-83	<3	.62	<.1	<.5	<2	2.8	81	.68	350	1.3
340	SS89-84	3	.45	<.1	<.5	<2	3.2	70	.626	372	2.8

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Molybdenum	Nickel	Lead	Antimony	Selenium	Tin	Strontium	Thallium	Vanadium	Zinc
					Site B37 (Hazard Pond)						
297	LNSS88-24	3	<1	<4	—	47.0	—	3.5	<5	<0.3	156
298	LNSS88-26	4.4	<1	<4	—	44.0	—	.53	<5	1.1	146
299	LNSS88-52	3	<1	<4	—	17.2	—	.81	<5	<.3	105
300	LNSS88-56	3.4	<1	<4	—	17.0	—	.48	<5	.6	142
301	LNSS88-23	<1	<1	<4	—	12.0	—	1.2	<5	<.3	35.1
302	LNSS88-51	<1	<1	<4	—	3.8	—	1.5	<5	<.3	41.2
303	LNSS88-55	<1	<1	<4	—	4.7	—	.46	<5	<.3	41.2
304	LNSS88-02	2	<1	<4	—	11.1	—	.88	<5	.4	162
305	LNSS88-04	2	<1	<4	—	8.5	—	1	<5	<.3	180
306	LNSS88-06	3	<1	<4	—	9.0	—	1.6	<5	<.3	202
307	LNSS88-08	2	<1	<4	—	8.3	—	1.1	<5	.4	142
308	LNSS88-10	3	<1	<4	—	26.0	—	2.1	<5	<.3	144
309	LNSS88-12	3	<1	<4	—	10.2	—	1.0	<5	.5	195
310	LNSS88-14	3	<1	<4	—	7.7	—	.98	<5	<.3	261
311	LNSS88-16	2	<1	<4	—	6.7	—	.82	<5	.7	153
312	LNSS88-18	2	<1	<4	—	14.0	—	.45	<5	<.3	145
313	LNSS88-20	3	<1	<4	—	13.1	—	1.2	<5	.6	145
314	LNSS88-111	—	.3	<.4	—	4.6	—	—	<4	—	46.3
315	LNSS88-112	<1	<2	<4	—	4.5	—	30.6	<4	<4	44.7
316	LNSS88-114	—	.4	1.9	—	6.0	—	—	<.5	—	50.7
317	LNSS88-115	<1	<2	<4	—	4.7	—	28.5	<4	<4	46.2
318	LNSS88-117	—	.3	<.5	—	3.7	—	—	<.5	—	47.9
319	LNSS88-118	<1	<2	<4	—	4.9	—	14.9	<4	<4	39.4
320	LNSS88-120	—	<.2	<.5	—	4.5	—	—	<.5	—	44.7
321	LNSS88-121	<1	<2	<4	—	3.7	—	19.8	<4	<4	49.2
322	LNSS88-123	—	<.2	<.5	—	3.6	—	—	<.5	—	48.6
323	LNSS88-124	<1	<2	<4	—	4.7	—	29.2	<4	<4	49
324	LNSS88-126	—	<.2	<.4	—	4.6	—	—	<.4	—	48.2
325	LNSS88-129	—	.3	<.5	—	3.5	—	—	<.5	—	40.4
326	LNSS88-130	<1	<2	<4	—	5.2	—	36.8	<4	<4	52.6
327	LNSS88-132	—	.3	1	—	4.7	—	—	<.5	—	49.8
328	LNSS88-135	—	.2	1	—	4.6	—	—	<.5	—	51.7
329	LNSS88-136	<1	<2	<4	—	5.1	—	19.3	<4	<4	43.9
330	SS89-154	<1	<1	<4	—	9.1	—	7.3	<5	.5	67.1
331	SS89-156	<1	<1	<4	—	8.0	—	2.1	<5	<.3	65.4
332	SS89-158	<1	<1	<4	—	9.6	—	6.1	<5	<.3	80
333	SS89-52	2	<1	<4	—	37.1	—	1.2	<5	<.3	122
334	SS89-54	3	<1	<4	—	22.5	—	1.0	<6	.3	118
335	SS89-55	3	<1	<4	—	28.6	—	1.0	<5	<.3	127
336	SS89-74	<1	<3	<4	—	6.3	—	27.3	<4	<.7	45
337	SS89-75	<1	<3	<4	—	7.0	—	16.8	<4	<.7	43
338	SS89-77	<1	<3	<4	—	5.1	—	12.3	<4	<.6	40
339	SS89-83	<1	<3	<4	—	6.0	—	19.2	<4	<.7	37
340	SS89-84	<1	<3	<4	—	9.6	—	22.9	<4	<.6	39

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Silver	Aluminum	Arsenic
		Site B38 (South Brawley)					
341	89-030	White-faced ibis	Liver	67.6	<1.54	52.1	<0.31
342	89-031	White-faced ibis	Liver	69.2	<1.62	11.3	<.32
343	89-032	White-faced ibis	Liver	68.7	<1.60	32.3	<.32
344	89-033	White-faced ibis	Liver	69.3	<1.63	4.33	<.33
345	89-034	White-faced ibis	Liver	67.1	<1.52	5.93	<.30
346	89-035	White-faced ibis	Liver	69.9	<1.66	3.65	<.33
347	89-036	White-faced ibis	Liver	69.8	<1.66	8.21	<.33
348	89-037	White-faced ibis	Liver	66.7	<1.50	<3.00	<.30
349	89-038	White-faced ibis	Liver	68.1	<1.54	7.87	<.31
350	SS89-103	White-faced ibis	Breast muscle	70.9	<2	50	<.1
351	SS89-104	White-faced ibis	Breast muscle	73.0	<2	17	<.1
352	SS89-105	White-faced ibis	Breast muscle	72.3	<2	13	<.1
353	SS89-106	White-faced ibis	Breast muscle	73.8	<2	13	<.1
354	SS89-107	White-faced ibis	Breast muscle	73.2	<2	19	<.1
355	SS89-108	White-faced ibis	Breast muscle	72.8	<2	40	<.1
356	SS89-109	White-faced ibis	Breast muscle	71.4	<2	17	<.1
357	SS89-110	White-faced ibis	Breast muscle	72.0	<2	20	<.1
358	SS89-111	White-faced ibis	Breast muscle	72.6	<2	16	<.1
		Site B39 (McKendry Road)					
359	SS89-78	Black-necked stilt	Egg	68.6	<2	<3	<0.1
360	SS89-79	Black-necked stilt	Egg	74.3	<2	<3	.1
361	SS89-80	Black-necked stilt	Egg	67.9	<2	<3	.1
362	SS89-81	Black-necked stilt	Egg	74.0	<2	<3	<.1
363	SS89-82	Black-necked stilt	Egg	73.9	<2	<3	.1

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Boron	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Mercury	Magnesium	Manganese
					Site B38 (South Brawley)						
341	89-030	<1.54	1.54	<0.15	0.77	0.46	12.7	1,100	0.284	512	7.16
342	89-031	<1.62	<1.62	<.16	2.86	.42	19.7	1,840	.273	584	9.03
343	89-032	<1.60	<1.60	<.16	1.95	.51	11.4	1,780	.208	585	7.60
344	89-033	<1.63	<1.63	<.16	2.05	.65	20.3	2,730	.176	668	15.4
345	89-034	<1.52	<1.52	<.15	3.10	.49	16.6	1,840	.343	602	8.85
346	89-035	<1.66	<1.66	<.17	2.23	.56	13.2	2,040	.246	588	10.4
347	89-036	<1.66	<1.66	<.17	.96	<.33	6.99	621	.285	351	4.80
348	89-037	<1.50	<1.50	<.15	2.67	.57	17.3	2,740	.300	700	16.9
349	89-038	<.5	<.5	<.05	.59	.10	3.51	492	.313	170	2.33
350	SS89-103	<3	.35	<.2	<.7	<2	14	239	.13	1,140	2.6
351	SS89-104	<3	.2	.58	<.7	<2	16	249	.13	1,160	1.9
352	SS89-105	<3	<.1	.66	<.7	<2	16	292	.17	1,080	1.3
353	SS89-106	<3	<.1	.68	<.7	<2	16	217	.16	1,190	1.4
354	SS89-107	<3	.1	.67	<.7	<2	15	239	.14	1,160	1.2
355	SS89-108	<3	.2	.68	<.7	<2	13	195	.18	1,160	1.6
356	SS89-109	<3	<.1	.66	<.7	<2	14	226	.13	1,080	1.4
357	SS89-110	<3	.2	.69	<.7	<2	15	266	.36	1,060	1.5
358	SS89-111	3	<.1	.71	<.7	<2	11	289	.14	1,110	1.4
					Site B39 (McKendry Road)						
359	SS89-78	<3	1.5	<0.1	<0.5	<2	3.2	96	0.11	328	1.2
360	SS89-79	<3	1.7	<.1	<.5	<2	2.9	87	.685	409	1.5
361	SS89-80	<3	.97	<.1	<.5	<2	2.6	98	.099	385	2.2
362	SS89-81	3	2.2	<.1	<.5	<2	3.1	119	.626	420	2.6
363	SS89-82	<3	.51	<.1	<.5	<2	3.3	93	.20	396	2.3

Table 22. Inorganic chemical analysis and moisture content for biotic samples collected during 1988-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Molybdenum	Nickel	Lead	Antimony	Selenium	Tin	Strontium	Thallium	Vanadium	Zinc
					Site B38 (South Brawley)						
341	89-030	<1.54	<1.23	<0.93	<3	5.2	8.43	1.27	<6.17	<1.54	52.8
342	89-031	2.08	<1.3	<.97	<3.25	9.4	8.41	.94	<6.49	<1.62	70.1
343	89-032	<1.60	<1.28	<.96	<3.19	5.1	7.38	1.57	<6.39	<1.60	52.4
344	89-033	2.21	<1.3	<.98	<3.26	10.7	8.93	4.07	<6.51	<1.63	91.5
345	89-034	1.73	<1.22	<.91	<3.04	6.7	6.02	1.79	<6.08	<1.52	71.4
346	89-035	1.83	<1.33	<1.00	<3.32	5.0	7.64	1.10	<6.64	<1.66	65.2
347	89-036	<1.66	<1.32	<.99	<3.31	10.6	4.30	1.42	<6.62	<1.66	34
348	89-037	2.40	<1.20	<.90	<3.00	13.2	8.08	1.68	<6.00	<1.50	99.2
349	89-038	<.5	<.4	<.3	<1	5.3	1.94	.42	<2	<.5	16.0
350	SS89-103	<1	<4	<4	—	5.1	—	.75	<4	<.8	34
351	SS89-104	<1	<4	<4	—	5.6	—	.3	<4	<.8	38
352	SS89-105	<1	<4	<4	—	6.6	—	.48	<4	<.8	34
353	SS89-106	<1	<4	<4	—	6.0	—	.2	<4	<.8	37
354	SS89-107	<1	<4	<4	—	6.4	—	.33	<4	<.8	29
355	SS89-108	<1	<4	<4	—	5.6	—	.57	<4	<.8	30
356	SS89-109	<1	<4	<4	—	4.7	—	.1	<4	<.8	30
357	SS89-110	<1	<4	<4	—	4.4	—	.57	<4	<.8	29
358	SS89-111	<1	<4	<4	—	3.9	—	.56	<4	<.8	28
					Site B39 (McKendry Road)						
359	SS89-78	<1	<3	<4	—	5.9	—	21.2	<4	<0.6	45
360	SS89-79	<1	<3	<4	—	14.2	—	26.5	<4	<.6	55.3
361	SS89-80	<1	<3	<4	—	3.7	—	61.5	<4	<.6	63.2
362	SS89-81	<1	<3	<4	—	5.8	—	34.3	<4	<.6	52.4
363	SS89-82	<1	<3	<4	—	4.3	—	22.2	<4	<.7	47

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers

[All chemical data reported in micrograms per gram, wet weight. DDD, dichlorodiphenyldichloroethane; DDE, dichlorodiphenylethylene; DDT, dichlorodiphenyltrichloroethane; o,p′, ortho,para prime; p,p′ para,para prime; BHC, benzene hexachloride; DCPA, dimethyltetrachlorophthalate; BI PH CL, biphenyl chemical structure with number of chlorine substituents designated; PCB, polychlorinated biphenyls with Arochlor numbers; <, less than indicated reporting limit; —, not determined. The analysis for each sample is displayed as one line on six consecutive pages. NWR, National Wildlife Refuge]

Record number	Sample number	Species	Matrix	Percent moisture	Percent lipid	Oxychlor-dane	alpha-Chlordane	cis-Chlordane
			Site B1 (Salton Sea NWR–Unit 1)					
1	LNSS86-04	Sailfin molly	Whole body	73.0	0.60	<0.0099	—	<0.0099
2	LNSS86-01B	Tilapia	Whole body	76.1	1.45	<.10	—	<.010
3	LNSS86-05B	Tilapia	Whole body	74.1	1.02	<.0099	—	<.0099
4	LNSS86-40	Tilapia	Whole body	71.9	6.88	<.0099	—	<.0099
5	LNSS86-41B	Orangemouth corvina	Whole body	74.6	1.37	<.010	—	<.010
6	LNSS86-23	Northern shoveler	Breast muscle	70.6	3.60	<.0099	—	<.0099
7	LNSS86-25	Ruddy duck	Breast muscle	70.4	4.53	<.010	—	<.010
8	LNSS86-27	Black-necked stilt	Breast muscle	69.7	8.18	<.010	—	<.010
9	LNSS87-20	Crayfish	Whole body	72.2	.69	—	—	—
10	LNSS87-10	Asiatic river clam	Soft tissue	28.4	.40	<.01	—	<.01
11	LNSS87-12	Asiatic river clam	Soft tissue	30.4	.30	<.01	—	<.01
12	LNSS87-22	Great blue heron	Breast muscle	68.6	2.60	.02	—	<.01
13	LNSS88-41	Ruddy duck	Breast muscle	71.0	8.56	<.01	<0.01	—
14	LNSS88-47	Ruddy duck	Breast muscle	70.8	5.65	<.01	<.01	—
15	LNSS89-01	Ruddy duck	Breast muscle	70.2	3.96	<.01	<.01	—
16	LNSS89-04	Ruddy duck	Breast muscle	71.0	2.68	<.01	<.01	—
17	LNSS89-06	Ruddy duck	Breast muscle	71.2	2.20	<.01	<.01	—
18	LNSS89-08	Ruddy duck	Breast muscle	68.2	5.24	<.01	<.01	—
19	LNSS89-10	Ruddy duck	Breast muscle	70.0	3.60	<.01	<.01	—
20	LNSS89-12	Ruddy duck	Breast muscle	72.0	4.62	<.01	<.01	—
21	LNSS89-14	Ruddy duck	Breast muscle	69.5	3.64	<.01	<.01	—
22	LNSS89-16	Ruddy duck	Breast muscle	68.5	4.26	<.01	<.01	—
23	LNSS89-18	Ruddy duck	Breast muscle	70.0	5.18	<.01	<.01	—
24	LNSS89-20	Ruddy duck	Breast muscle	71.5	3.24	<.01	<.01	—
25	LNSS89-22	Ruddy duck	Breast muscle	68.0	6.04	<.01	<.01	—
26	SS89-112	Black-necked stilt	Egg	75.0	12.5	.02	.01	—
27	SS89-113	Black-necked stilt	Egg	73.0	12.4	.01	.01	—
28	SS89-114	Black-necked stilt	Egg	76.0	10.7	<.01	<.01	—
29	SS89-115	Black-necked stilt	Egg	75.0	13.6	<.01	<.01	—
30	SS89-116	Black-necked stilt	Egg	74.0	10.5	.03	.01	—
			Site B10 (S Drain Outlet)					
31	SS89-170	Bairdiella	Whole body	70.5	8.20	<0.01	<0.01	—
32	SS89-171	Bairdiella	Whole body	71.5	5.34	<.01	<.01	—
33	SS89-172	Bairdiella	Whole body	74.5	5.32	<.01	<.01	—
34	SS89-173	Bairdiella	Whole body	72.5	6.64	<.01	<.01	—
35	SS89-174	Bairdiella	Whole body	76.0	4.30	<.01	<.01	—
			Site B11 (Alamo River Delta)					
36	LNSS86-67	Northern shoveler	Breast muscle	71.7	3.44	<0.0099	—	<0.0099
37	LNSS88-73	Waterboatman	Composite	73.2	1.59	<.05	<0.05	—
38	LNSS88-62	Crayfish	Whole body	78.5	1.25	<.05	<.05	—
39	LNSS88-29	Northern shoveler	Breast muscle	74.0	3.08	<.01	<.01	—
40	LNSS88-74	Black-necked stilt	Carcass	77.2	5.02	<.05	<.05	—
41	LNSS88-75	Black-necked stilt	Carcass	79.7	5.98	<.05	<.05	—
42	LNSS88-76	Black-necked stilt	Carcass	82.0	3.51	<.05	<.05	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	gamma-Chlordane	trans-Chlordane	cis-Nona-chlor	trans-Nonachlor	Hepta-chlor	Heptachlor epoxide	Methyoxy-chlor	o,p'-DDE
				Site B1 (Salton Sea NWR--Unit 1)					
1	LNSS86-04	—	<0.0099	<0.0099	<0.0099	—	<0.0099	—	—
2	LNSS86-01B	—	<.010	<.010	<.010	—	<.010	—	—
3	LNSS86-05B	—	<.0099	<.0099	<.0099	—	<.0099	—	—
4	LNSS86-40	—	<.0099	<.0099	<.0099	—	<.0099	—	—
5	LNSS86-41B	—	<.010	<.010	<.010	—	<.010	—	—
6	LNSS86-23	—	<.0099	<.0099	<.0099	—	<.0099	—	—
7	LNSS86-25	—	<.010	<.010	<.010	—	<.010	—	—
8	LNSS86-27	—	<.010	<.010	<.010	—	<.010	—	—
9	LNSS87-20	—	—	—	—	—	—	—	—
10	LNSS87-10	—	<.01	<.01	<.01	<0.01	<.01	<0.01	0.01
11	LNSS87-12	—	<.01	<.01	<.01	<.01	<.01	<.01	.01
12	LNSS87-22	—	<.01	<.01	.05	<.01	.01	.03	<.01
13	LNSS88-41	<0.01	—	<.01	<.01	—	<.01	—	<.01
14	LNSS88-47	<.01	—	<.01	<.01	—	<.01	—	<.01
15	LNSS89-01	<.01	—	<.01	<.01	—	<.01	—	<.01
16	LNSS89-04	<.01	—	<.01	<.01	—	<.01	—	<.01
17	LNSS89-06	<.01	—	<.01	<.01	—	<.01	—	<.01
18	LNSS89-08	<.01	—	<.01	<.01	—	<.01	—	<.01
19	LNSS89-10	<.01	—	<.01	<.01	—	<.01	—	<.01
20	LNSS89-12	<.01	—	<.01	<.01	—	<.01	—	<.01
21	LNSS89-14	<.01	—	<.01	<.01	—	<.01	—	<.01
22	LNSS89-16	<.01	—	<.01	<.01	—	<.01	—	<.01
23	LNSS89-18	<.01	—	<.01	<.01	—	<.01	—	<.01
24	LNSS89-20	<.01	—	<.01	<.01	—	<.01	—	<.01
25	LNSS89-22	<.01	—	<.01	<.01	—	<.01	—	<.01
26	SS89-112	<.01	—	<.01	<.01	—	.01	—	<.01
27	SS89-113	<.01	—	<.01	<.01	—	<.01	—	<.01
28	SS89-114	<.01	—	<.01	<.01	—	<.01	—	<.01
29	SS89-115	<.01	—	<.01	<.01	—	<.01	—	<.01
30	SS89-116	<.01	—	<.01	.01	—	.01	—	<.01
				Site B10 (S Drain Outlet)					
31	SS89-170	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
32	SS89-171	<.01	—	<.01	<.01	—	<.01	—	<.01
33	SS89-172	<.01	—	<.01	<.01	—	<.01	—	<.01
34	SS89-173	<.01	—	<.01	<.01	—	<.01	—	<.01
35	SS89-174	<.01	—	<.01	<.01	—	<.01	—	<.01
				Site B11 (Alamo River Delta)					
36	LNSS86-67	—	<0.0099	<0.0099	<0.0099	—	<0.0099	—	—
37	LNSS88-73	<0.05	—	<.05	<.05	<0.05	<.05	—	<0.05
38	LNSS88-62	<.05	—	<.05	<.05	<.05	<.05	—	<.05
39	LNSS88-29	<.01	—	<.01	<.01	—	<.01	—	<.01
40	LNSS88-74	<.05	—	<.05	<.05	<.05	<.05	—	<.05
41	LNSS88-75	<.05	—	<.05	<.05	<.05	<.05	—	<.05
42	LNSS88-76	<.05	—	<.05	<.05	<.05	<.05	—	<.05

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	p,p'-DDE	o,p'-DDD	p,p'-DDD	o,p'-DDT	p,p'-DDT	Total DDT	Endrin	Dieldrin	Aldrin
				Site B1 (Salton Sea NWR--Unit 1)						
1	LNSS86-04	0.18	—	<0.0099	—	<0.0099	0.180	<0.0099	<0.0099	—
2	LNSS86-01B	.35	—	<.010	—	<.010	.350	<.010	<.010	—
3	LNSS86-05B	.20	—	<.0099	—	<.0099	.200	<.0099	<.0099	—
4	LNSS86-40	.37	—	0.36	—	<.0099	.406	<.0099	<.0099	—
5	LNSS86-41B	.087	—	<.010	—	<.010	.087	<.010	<.010	—
6	LNSS86-23	.24	—	<.0099	—	<.0099	.240	<.0099	<.0099	—
7	LNSS86-25	.096	—	<.010	—	<.010	.096	<.010	<.010	—
8	LNSS86-27	4.8	—	<.010	—	.062	4.862	<.010	.038	—
9	LNSS87-20	—	—	—	—	—	—	—	—	—
10	LNSS87-10	.19	<0.01	<.01	<0.01	<.01	.200	<.01	<.01	0.01
11	LNSS87-12	.19	<.01	<.01	<.01	<.01	.200	<.01	<.01	<.01
12	LNSS87-22	13	<.01	.02	.03	.01	13.060	<.01	.11	<.01
13	LNSS88-41	.56	<.01	<.01	<.01	<.01	.560	<.01	.01	—
14	LNSS88-47	1.5	<.01	.03	<.01	.02	1.550	<.01	.02	—
15	LNSS89-01	.26	<.01	<.01	<.01	<.01	.260	<.01	<.01	—
16	LNSS89-04	.19	<.01	<.01	<.01	<.01	.190	<.01	<.01	—
17	LNSS89-06	1.0	<.01	<.01	<.01	<.01	1.000	<.01	<.01	—
18	LNSS89-08	.36	<.01	<.01	<.01	<.01	.360	<.01	<.01	—
19	LNSS89-10	.24	<.01	<.01	<.01	<.01	.240	<.01	<.01	—
20	LNSS89-12	.51	<.01	<.01	<.01	<.01	.510	<.01	<.01	—
21	LNSS89-14	.28	<.01	<.01	<.01	<.01	.280	<.01	<.01	—
22	LNSS89-16	.46	<.01	.02	<.01	.02	.500	<.01	.01	—
23	LNSS89-18	.37	<.01	<.01	<.01	<.01	.370	<.01	<.01	—
24	LNSS89-20	.16	<.01	<.01	<.01	<.01	.160	<.01	<.01	—
25	LNSS89-22	.17	<.01	<.01	<.01	<.01	.170	<.01	<.01	—
26	SS89-112	2.0	<.01	<.01	<.01	.07	2.070	<.01	.01	—
27	SS89-113	2.1	<.01	<.01	<.01	.03	2.130	<.01	.02	—
28	SS89-114	.64	<.01	<.01	<.01	<.01	.640	<.01	.01	—
29	SS89-115	.86	<.01	<.01	<.01	<.01	.860	<.01	.02	—
30	SS89-116	1.6	<.01	<.01	<.01	.05	1.650	<.01	.03	—
				Site B10 (S Drain Outlet)						
31	SS89-170	0.09	<0.01	<0.01	<0.01	<0.01	0.090	<0.01	<0.01	—
32	SS89-171	.08	<.01	<.01	<.01	<.01	.080	<.01	<.01	—
33	SS89-172	.12	<.01	<.01	<.01	<.01	.120	<.01	<.01	—
34	SS89-173	.12	<.01	<.01	<.01	<.01	.120	<.01	<.01	—
35	SS89-174	.10	<.01	<.01	<.01	<.01	.100	<.01	<.01	—
				Site B11 (Alamo River Delta)						
36	LNSS86-67	0.63	—	0.021	—	<0.0099	0.840	<0.0099	0.012	—
37	LNSS88-73	.07	<0.05	<.05	<0.05	<.05	.07	<.05	<.05	<0.05
38	LNSS88-62	.10	<.05	<.05	<.05	<.05	1.09	<.05	<.05	<.05
39	LNSS88-29	.89	<.01	.01	<.01	.01	.910	<.01	.02	—
40	LNSS88-74	.39	<.05	<.05	<.05	<.05	<.39	<.05	.05	<.05
41	LNSS88-75	1.0	<.05	<.05	<.05	<.05	9.97	<.05	.07	<.05
42	LNSS88-76	1.42	<.05	<.05	<.05	<.05	1.42	<.05	<.05	<.05

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Lindane	Hexachlorobenzene	Endosulfan I	Endosulfan II	Endosulfan sulfate	Mirex	DCPA	Dicofol
						Site B1 (Salton Sea NWR--Unit 1)							
1	LNSS86-04	—	—	—	—	—	—	—	—	—	—	—	—
2	LNSS86-01B	—	—	—	—	—	—	—	—	—	—	—	—
3	LNSS86-05B	—	—	—	—	—	—	—	—	—	—	—	—
4	LNSS86-40	—	—	—	—	—	—	—	—	—	—	—	—
5	LNSS86-41B	—	—	—	—	—	—	—	—	—	—	—	—
6	LNSS86-23	—	—	—	—	—	—	—	—	—	—	—	—
7	LNSS86-25	—	—	—	—	—	—	—	—	—	—	—	—
8	LNSS86-27	—	—	—	—	—	—	—	—	—	—	—	—
9	LNSS87-20	—	—	—	—	—	—	—	—	—	—	—	—
10	LNSS87-10	<0.01	<0.01	<0.01	<0.01	—	<0.01	<0.01	<0.01	<0.01	<0.01	0.24	<0.01
11	LNSS87-12	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	<.01	<.01	.32	<.01
12	LNSS87-22	<.01	<.01	<.01	<.01	—	.02	.01	.02	<.01	<.01	<.01	<.01
13	LNSS88-41	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
14	LNSS88-47	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
15	LNSS89-01	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
16	LNSS89-04	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
17	LNSS89-06	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
18	LNSS89-08	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
19	LNSS89-10	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
20	LNSS89-12	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
21	LNSS89-14	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
22	LNSS89-16	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
23	LNSS89-18	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
24	LNSS89-20	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
25	LNSS89-22	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
26	SS89-112	<.01	.09	<.01	<.01	—	.01	—	—	—	<.01	—	—
27	SS89-113	<.01	.04	<.01	<.01	—	.01	—	—	—	<.01	—	—
28	SS89-114	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
29	SS89-115	<.01	.05	<.01	<.01	—	<.01	—	—	—	<.01	—	—
30	SS89-116	<.01	.16	<.01	<.01	—	.01	—	—	—	<.01	—	—
						Site B10 (S Drain Outlet)							
31	SS89-170	<0.01	<0.01	<0.01	<0.01	—	<0.01	<0.01	<0.01	—	<0.01	—	—
32	SS89-171	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
33	SS89-172	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
34	SS89-173	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
35	SS89-174	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
						Site B11 (Alamo River Delta)							
36	LNSS86-67	—	—	—	—	—	—	—	—	—	—	—	—
37	LNSS88-73	<0.05	<0.05	<0.05	—	<0.05	<0.05	—	—	—	<0.05	—	—
38	LNSS88-62	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
39	LNSS88-29	<.01	<.01	<.01	<0.01	—	<.01	—	—	—	<.01	—	—
40	LNSS88-74	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
41	LNSS88-75	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
42	LNSS88-76	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Tetra-difon	BI PH CL-2	BI PH CL-3	BI PH CL-4	BI PH CL-5	BI PH CL-6	BI PH CL-7	BI PH CL-8	BI PH CL-9	PCB 1016	PCB 1221	PCB 1232	PCB 1242
						Site B1 (Salton Sea NWR--Unit 1)								
1	LNSS86-04	—	—	—	—	—	—	—	—	—	—	—	—	—
2	LNSS86-01B	—	—	—	—	—	—	—	—	—	—	—	—	—
3	LNSS86-05B	—	—	—	—	—	—	—	—	—	—	—	—	—
4	LNSS86-40	—	—	—	—	—	—	—	—	—	—	—	—	—
5	LNSS86-41B	—	—	—	—	—	—	—	—	—	—	—	—	—
6	LNSS86-23	—	—	—	—	—	—	—	—	—	—	—	—	—
7	LNSS86-25	—	—	—	—	—	—	—	—	—	—	—	—	—
8	LNSS86-27	—	—	—	—	—	—	—	—	—	—	—	—	—
9	LNSS87-20	—	—	—	—	—	—	—	—	—	—	—	—	—
10	LNSS87-10	<0.01	—	—	—	—	—	—	—	—	<0.05	<0.50	<0.05	<0.05
11	LNSS87-12	<.01	—	—	—	—	—	—	—	—	<.05	<.50	<.05	<.05
12	LNSS87-22	<.01	—	—	—	—	—	—	—	—	<.05	<.50	<.05	<.05
13	LNSS88-41	—	—	—	—	—	—	—	—	—	—	—	—	—
14	LNSS88-47	—	—	—	—	—	—	—	—	—	—	—	—	—
15	LNSS89-01	—	—	—	—	—	—	—	—	—	—	—	—	—
16	LNSS89-04	—	—	—	—	—	—	—	—	—	—	—	—	—
17	LNSS89-06	—	—	—	—	—	—	—	—	—	—	—	—	—
18	LNSS89-08	—	—	—	—	—	—	—	—	—	—	—	—	—
19	LNSS89-10	—	—	—	—	—	—	—	—	—	—	—	—	—
20	LNSS89-12	—	—	—	—	—	—	—	—	—	—	—	—	—
21	LNSS89-14	—	—	—	—	—	—	—	—	—	—	—	—	—
22	LNSS89-16	—	—	—	—	—	—	—	—	—	—	—	—	—
23	LNSS89-18	—	—	—	—	—	—	—	—	—	—	—	—	—
24	LNSS89-20	—	—	—	—	—	—	—	—	—	—	—	—	—
25	LNSS89-22	—	—	—	—	—	—	—	—	—	—	—	—	—
26	SS89-112	—	—	—	—	—	—	—	—	—	—	—	—	—
27	SS89-113	—	—	—	—	—	—	—	—	—	—	—	—	—
28	SS89-114	—	—	—	—	—	—	—	—	—	—	—	—	—
29	SS89-115	—	—	—	—	—	—	—	—	—	—	—	—	—
30	SS89-116	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B10 (S Drain Outlet)								
31	SS89-170	—	—	—	—	—	—	—	—	—	—	—	—	—
32	SS89-171	—	—	—	—	—	—	—	—	—	—	—	—	—
33	SS89-172	—	—	—	—	—	—	—	—	—	—	—	—	—
34	SS89-173	—	—	—	—	—	—	—	—	—	—	—	—	—
35	SS89-174	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B11 (Alamo River Delta)								
36	LNSS86-67	—	—	—	—	—	—	—	—	—	—	—	—	—
37	LNSS88-73	—	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	—	—	—	—
38	LNSS88-62	—	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
39	LNSS88-29	—	—	—	—	—	—	—	—	—	—	—	—	—
40	LNSS88-74	—	<.05	<.05	.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
41	LNSS88-75	—	<.05	<.05	<.05	.09	.12	<.05	<.05	<.05	—	—	—	—
42	LNSS88-76	—	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene
			Site B1 (Salton Sea NWR--Unit 1)			
1	LNSS86-04	—	<0.099	<0.099	—	<0.50
2	LNSS86-01B	—	<.10	<.10	—	<.50
3	LNSS86-05B	—	<.099	<.099	—	<.49
4	LNSS86-40	—	<.099	<.099	—	<.50
5	LNSS86-41B	—	<.10	<.10	—	<.50
6	LNSS86-23	—	<.099	<.099	—	<.50
7	LNSS86-25	—	<.10	<.10	—	<.50
8	LNSS86-27	—	<.10	<.10	—	<.50
9	LNSS87-20	—	—	—	—	—
10	LNSS87-10	<0.05	<.05	<.05	–	<.50
11	LNSS87-12	<.05	<.05	<.05	—	<.50
12	LNSS87-22	<.05	<.05	<.05	—	<.50
13	LNSS88-41	—	—	—	<0.05	<.05
14	LNSS88-47	—	—	—	<.05	<.05
15	LNSS89-01	—	—	—	<.05	<.05
16	LNSS89-04	—	—	—	<.05	<.05
17	LNSS89-06	—	—	—	<.05	<.05
18	LNSS89-08	—	—	—	<.05	<.05
19	LNSS89-10	—	—	—	<.05	<.05
20	LNSS89-12	—	—	—	<.05	<.05
21	LNSS89-14	—	—	—	<.05	<.05
22	LNSS89-16	—	—	—	<.05	<.05
23	LNSS89-18	—	—	—	<.05	<.05
24	LNSS89-20	—	—	—	<.05	<.05
25	LNSS89-22	—	—	—	<.05	<.05
26	SS89-112	—	—	—	<.05	<.05
27	SS89-113	—	—	—	<.05	<.05
28	SS89-114	—	—	—	<.05	<.05
29	SS89-115	—	—	—	<.05	<.05
30	SS89-116	—	—	—	<.05	<.05
			Site B10 (S Drain Outlet)			
31	SS89-170	—	—	—	<0.05	<0.05
32	SS89-171	—	—	—	<.05	<.05
33	SS89-172	—	—	—	<.05	<.05
34	SS89-173	—	—	—	<.05	<.05
35	SS89-174	—	—	—	<.05	<.05
			Site B11 (Alamo River Delta)			
36	LNSS86-67	—	<0.099	<0.099	—	<0.50
37	LNSS88-73	—	—	—	—	<.50
38	LNSS88-62	—	—	—	—	<.50
39	LNSS88-29	—	—	—	<0.05	<.05
40	LNSS88-74	—	—	—	—	<.50
41	LNSS88-75	—	—	—	—	<.50
42	LNSS88-76	—	—	—	—	<.50

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Percent lipid	Oxychlor-dane	alpha-Chlordane	cis-Chlordane
			Site B11 (Alamo River Delta)--Continued					
43	LNSS88-77	Black-necked stilt	Carcass	79.0	3.74	<0.05	<0.05	---
44	LNSS88-78	Black-necked stilt	Carcass	80.6	4.25	<.05	<.05	---
45	SS89-128	Black-necked stilt	Carcass	66.4	16.4	.05	<.01	---
46	SS89-129	Black-necked stilt	Carcass	66.2	15.4	.02	<.01	---
47	SS89-130	Black-necked stilt	Carcass	63.7	12.6	.02	<.01	---
48	SS89-131	Black-necked stilt	Carcass	67.7	13.1	.02	<.01	---
49	SS89-132	Black-necked stilt	Carcass	63.8	11.9	<.01	<.01	---
			Site B13 (Obsidian Butte)					
50	SS89-142	Eared grebe	Breast muscle	72.0	3.46	<0.01	<0.01	---
51	SS89-144	Eared grebe	Breast muscle	70.0	6.20	<.01	<.01	---
52	SS89-146	Eared grebe	Breast muscle	74.0	3.00	<.01	<.01	---
			Site B15 (New River Delta)					
53	LNSS86-52B	Tilapia	Whole body	72.1	1.24	<0.0099	---	<0.0099
54	LNSS86-58	Ruddy duck	Breast muscle	70.2	3.59	<.010	---	<.010
55	LNSS86-56	American coot	Breast muscle	72.0	4.00	<.010	---	<.010
56	LNSS86-54	Black-necked stilt	Breast muscle	70.0	5.61	<.0099	---	<.0099
57	LNSS88-92	Waterboatman	Composite	74.6	3.19	<.05	<0.05	---
58	LNSS88-86	Asiatic river clam	Soft tissue	80.0	1.53	<.05	<.05	---
59	LNSS88-65	Crayfish	Whole body	80.1	1.09	<.05	<.05	---
60	LNSS88-67	Mosquitofish	Whole body	78.2	2.60	<.05	<.05	---
61	LNSS88-79	Black-necked stilt	Carcass	74.0	3.66	<.05	<.05	---
62	LNSS88-80	Black-necked stilt	Carcass	74.4	11.12	<.05	<.05	---
63	LNSS88-81	Black-necked stilt	Carcass	79.9	7.41	<.05	<.05	---
64	LNSS88-82	Black-necked stilt	Carcass	83.6	3.38	<.05	<.05	---
65	LNSS88-83	Black-necked stilt	Carcass	86.2	2.10	<.05	<.05	---
66	SS89-76	Waterboatman	Composite	83.0	1.3	<.01	<.01	---
67	SS89-148	Eared grebe	Breast muscle	74.0	2.45	<.01	<.01	---
68	SS89-150	Eared grebe	Breast muscle	75.0	6.08	<.01	<.01	---
69	SS89-133	Black-necked stilt	Carcass	68.4	11.3	<.01	<.01	---
70	SS89-134	Black-necked stilt	Carcass	66.2	14.1	<.01	<.01	---
71	SS89-135	Black-necked stilt	Carcass	66.6	16.9	<.01	<.01	---
72	SS89-136	Black-necked stilt	Carcass	65.5	20.2	.05	<.01	---
73	SS89-137	Black-necked stilt	Carcass	64.2	22.7	.03	<.01	---
74	SS89-93	Black-necked stilt	Egg	73.0	14.0	.06	.05	---
75	SS89-94	Black-necked stilt	Egg	74.0	12.7	<.01	.01	---
76	SS89-95	Black-necked stilt	Egg	72.0	11.2	<.01	<.01	---
77	SS89-96	Black-necked stilt	Egg	76.0	11.3	.03	.02	---
78	SS89-97	Black-necked stilt	Egg	76.0	12.0	<.01	<.01	---
79	SS89-98	Black-necked stilt	Egg	63.0	14.8	.04	.02	---
80	SS89-99	Black-necked stilt	Egg	76.0	14.7	.02	.02	---
81	SS89-100	Black-necked stilt	Egg	76.0	10.8	.01	.01	---
82	SS89-101	Black-necked stilt	Egg	76.0	9.05	<.01	<.01	---
83	SS89-102	Black-necked stilt	Egg	71.0	14.0	<.01	.01	---
			Site B16 (Whitewater River Delta)					
84	LNSS86-68B	Asiatic river clam	Soft tissue	91.3	0.20	<0.0099	---	<0.0099
85	LNSS86-51	Sailfin molly	Whole body	75.5	2.11	<.010	---	<.010
86	LNSS86-48B	Tilapia	Whole body	75.8	1.32	<.0099	---	<.0099
87	LNSS86-49B	Tilapia	Whole body	73.5	1.53	<.0099	---	<.0099

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	gamma-Chlordane	trans-Chlordane	cis-Nona-chlor	trans-Nonachlor	Hepta-chlor	Heptachlor epoxide	Methyoxy-chlor	o,p'-DDE
				Site B11 (Alamo River Delta)--Continued					
43	LNSS88-77	<0.05	—	<0.05	<0.05	<0.05	<0.05	—	<0.05
44	LNSS88-78	<.05	—	<.05	<.05	<.05	<.05	—	<.05
45	SS89-128	<.01	—	<.01	<.01	—	<.01	—	<.01
46	SS89-129	<.01	—	<.01	<.01	—	<.01	—	<.01
47	SS89-130	<.01	—	<.01	<.01	—	<.01	—	<.01
48	SS89-131	<.01	—	<.01	<.01	—	.01	—	<.01
49	SS89-132	<.01	—	<.01	<.01	—	<.01	—	<.01
				Site B13 (Obsidian Butte)					
50	SS89-142	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
51	SS89-144	<.01	—	<.01	<.01	—	<.01	—	<.01
52	SS89-146	<.01	—	<.01	<.01	—	<.01	—	<.01
				Site B15 (New River Delta)					
53	LNSS86-52B	—	<0.0099	<0.0099	<0.0099	—	<0.0099	—	—
54	LNSS86-58	—	<.010	<.010	<.010	—	<.010	—	—
55	LNSS86-56	—	<.010	<.010	<.010	—	<.010	—	—
56	LNSS86-54	—	<.0099	<.0099	<.0099	—	<.0099	—	—
57	LNSS88-92	<0.05	—	<.05	<.05	<0.05	<.05	—	<0.05
58	LNSS88-86	<.05	—	<.05	<.05	<.05	<.05	—	<.05
59	LNSS88-65	<.05	—	<.05	<.05	<.05	<.05	—	<.05
60	LNSS88-67	<.05	—	<.05	<.05	<.05	<.05	—	<.05
61	LNSS88-79	<.05	—	<.05	<.05	<.05	<.05	—	<.05
62	LNSS88-80	<.05	—	<.05	<.05	<.05	<.05	—	<.05
63	LNSS88-81	<.05	—	<.05	<.05	<.05	<.05	—	<.05
64	LNSS88-82	<.05	—	<.05	<.05	<.05	<.05	—	<.05
65	LNSS88-83	<.05	—	<.05	<.05	<.05	<.05	—	<.05
66	SS89-76	<.01	—	<.01	<.01	—	<.01	—	<.01
67	SS89-148	<.01	—	<.01	<.01	—	<.01	—	<.01
68	SS89-150	<.01	—	<.01	<.01	—	<.01	—	<.01
69	SS89-133	<.01	—	<.01	<.01	—	<.01	—	<.01
70	SS89-134	<.01	—	<.01	<.01	—	<.01	—	<.01
71	SS89-135	<.01	—	<.01	<.01	—	<.01	—	<.01
72	SS89-136	<.01	—	<.01	<.01	—	<.01	—	<.01
73	SS89-137	<.01	—	<.01	<.01	—	<.01	—	<.01
74	SS89-93	<.01	—	<.01	.03	—	.03	—	<.01
75	SS89-94	<.01	—	<.01	<.01	—	<.01	—	<.01
76	SS89-95	<.01	—	<.01	<.01	—	<.01	—	<.01
77	SS89-96	<.01	—	<.01	.01	—	.02	—	<.01
78	SS89-97	<.01	—	<.01	<.01	—	<.01	—	<.01
79	SS89-98	<.01	—	<.01	<.01	—	.01	—	<.01
80	SS89-99	<.01	—	<.01	<.01	—	<.01	—	<.01
81	SS89-100	<.01	—	<.01	<.01	—	<.01	—	<.01
82	SS89-101	<.01	—	<.01	<.01	—	.03	—	<.01
83	SS89-102	<.01	—	<.01	<.01	—	<.01	—	<.01
				Site B16 (Whitewater River Delta)					
84	LNSS86-68B	—	<0.0099	<0.0099	<0.0099	—	<0.0099	—	—
85	LNSS86-51	—	<.010	<.010	<.010	—	<.010	—	—
86	LNSS86-48B	—	<.0099	<.0099	<.0099	—	<.0099	—	—
87	LNSS86-49B	—	<.0099	<.0099	<.0099	—	<.0099	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	p,p'-DDE	o,p'-DDD	p,p'-DDD	o,p'-DDT	p,p'-DDT	Total DDT	Endrin	Dieldrin	Aldrin
				Site B11 (Alamo River Delta)--Continued						
43	LNSS88-77	0.74	<0.05	<0.05	<0.05	<0.05	0.74	<0.05	<0.05	<0.05
44	LNSS88-78	.53	<.05	<.05	<.05	<.05	.53	<.05	<.05	<.05
45	SS89-128	1.9	<.01	<.01	<.01	<.01	1.900	<.01	<.01	—
46	SS89-129	3.1	<.01	<.01	<.01	<.01	3.100	<.01	.02	—
47	SS89-130	4.0	<.01	<.01	<.01	<.01	4.000	<.01	.06	—
48	SS89-131	2.4	<.01	<.01	<.01	<.01	2.400	<.01	.14	—
49	SS89-132	2.6	<.01	<.01	<.01	<.01	2.600	<.01	.10	—
				Site B13 (Obsidian Butte)						
50	SS89-142	0.61	<0.01	<0.01	<0.01	<0.01	0.610	<0.01	<0.01	—
51	SS89-144	1.1	<.01	<.01	<.01	<.01	1.100	<.01	<.01	—
52	SS89-146	.27	<.01	<.01	<.01	<.01	.270	<.01	<.01	—
				Site B15 (New River Delta)						
53	LNSS86-52B	0.23	—	0.082	—	0.029	0.341	<0.0099	<0.0099	—
54	LNSS86-58	.13	—	<.010	—	<.010	.130	<.010	<.010	—
55	LNSS86-56	.090	—	<.010	—	<.010	.090	<.010	<.010	—
56	LNSS86-54	.90	—	<.0099	—	<.0099	.900	<.0099	.33	—
57	LNSS88-92	.07	<0.05	<.05	<0.05	<.05	.07	<.05	<.05	<0.05
58	LNSS88-86	.47	<.05	<.05	<.05	.05	.47	<.05	<.05	<.05
59	LNSS88-65	.68	<.05	<.05	<.05	<.05	.68	<.05	<.05	<.05
60	LNSS88-67	.60	<.05	<.05	<.05	<.05	.60	<.05	<.05	<.05
61	LNSS88-79	.82	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05
62	LNSS88-80	1.67	<.05	<.05	<.05	<.05	12.11	<.05	.05	<.05
63	LNSS88-81	.78	<.05	<.05	<.05	<.05	.78	<.05	<.05	<.05
64	LNSS88-82	.85	<.05	<.05	<.05	<.05	.85	<.05	<.05	<.05
65	LNSS88-83	.80	<.05	<.05	<.05	<.05	.8	<.05	<.05	<.05
66	SS89-76	.07	<.01	<.01	<.01	<.01	.070	<.01	<.01	—
67	SS89-148	.18	<.01	<.01	<.01	<.01	.180	<.01	<.01	—
68	SS89-150	.18	<.01	<.01	<.01	<.01	.180	<.01	<.01	—
69	SS89-133	1.5	<.01	<.01	<.01	<.01	1.500	<.01	.06	—
70	SS89-134	.05	<.01	<.01	<.01	<.01	.050	<.01	.06	—
71	SS89-135	1.7	<.01	<.01	<.01	<.01	1.700	<.01	.02	—
72	SS89-136	2.3	<.01	<.01	<.01	<.01	2.300	<.01	.06	—
73	SS89-137	2.0	<.01	<.01	<.01	<.01	2.000	<.01	.09	—
74	SS89-93	4.1	<.01	<.01	<.01	<.01	4.100	<.01	.15	—
75	SS89-94	.64	<.01	<.01	<.01	.02	.660	<.01	<.01	—
76	SS89-95	1.7	<.01	<.01	<.01	<.01	1.700	<.01	.02	—
77	SS89-96	1.9	<.01	<.01	<.01	.03	1.930	<.01	.04	—
78	SS89-97	.46	<.01	<.01	<.01	<.01	.460	<.01	.01	—
79	SS89-98	2.7	<.01	<.01	<.01	.03	2.730	<.01	.05	—
80	SS89-99	2.3	<.01	<.01	<.01	.03	2.330	<.01	.03	—
81	SS89-100	4.0	<.01	.04	<.01	.31	4.350	<.01	.01	—
82	SS89-101	1.1	<.01	<.01	<.01	.01	1.110	<.01	<.01	—
83	SS89-102	.82	<.01	<.01	<.01	.02	.840	<.01	.01	—
				Site B16 (Whitewater River Delta)						
84	LNSS86-68B	0.35	—	<0.0099	—	<0.0099	0.350	<0.0099	<0.0099	—
85	LNSS86-51	.26	—	.028	—	<.010	.288	<.010	<.010	—
86	LNSS86-48B	.35	—	.035	—	<.0099	.385	<.0099	<.0099	—
87	LNSS86-49B	.28	—	<.0099	—	<.0099	.280	<.0099	<.0099	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Lindane	Hexachlorobenzene	Endosulfan I	Endosulfan II	Endosulfan sulfate	Mirex	DCPA	Dicofol
						Site B11 (Alamo River Delta)--Continued							
43	LNSS88-77	<0.05	<0.05	<0.05	—	<0.05	<0.05	—	—	—	<0.05	—	—
44	LNSS88-78	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
45	SS89-128	<.01	.02	<.01	<0.01	—	<.01	<0.01	<0.01	—	<.01	—	—
46	SS89-129	<.01	.02	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
47	SS89-130	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
48	SS89-131	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
49	SS89-132	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
						Site B13 (Obsidian Butte)							
50	SS89-142	<0.01	<0.01	<0.01	<0.01	—	<0.01	<0.01	<0.01	—	<0.01	—	—
51	SS89-144	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
52	SS89-146	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
						Site B15 (New River Delta)							
53	LNSS86-52B	—	—	—	—	—	—	—	—	—	—	—	—
54	LNSS86-58	—	—	—	—	—	—	—	—	—	—	—	—
55	LNSS86-56	—	—	—	—	—	—	—	—	—	—	—	—
56	LNSS86-54	—	—	—	—	—	—	—	—	—	—	—	—
57	LNSS88-92	<0.05	<0.05	<0.05	—	<0.05	<0.05	—	—	—	<0.05	—	—
58	LNSS88-86	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
59	LNSS88-65	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
60	LNSS88-67	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
61	LNSS88-79	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
62	LNSS88-80	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
63	LNSS88-81	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
64	LNSS88-82	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
65	LNSS88-83	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
66	SS89-76	<.01	—	<.01	<0.01	<.01	<.01	—	—	—	<.01	—	—
67	SS89-148	<.01	<.01	<.01	<.01	—	<.01	<0.01	<0.01	—	<.01	—	—
68	SS89-150	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
69	SS89-133	<.01	<.01	<.01	<.01	—	.02	<.01	<.01	—	<.01	—	—
70	SS89-134	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
71	SS89-135	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
72	SS89-136	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
73	SS89-137	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
74	SS89-93	<.01	<.01	<.01	<.01	—	.05	—	—	—	<.01	—	—
75	SS89-94	<.01	.01	<.01	<.01	—	.02	—	—	—	<.01	—	—
76	SS89-95	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
77	SS89-96	<.01	.04	<.01	<.01	—	.01	—	—	—	<.01	—	—
78	SS89-97	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
79	SS89-98	<.01	.02	<.01	<.01	—	.03	—	—	—	<.01	—	—
80	SS89-99	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
81	SS89-100	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
82	SS89-101	<.01	.05	<.01	<.01	—	<.01	—	—	—	<.01	—	—
83	SS89-102	<.01	.06	<.01	<.01	—	.02	—	—	—	<.01	—	—
						Site B16 (Whitewater River Delta)							
84	LNSS86-68B	—	—	—	—	—	—	—	—	—	—	—	—
85	LNSS86-51	—	—	—	—	—	—	—	—	—	—	—	—
86	LNSS86-48B	—	—	—	—	—	—	—	—	—	—	—	—
87	LNSS86-49B	—	—	—	—	—	—	—	—	—	—	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Tetra-difon	BI PH CL-2	BI PH CL-3	BI PH CL-4	BI PH CL-5	BI PH CL-6	BI PH CL-7	BI PH CL-8	BI PH CL-9	PCB 1016	PCB 1221	PCB 1232	PCB 1242
						Site B11 (Alamo River Delta)--Continued								
43	LNSS88-77	—	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	—	—	—	—
44	LNSS88-78	—	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
45	SS89-128	—	—	—	—	—	—	—	—	—	—	—	—	—
46	SS89-129	—	—	—	—	—	—	—	—	—	—	—	—	—
47	SS89-130	—	—	—	—	—	—	—	—	—	—	—	—	—
48	SS89-131	—	—	—	—	—	—	—	—	—	—	—	—	—
49	SS89-132	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B13 (Obsidian Butte)								
50	SS89-142	—	—	—	—	—	—	—	—	—	—	—	—	—
51	SS89-144	—	—	—	—	—	—	—	—	—	—	—	—	—
52	SS89-146	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B15 (New River Delta)								
53	LNSS86-52B	—	—	—	—	—	—	—	—	—	—	—	—	—
54	LNSS86-58	—	—	—	—	—	—	—	—	—	—	—	—	—
55	LNSS86-56	—	—	—	—	—	—	—	—	—	—	—	—	—
56	LNSS86-54	—	—	—	—	—	—	—	—	—	—	—	—	—
57	LNSS88-92	—	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<.05	—	—	—	—
58	LNSS88-86	—	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
59	LNSS88-65	—	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
60	LNSS88-67	—	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
61	LNSS88-79	—	<.05	<.05	<.05	<.05	.05	<.05	<.05	<.05	—	—	—	—
62	LNSS88-80	—	<.05	<.05	.06	<.05	<.05	<.05	<.05	<.05	—	—	—	—
63	LNSS88-81	—	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
64	LNSS88-82	—	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
65	LNSS88-83	—	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
66	SS89-76	—	—	—	—	—	—	—	—	—	—	—	—	—
67	SS89-148	—	—	—	—	—	—	—	—	—	—	—	—	—
68	SS89-150	—	—	—	—	—	—	—	—	—	—	—	—	—
69	SS89-133	—	—	—	—	—	—	—	—	—	—	—	—	—
70	SS89-134	—	—	—	—	—	—	—	—	—	—	—	—	—
71	SS89-135	—	—	—	—	—	—	—	—	—	—	—	—	—
72	SS89-136	—	—	—	—	—	—	—	—	—	—	—	—	—
73	SS89-137	—	—	—	—	—	—	—	—	—	—	—	—	—
74	SS89-93	—	—	—	—	—	—	—	—	—	—	—	—	—
75	SS89-94	—	—	—	—	—	—	—	—	—	—	—	—	—
76	SS89-95	—	—	—	—	—	—	—	—	—	—	—	—	—
77	SS89-96	—	—	—	—	—	—	—	—	—	—	—	—	—
78	SS89-97	—	—	—	—	—	—	—	—	—	—	—	—	—
79	SS89-98	—	—	—	—	—	—	—	—	—	—	—	—	—
80	SS89-99	—	—	—	—	—	—	—	—	—	—	—	—	—
81	SS89-100	—	—	—	—	—	—	—	—	—	—	—	—	—
82	SS89-101	—	—	—	—	—	—	—	—	—	—	—	—	—
83	SS89-102	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B16 (Whitewater River Delta)								
84	LNSS86-68B	—	—	—	—	—	—	—	—	—	—	—	—	—
85	LNSS86-51	—	—	—	—	—	—	—	—	—	—	—	—	—
86	LNSS86-48B	—	—	—	—	—	—	—	—	—	—	—	—	—
87	LNSS86-49B	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene
			Site B11 (Alamo River Delta)--Continued			
43	LNSS88-77	—	—	—	—	<0.50
44	LNSS88-78	—	—	—	—	<.50
45	SS89-128	—	—	—	<0.05	<.05
46	SS89-129	—	—	—	<.05	<.05
47	SS89-130	—	—	—	<.05	<.05
48	SS89-131	—	—	—	<.05	<.05
49	SS89-132	—	—	—	<.05	<.05
			Site B13 (Obsidian Butte)			
50	SS89-142	—	—	—	<0.05	<0.05
51	SS89-144	—	—	—	<.05	<.05
52	SS89-146	—	—	—	<.05	<.05
			Site B15 (New River Delta)			
53	LNSS86-52B	—	<0.099	0.20	—	<0.49
54	LNSS86-58	—	<.10	<.10	—	<.50
55	LNSS86-56	—	<.10	.17	—	<.50
56	LNSS86-54	—	<.099	<.099	—	<.50
57	LNSS88-92	—	—	—	—	<.50
58	LNSS88-86	—	—	—	—	<.50
59	LNSS88-65	—	—	—	—	<.50
60	LNSS88-67	—	—	—	—	<.50
61	LNSS88-79	—	—	—	—	<.50
62	LNSS88-80	—	—	—	—	<.50
63	LNSS88-81	—	—	—	—	<.50
64	LNSS88-82	—	—	—	—	<.50
65	LNSS88-83	—	—	—	—	<.50
66	SS89-76	—	—	—	<0.05	<.05
67	SS89-148	—	—	—	<.05	<.05
68	SS89-150	—	—	—	<.05	<.05
69	SS89-133	—	—	—	<.05	<.05
70	SS89-134	—	—	—	<.05	<.05
71	SS89-135	—	—	—	<.05	<.05
72	SS89-136	—	—	—	<.05	<.05
73	SS89-137	—	—	—	<.05	<.05
74	SS89-93	—	—	—	<.05	<.05
75	SS89-94	—	—	—	<.05	<.05
76	SS89-95	—	—	—	<.05	<.05
77	SS89-96	—	—	—	<.05	<.05
78	SS89-97	—	—	—	<.05	<.05
79	SS89-98	—	—	—	<.05	<.05
80	SS89-99	—	—	—	<.05	<.05
81	SS89-100	—	—	—	<.05	<.05
82	SS89-101	—	—	—	<.05	<.05
83	SS89-102	—	—	—	<.05	<.05
			Site B16 (Whitewater River Delta)			
84	LNSS86-68B	—	<0.099	<0.099	—	<0.50
85	LNSS86-51	—	<.10	<.10	—	<.50
86	LNSS86-48B	—	<.099	<.099	—	<.50
87	LNSS86-49B	—	<.099	.18	—	<.49

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Percent lipid	Oxychlor-dane	alpha-Chlordane	cis-Chlordane
			Site B16 (Whitewater River Delta)--Continued					
88	LNSS86-43	Northern shoveler	Breast muscle	70.0	4.69	<0.010	—	<0.010
89	LNSS86-47	American coot	Breast muscle	71.5	2.17	<.0099	—	<.0099
90	LNSS86-45	Black-necked stilt	Breast muscle	71.1	3.88	<.010	—	<.010
91	LNSS87-06	Redfin shiner	Whole body	73.1	6.30	<.01	—	<.01
			Site B17 (New River at Rio Bend)					
92	LNSS86-28B	Sailfin molly	Whole body	74.5	3.01	<0.013	—	<0.013
93	LNSS86-31B	Sailfin molly	Whole body	73.2	2.38	<.010	—	<.010
94	LNSS86-29B	Tilapia	Whole body	70.3	6.75	<.010	—	<.010
95	LNSS86-30B	Tilapia	Whole body	73.5	5.00	<.0099	—	<.0099
96	LNSS86-38	Double-crested cormorant	Breast muscle	72.2	5.18	<.0098	—	<.0098
97	LNSS86-34	Ruddy duck	Breast muscle	68.6	4.99	<.0099	—	<.0099
98	LNSS86-36	American coot	Breast muscle	70.1	6.62	<.010	—	<.010
99	LNSS87-15	Cattle egret	Breast muscle	70.8	3.7	<.01	—	<.01
100	LNSS87-05	Barn owl	Breast muscle	63.2	11.5	.03	—	<.01
101	LNSS88-87	Black-necked stilt	Carcass	79.4	3.10	<.05	<0.05	—
102	LNSS88-69	Black-necked stilt	Carcass	80.7	4.58	<.05	<.05	—
103	LNSS88-70	Black-necked stilt	Carcass	78.4	6.29	<.05	<.05	—
104	LNSS88-71	Black-necked stilt	Carcass	76.9	6.62	<.05	<.05	—
105	LNSS88-88	Black-necked stilt	Carcass	73.5	2.07	<.05	<.05	—
106	88-137	Black-necked stilt	Egg	74.0	12.7	<.01	<.01	—
107	88-140	Black-necked stilt	Egg	73.0	12.3	.01	<.01	—
108	88-143	Black-necked stilt	Egg	74.5	12.2	<.01	<.01	—
109	88-146	Black-necked stilt	Egg	76.5	8.66	.01	<.01	—
110	88-149	Black-necked stilt	Egg	73.5	20.2	<.01	<.01	—
111	88-152	Black-necked stilt	Egg	74.0	10.7	.08	<.01	—
112	88-155	Black-necked stilt	Egg	71.0	15.7	.02	<.01	—
113	88-158	Black-necked stilt	Egg	73.0	14.3	.01	<.01	—
114	88-161	Black-necked stilt	Egg	70.0	11.7	.01	<.01	—
115	88-164	Black-necked stilt	Egg	72.5	12.9	.02	<.01	—
116	88-167	Black-necked stilt	Egg	73.5	21.9	.01	<.01	—
117	88-170	Black-necked stilt	Egg	69.0	15.3	.01	<.01	—
118	88-173	Black-necked stilt	Egg	71.5	14.1	.01	<.01	—
119	88-176	Black-necked stilt	Egg	76.5	14.9	.01	<.01	—
120	88-185	Black-necked stilt	Egg	64.0	19.1	.01	<.01	—
121	88-188	Black-necked stilt	Egg	66.5	20.2	.01	<.01	—
122	88-195	Black-necked stilt	Egg	69.0	15.0	.09	<.01	—
123	88-198	Black-necked stilt	Egg	66.5	12.8	.01	<.01	—
124	88-201	Black-necked stilt	Egg	69.0	14.2	.01	<.01	—
125	SS89-121	Asiatic river clam	Carcass	86.5	1.76	<.01	.02	—
126	SS89-138	Black-necked stilt	Carcass	66.2	12.6	.02	<.01	—
127	SS89-139	Black-necked stilt	Carcass	68.6	6.95	<.01	<.01	—
128	SS89-140	Black-necked stilt	Carcass	63.9	6.85	<.01	<.01	—
129	SS89-141	Black-necked stilt	Carcass	53.8	30.7	<.01	<.01	—
130	SS89-85	Black-necked stilt	Egg	78.0	20.3	.01	<.01	—
131	SS89-86	Black-necked stilt	Egg	80.0	11.0	.03	.06	—
132	SS89-87	Black-necked stilt	Egg	71.0	12.3	.03	.02	—
133	SS89-88	Black-necked stilt	Egg	74.0	10.2	.03	.02	—
134	SS89-89	Black-necked stilt	Egg	71.0	12.5	.02	.03	—
135	SS89-90	Black-necked stilt	Egg	73.0	12.9	.01	<.01	—
136	SS89-91	Black-necked stilt	Egg	67.0	16.0	.01	.01	—
137	SS89-92	Black-necked stilt	Egg	73.0	13.3	<.01	<.01	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	gamma-Chlordane	trans-Chlordane	cis-Nona-chlor	trans-Nonachlor	Hepta-chlor	Heptachlor epoxide	Methyoxy-chlor	o,p'-DDE
				Site B16 (Whitewater River Delta)--Continued					
88	LNSS86-43	—	<0.010	<0.010	<0.010	—	<0.010	—	—
89	LNSS86-47	—	<.0099	<.0099	<.0099	—	<.0099	—	—
90	LNSS86-45	—	<.010	<.010	<.010	—	<.010	—	—
91	LNSS87-06	—	<.01	<.01	<.01	<0.01	<.01	<0.01	<0.02
				Site B17 (New River at Rio Bend)					
92	LNSS86-28B	—	<0.013	<0.013	<0.013	—	<0.013	—	—
93	LNSS86-31B	—	<.010	<.010	<.010	—	<.010	—	—
94	LNSS86-29B	—	<.010	<.010	<.010	—	<.010	—	—
95	LNSS86-30B	—	<.0099	<.0099	<.0099	—	<.0099	—	—
96	LNSS86-38	—	<.0098	<.0098	<.0098	—	<.0098	—	—
97	LNSS86-34	—	<.0099	<.0099	<.0099	—	<.0099	—	—
98	LNSS86-36	—	<.010	<.010	<.010	—	<.010	—	—
99	LNSS87-15	—	<.01	<.01	.01	<0.01	<.01	<0.01	<0.01
100	LNSS87-05	—	<.01	<.01	.02	<.01	<.01	<.01	<.01
101	LNSS88-87	<0.05	—	<.05	<.05	<.05	<.05	—	<.05
102	LNSS88-69	<.05	—	<.05	<.05	<.05	<.05	—	<.05
103	LNSS88-70	<.05	—	<.05	<.05	<.05	<.05	—	<.05
104	LNSS88-71	<.05	—	<.05	<.05	<.05	<.05	—	<.05
105	LNSS88-88	<.05	—	<.05	<.05	<.05	<.05	—	<.05
106	88-137	<.01	—	<.01	<.01	—	<.01	—	<.01
107	88-140	<.01	—	<.01	<.01	—	.01	—	<.01
108	88-143	<.01	—	<.01	<.01	—	<.01	—	<.01
109	88-146	<.01	—	<.01	<.01	—	<.01	—	<.01
110	88-149	<.01	—	<.01	<.01	—	<.01	—	<.01
111	88-152	<.01	—	<.01	.02	—	.06	—	<.01
112	88-155	<.01	—	<.01	.01	—	.02	—	<.01
113	88-158	<.01	—	<.01	.01	—	<.01	—	<.01
114	88-161	<.01	—	<.01	<.01	—	<.01	—	<.01
115	88-164	<.01	—	<.01	<.01	—	<.01	—	<.01
116	88-167	<.01	—	<.01	<.01	—	<.01	—	<.01
117	88-170	<.01	—	<.01	<.01	—	<.01	—	<.01
118	88-173	<.01	—	<.01	<.01	—	<.01	—	<.01
119	88-176	<.01	—	<.01	<.01	—	<.01	—	<.01
120	88-185	<.01	—	<.01	.02	—	<.01	—	<.01
121	88-188	<.01	—	<.01	.01	—	<.01	—	<.01
122	88-195	<.01	—	<.01	.01	—	.06	—	<.01
123	88-198	<.01	—	<.01	<.01	—	<.01	—	<.01
124	88-201	<.01	—	<.01	<.01	—	<.01	—	<.01
125	SS89-121	<.01	—	<.01	.01	—	<.01	—	.03
126	SS89-138	<.01	—	<.01	<.01	—	<.01	—	<.01
127	SS89-139	<.01	—	<.01	<.01	—	<.01	—	<.01
128	SS89-140	<.01	—	<.01	<.01	—	<.01	—	<.01
129	SS89-141	<.01	—	<.01	<.01	—	<.01	—	<.01
130	SS89-85	<.01	—	<.01	<.01	—	<.01	—	<.01
131	SS89-86	<.01	—	<.01	<.01	—	.01	—	<.01
132	SS89-87	<.01	—	<.01	.02	—	.01	—	<.01
133	SS89-88	<.01	—	<.01	.01	—	.01	—	<.01
134	SS89-89	<.01	—	<.01	.02	—	.01	—	<.01
135	SS89-90	<.01	—	<.01	<.01	—	<.01	—	<.01
136	SS89-91	<.01	—	<.01	<.01	—	<.01	—	<.01
137	SS89-92	<.01	—	<.01	<.01	—	<.01	—	<.01

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	p,p'-DDE	o,p'-DDD	p,p'-DDD	o,p'-DDT	p,p'-DDT	Total DDT	Endrin	Dieldrin	Aldrin
				Site B16 (Whitewater River Delta)--Continued						
88	LNSS86-43	0.17	—	<0.010	—	<0.010	0.170	<0.010	<0.010	—
89	LNSS86-47	.31	—	<.0099	—	<.0099	.310	<.0099	<.0099	—
90	LNSS86-45	.89	—	<.010	—	<.010	.890	<.010	.0222	—
91	LNSS87-06	5.7	0.04	.09	0.03	.03	5.910	<.01	.02	<0.01
				Site B17 (New River at Rio Bend)						
92	LNSS86-28B	0.18	—	0.36	—	0.033	0.249	<0.013	<0.013	—
93	LNSS86-31B	.14	—	<.010	—	<.010	.140	<.010	<.010	—
94	LNSS86-29B	.073	—	<.010	—	<.010	.073	<.010	<.010	—
95	LNSS86-30B	.11	—	<.0099	—	<.0099	.110	<.0099	<.0099	—
96	LNSS86-38	.38	—	<.0098	—	<.0098	.380	<.0098	<.0098	—
97	LNSS86-34	.17	—	<.0099	—	<.0099	.170	<.0099	<.0099	—
98	LNSS86-36	.45	—	<.010	—	<.010	.450	<.010	<.010	—
99	LNSS87-15	2.2	<0.01	.01	<0.01	<.01	2.210	.01	.03	<0.01
100	LNSS87-05	2.7	<.01	.01	<.01	<.01	2.710	<.01	.09	<.01
101	LNSS88-87	.78	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05
102	LNSS88-69	.94	<.05	<.05	<.05	<.05	.94	<.05	<.05	<.05
103	LNSS88-70	2.76	<.05	<.05	<.05	<.05	2.76	<.05	.05	<.05
104	LNSS88-71	2.76	<.05	<.05	<.05	<.05	2.76	<.05	<.05	<.05
105	LNSS88-88	.75	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05
106	88-137	1.7	<.01	<.01	<.01	<.01	1.700	<.01	.01	—
107	88-140	4.3	<.01	<.01	<.01	.02	4.320	<.01	.06	—
108	88-143	3.8	<.01	<.01	<.01	.03	3.830	<.01	.02	—
109	88-146	1.1	<.01	.02	<.01	.01	1.130	<.01	.01	—
110	88-149	1.7	<.01	<.01	<.01	<.01	1.700	<.01	.02	—
111	88-152	7.4	<.01	.04	<.01	.12	7.560	<.01	.11	—
112	88-155	2.0	<.01	<.01	<.01	<.01	2.000	<.01	.06	—
113	88-158	6.5	<.01	.03	<.01	0.21	6.740	<.01	.03	—
114	88-161	1.9	<.01	.02	<.01	.02	1.940	<.01	.01	—
115	88-164	4.0	<.01	<.01	<.01	.02	4.020	<.01	.04	—
116	88-167	3.4	<.01	<.01	<.01	.02	3.420	<.01	.04	—
117	88-170	1.9	<.01	<.01	<.01	.01	1.910	<.01	.02	—
118	88-173	3.6	<.01	<.01	<.01	.02	3.620	<.01	.02	—
119	88-176	.94	<.01	<.01	<.01	.04	.980	<.01	.02	—
120	88-185	3.5	<.01	.02	<.01	.02	3.540	<.01	.10	—
121	88-188	2.3	<.01	<.01	<.01	<.01	2.300	<.01	.04	—
122	88-195	8.1	<.01	.02	<.01	.06	8.180	<.01	.11	—
123	88-198	3.1	<.01	<.01	<.01	.02	3.120	<.01	.01	—
124	88-201	3.0	<.01	.01	<.01	.03	3.040	<.01	.03	—
125	SS89-121	.62	.13	.04	.02	.05	.840	<.01	.01	—
126	SS89-138	1.3	<.01	<.01	<.01	<.01	1.300	<.01	.03	—
127	SS89-139	.85	<.01	<.01	<.01	<.01	.850	<.01	.01	—
128	SS89-140	.83	<.01	<.01	<.01	<.01	.830	<.01	<.01	—
129	SS89-141	3.0	<.01	<.01	<.01	<.01	3.000	<.01	<.01	—
130	SS89-85	1.1	<.01	<.01	<.01	<.01	1.100	<.01	.02	—
131	SS89-86	5.7	<.01	<.01	<.01	<.01	5.700	<.01	.10	—
132	SS89-87	5.9	<.01	<.01	<.01	.07	5.970	<.01	.14	—
133	SS89-88	2.4	<.01	<.01	<.01	.05	2.450	<.01	.03	—
134	SS89-89	4.3	<.01	<.01	<.01	<.01	4.300	<.01	.15	—
135	SS89-90	2.2	<.01	<.01	<.01	.03	2.230	<.01	.02	—
136	SS89-91	3.3	<.01	<.01	<.01	.19	3.490	<.01	.04	—
137	SS89-92	0.87	<.01	<.01	<.01	<.01	0.870	<.01	.01	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Lindane	Hexachlorobenzene	Endosulfan I	Endosulfan II	Endosulfan sulfate	Mirex	DCPA	Dicofol
						Site B16 (Whitewater River Delta)--Continued							
88	LNSS86-43	—	—	—	—	—	—	—	—	—	—	—	—
89	LNSS86-47	—	—	—	—	—	—	—	—	—	—	—	—
90	LNSS86-45	—	—	—	—	—	—	—	—	—	—	—	—
91	LNSS87-06	<0.01	<0.01	<0.01	<0.01	—	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01
						Site B17 (New River at Rio Bend)							
92	LNSS86-28B	—	—	—	—	—	—	—	—	—	—	—	—
93	LNSS86-31B	—	—	—	—	—	—	—	—	—	—	—	—
94	LNSS86-29B	—	—	—	—	—	—	—	—	—	—	—	—
95	LNSS86-30B	—	—	—	—	—	—	—	—	—	—	—	—
96	LNSS86-38	—	—	—	—	—	—	—	—	—	—	—	—
97	LNSS86-34	—	—	—	—	—	—	—	—	—	—	—	—
98	LNSS86-36	—	—	—	—	—	—	—	—	—	—	—	—
99	LNSS87-15	<0.01	<0.01	<0.01	<0.01	—	0.25	<0.01	<0.01	<0.01	<0.01	0.01	<0.01
100	LNSS87-05	<.01	<.01	<.01	<.01	—	1.30	<.01	<.01	<.01	<.01	<.01	<.01
101	LNSS88-87	<.05	<.05	<.05	—	<0.05	<.05	—	—	—	<.05	—	—
102	LNSS88-69	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
103	LNSS88-70	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
104	LNSS88-71	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
105	LNSS88-88	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
106	88-137	<.01	.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
107	88-140	<.01	.02	<.01	<.01	—	.02	—	—	—	<.01	—	—
108	88-143	<.01	.03	<.01	<.01	—	.01	—	—	—	<.01	—	—
109	88-146	<.01	<.01	<.01	<.01	—	.03	—	—	—	<.01	—	—
110	88-149	<.01	.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
111	88-152	<.01	.16	<.01	<.01	—	.01	—	—	—	<.01	—	—
112	88-155	<.01	.02	<.01	<.01	—	.01	—	—	—	<.01	—	—
113	88-158	<.01	.02	<.01	<.01	—	.02	—	—	—	<.01	—	—
114	88-161	<.01	<.01	<.01	<.01	—	.04	—	—	—	<.01	—	—
115	88-164	<.01	.02	<.01	<.01	—	.05	—	—	—	<.01	—	—
116	88-167	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
117	88-170	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
118	88-173	<.01	.02	<.01	<.01	—	<.01	—	—	—	<.01	—	—
119	88-176	<.01	.04	<.01	<.01	—	<.01	—	—	—	<.01	—	—
120	88-185	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
121	88-188	<.01	.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
122	88-195	<.01	.36	<.01	<.01	—	.04	—	—	—	<.01	—	—
123	88-198	<.01	.08	<.01	<.01	—	.03	—	—	—	<.01	—	—
124	88-201	<.01	.02	<.01	<.01	—	.01	—	—	—	<.01	—	—
125	SS89-121	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
126	SS89-138	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
127	SS89-139	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
128	SS89-140	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
129	SS89-141	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
130	SS89-85	<.01	.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
131	SS89-86	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
132	SS89-87	<.01	.02	<.01	<.01	—	.77	—	—	—	<.01	—	—
133	SS89-88	<.01	.03	<.01	<.01	—	02	—	—	—	<.01	—	—
134	SS89-89	<.01	.13	<.01	<.01	—	.03	—	—	—	<.01	—	—
135	SS89-90	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
136	SS89-91	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
137	SS89-92	<.01	.04	<.01	<.01	—	<.01	—	—	—	<.01	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Tetra-difon	BI PH CL-2	BI PH CL-3	BI PH CL-4	BI PH CL-5	BI PH CL-6	BI PH CL-7	BI PH CL-8	BI PH CL-9	PCB 1016	PCB 1221	PCB 1232	PCB 1242
						Site B16 (Whitewater River Delta)--Continued								
88	LNSS86-43	—	—	—	—	—	—	—	—	—	—	—	—	—
89	LNSS86-47	—	—	—	—	—	—	—	—	—	—	—	—	—
90	LNSS86-45	—	—	—	—	—	—	—	—	—	—	—	—	—
91	LNSS87-06	<0.01	—	—	—	—	—	—	—	—	<0.05	<0.50	<0.05	<0.05
						Site B17 (New River at Rio Bend)								
92	LNSS86-28B	—	—	—	—	—	—	—	—	—	—	—	—	—
93	LNSS86-31B	—	—	—	—	—	—	—	—	—	—	—	—	—
94	LNSS86-29B	—	—	—	—	—	—	—	—	—	—	—	—	—
95	LNSS86-30B	—	—	—	—	—	—	—	—	—	—	—	—	—
96	LNSS86-38	—	—	—	—	—	—	—	—	—	—	—	—	—
97	LNSS86-34	—	—	—	—	—	—	—	—	—	—	—	—	—
98	LNSS86-36	—	—	—	—	—	—	—	—	—	—	—	—	—
99	LNSS87-15	<0.01	—	—	—	—	—	—	—	—	<0.05	<0.50	<0.05	<0.05
100	LNSS87-05	<.01	—	—	—	—	—	—	—	—	<.05	<.50	<.05	<.05
101	LNSS88-87	—	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	—	—	—	—
102	LNSS88-69	—	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
103	LNSS88-70	—	<.05	<.05	.05	<.05	<.05	<.05	<.05	<.05	—	—	—	—
104	LNSS88-71	—	<.05	<.05	<.05	.06	.08	<.05	<.05	<.05	—	—	—	—
105	LNSS88-88	—	<.05	<.05	<.05	<.05	.11	<.05	<.05	<.05	—	—	—	—
106	88-137	—	—	—	—	—	—	—	—	—	—	—	—	—
107	88-140	—	—	—	—	—	—	—	—	—	—	—	—	—
108	88-143	—	—	—	—	—	—	—	—	—	—	—	—	—
109	88-146	—	—	—	—	—	—	—	—	—	—	—	—	—
110	88-149	—	—	—	—	—	—	—	—	—	—	—	—	—
111	88-152	—	—	—	—	—	—	—	—	—	—	—	—	—
112	88-155	—	—	—	—	—	—	—	—	—	—	—	—	—
113	88-158	—	—	—	—	—	—	—	—	—	—	—	—	—
114	88-161	—	—	—	—	—	—	—	—	—	—	—	—	—
115	88-164	—	—	—	—	—	—	—	—	—	—	—	—	—
116	88-167	—	—	—	—	—	—	—	—	—	—	—	—	—
117	88-170	—	—	—	—	—	—	—	—	—	—	—	—	—
118	88-173	—	—	—	—	—	—	—	—	—	—	—	—	—
119	88-176	—	—	—	—	—	—	—	—	—	—	—	—	—
120	88-185	—	—	—	—	—	—	—	—	—	—	—	—	—
121	88-188	—	—	—	—	—	—	—	—	—	—	—	—	—
122	88-195	—	—	—	—	—	—	—	—	—	—	—	—	—
123	88-198	—	—	—	—	—	—	—	—	—	—	—	—	—
124	88-201	—	—	—	—	—	—	—	—	—	—	—	—	—
125	SS89-121	—	—	—	—	—	—	—	—	—	—	—	—	—
126	SS89-138	—	—	—	—	—	—	—	—	—	—	—	—	—
127	SS89-139	—	—	—	—	—	—	—	—	—	—	—	—	—
128	SS89-140	—	—	—	—	—	—	—	—	—	—	—	—	—
129	SS89-141	—	—	—	—	—	—	—	—	—	—	—	—	—
130	SS89-85	—	—	—	—	—	—	—	—	—	—	—	—	—
131	SS89-86	—	—	—	—	—	—	—	—	—	—	—	—	—
132	SS89-87	—	—	—	—	—	—	—	—	—	—	—	—	—
133	SS89-88	—	—	—	—	—	—	—	—	—	—	—	—	—
134	SS89-89	—	—	—	—	—	—	—	—	—	—	—	—	—
135	SS89-90	—	—	—	—	—	—	—	—	—	—	—	—	—
136	SS89-91	—	—	—	—	—	—	—	—	—	—	—	—	—
137	SS89-92	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene
			Site B16 (Whitewater River Delta)--Continued			
88	LNSS86-43	—	<0.01	<0.10	—	<0.50
89	LNSS86-47	—	<.099	<.099	—	<.50
90	LNSS86-45	—	<.10	<.10	—	<.50
91	LNSS87-06	<0.05	<.05	<.05	—	<.50
			Site B17 (New River at Rio Bend)			
92	LNSS86-28B	—	<0.13	0.26	—	<0.63
93	LNSS86-31B	—	<.10	<.10	—	<.50
94	LNSS86-29B	—	<.10	<.10	—	<.50
95	LNSS86-30B	—	<.099	<.099	—	<.50
96	LNSS86-38	—	<.098	<.098	—	<.49
97	LNSS86-34	—	<.099	.18	—	<.49
98	LNSS86-36	—	<.10	<.10	—	<.50
99	LNSS87-15	<0.05	<.05	<.05	—	<.50
100	LNSS87-05	<.05	<.05	<.05	—	<.50
101	LNSS88-87	—	—	—	—	<.50
102	LNSS88-69	—	—	—	—	<.50
104	LNSS88-71	—	—	—	—	<.50
105	LNSS88-88	—	—	—	—	<.50
106	88-137	—	—	—	<0.05	<.05
107	88-140	—	—	—	<.05	<.05
108	88-143	—	—	—	<.05	<.05
109	88-146	—	—	—	<.05	<.05
110	88-149	—	—	—	<.05	<.05
111	88-152	—	—	—	<.05	<.05
112	88-155	—	—	—	<.05	<.05
113	88-158	—	—	—	<.05	<.05
114	88-161	—	—	—	<.05	<.05
115	88-164	—	—	—	<.05	<.05
116	88-167	—	—	—	<.05	<.05
117	88-170	—	—	—	<.05	<.05
118	88-173	—	—	—	<.05	<.05
119	88-176	—	—	—	<.05	<.05
120	88-185	—	—	—	<.05	<.05
121	88-188	—	—	—	<.05	<.05
122	88-195	—	—	—	<.05	<.05
123	88-198	—	—	—	<.05	<.05
124	88-201	—	—	—	<.05	<.05
125	SS89-121	—	—	—	<.05	<.05
126	SS89-138	—	—	—	<.05	<.05
127	SS89-139	—	—	—	<.05	<.05
128	SS89-140	—	—	—	<.05	<.05
129	SS89-141	—	—	—	<.05	<.05
130	SS89-85	—	—	—	<.05	<.05
131	SS89-86	—	—	—	<.05	<.05
132	SS89-87	—	—	—	<.05	<.05
133	SS89-88	—	—	—	<.05	<.05
134	SS89-89	—	—	—	<.05	<.05
135	SS89-90	—	—	—	<.05	<.05
136	SS89-91	—	—	—	<.05	<.05
137	SS89-92	—	—	—	<.05	<.05

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Percent lipid	Oxychlor-dane	alpha-Chlordane	cis-Chlordane
			Site B18 (Alamo River at Garst Road)					
138	SS89-64	Waterboatman	Composite	86.5	86.5	<0.01	<0.01	—
139	SS89-120	Asiatic river clam	Soft tissue	86.0	86.0	<.01	.06	—
140	SS89-165	Asiatic river clam	Soft tissue	81.1	81.1	<.01	<.01	—
141	SS89-167	Asiatic river clam	Soft tissue	80.6	80.6	<.01	.12	—
142	SS89-175	Bullfrog	Whole body	76.0	76.0	.01	<.01	—
143	SS89-176	Bullfrog	Whole body	79.5	.480	<.01	<.01	—
			Site B19 (San Felipe Creek)					
144	SS90S1	Sediment	Sediment	30.5	—	<0.009	<0.009	—
			Site B20 (Salt Creek)					
145	SS90S4	Sediment	Sediment	52.2	—	<0.0099	<0.0099	—
			Site B21 (Colorado River at Palo Verde)					
146	SS89-117	Asiatic river clam	Soft tissue	87.0	1.38	<0.01	<0.01	—
147	SS89-118	Asiatic river clam	Soft tissue	92.5	.82	<.01	<.01	—
148	SS89-119	Asiatic river clam	Soft tissue	87.5	1.78	<.01	<.01	—
			Site B22 (Trifolium 5 Drain)					
149	LNSS86-59B	Tilapia	Whole body	76.3	2.27	<0.0099	—	<0.0099
			Site B23 (Trifolium 13 Drain)					
150	SS89-62	Invertebrates	Composite	81.1	3.08	<0.01	<0.01	—
151	SS89-168	Asiatic river clam	Soft tissue	86.4	8.62	<.01	<.01	—
			Site B24 (Trifolium 14 Drain)					
152	LNSS88-95	Crayfish	Whole body	76.9	7.61	<0.05	<0.05	—
153	LNSS88-94	Black-necked stilt	Carcass	76.7	7.60	<.05	<.05	—
154	LNSS88-89	Black-necked stilt	Carcass	74.0	7.21	<.05	<.05	—
155	LNSS88-90	Black-necked stilt	Carcass	72.1	11.07	<.05	<.05	—
156	88-192	Black-necked stilt	Egg	72.5	10.6	.01	<.01	—
157	88-204	Black-necked stilt	Egg	64.0	17.2	.01	<.01	—
158	88-207	Black-necked stilt	Egg	72.5	12.7	<.01	<.01	—
159	88-210	Black-necked stilt	Egg	71.0	15.0	<.01	<.01	—
160	88-213	Black-necked stilt	Egg	72.0	13.1	.01	<.01	—
161	88-216	Black-necked stilt	Egg	73.0	14.4	<.01	<.01	—
162	88-225	Black-necked stilt	Egg	71.5	10.5	.02	<.01	—
163	88-228	Black-necked stilt	Egg	71.5	14.2	.01	<.01	—
164	88-231	Black-necked stilt	Egg	74.0	12.9	.02	<.01	—
165	88-232	Black-necked stilt	Egg	72.0	13.9	.01	<.01	—
166	SS89-166	Asiatic river clam	Soft tissue	83.0	13.1	<.01	<.01	—
167	SS89-122	Asiatic river clam	Soft tissue	90.0	1.00	<.01	.01	—
168	SS90C1	Asiatic river clam	Soft tissue	61.5	3.00	<.049	<.049	—
169	SS90C2	Asiatic river clam	Soft tissue	82.5	4.80	<.049	<.049	—
			Site B25 (Vail Cutoff Drain)					
170	SS89-71	American coot	Liver	75.0	3.20	<0.01	<0.01	—
171	SS89-72	American coot	Liver	75.0	3.70	<.01	<.01	—
172	SS89-73	American coot	Liver	76.0	3.40	<.01	<.01	—
173	SS89-66	Black-necked stilt	Egg	74.0	12.4	<.01	<.01	—
174	SS89-67	Black-necked stilt	Egg	76.0	11.0	<.01	<.01	—
175	SS89-68	Black-necked stilt	Egg	73.0	13.7	.03	<.01	—
176	SS89-69	Black-necked stilt	Egg	71.0	5.22	<.01	<.01	—
177	SS89-70	Black-necked stilt	Egg	74.0	4.96	<.01	<.01	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	gamma-Chlordane	trans-Chlordane	cis-Nonachlor	trans-Nonachlor	Heptachlor	Heptachlor epoxide	Methyoxychlor	o,p'-DDE
				Site B18 (Alamo River at Garst Road)					
138	SS89-64	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
139	SS89-120	<.01	—	<.01	.02	—	<.01	—	.12
140	SS89-165	<.01	—	<.01	<.01	—	<.01	—	<.01
141	SS89-167	.02	—	<.01	.04	—	<.01	—	<.01
142	SS89-175	<.01	—	<.01	<.01	—	<.01	—	<.01
143	SS89-176	<.01	—	<.01	<.01	—	<.01	—	<.01
				Site B19 (San Felipe Creek)					
144	SS90S1	—	<0.009	<0.009	<0.009	—	<0.009	—	<0.01
				Site B20 (Salt Creek)					
145	SS90S4	—	<0.0099	<0.0099	<0.0099	—	<0.0099	—	<0.01
				Site B21 (Colorado River at Palo Verde)					
146	SS89-117	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
147	SS89-118	<.01	—	<.01	<.01	—	<.01	—	<.01
148	SS89-119	<.01	—	<.01	<.01	—	<.01	—	<.01
				Site B22 (Trifolium 5 Drain)					
149	LNSS86-59B	—	<0.0099	<0.0099	<0.0099	—	<0.0099	—	—
				Site B23 (Trifolium 13 Drain)					
150	SS89-62	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
151	SS89-168	<.01	—	<.01	<.01	—	<.01	—	<.01
				Site B24 (Trifolium 14 Drain)					
152	LNSS88-95	<0.05	—	<0.05	<0.05	<0.05	<0.05	—	<0.05
153	LNSS88-94	<.05	—	<.05	<.05	<.05	<.05	—	<.05
154	LNSS88-89	<.05	—	<.05	<.05	<.05	<.05	—	<.05
155	LNSS88-90	<.05	—	<.05	<.05	<.05	<.05	—	<.05
156	88-192	<.01	—	<.01	<.01	—	<.01	—	<.01
157	88-204	<.01	—	<.01	.01	—	<.01	—	<.01
158	88-207	<.01	—	<.01	.01	—	<.01	—	<.01
159	88-210	<.01	—	<.01	<.01	—	<.01	—	<.01
160	88-213	<.01	—	<.01	<.01	—	<.01	—	<.01
161	88-216	<.01	—	<.01	<.01	—	<.01	—	<.01
162	88-225	<.01	—	<.01	<.01	—	<.01	—	<.01
163	88-228	<.01	—	<.01	<.01	—	<.01	—	<.01
164	88-231	<.01	—	<.01	<.01	—	.01	—	<.01
165	88-232	<.01	—	<.01	.01	—	<.01	—	<.01
166	SS89-166	<.01	—	<.01	<.01	—	<.01	—	<.01
167	SS89-122	<.01	—	<.01	<.01	—	<.01	—	.02
168	SS90C1	—	<0.049	<.049	<.049	—	<.049	—	<.01
169	SS90C2	—	<.049	<.049	<.049	—	<.049	—	<.01
				Site B25 (Vail Cutoff Drain)					
170	SS89-71	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
171	SS89-72	<.01	—	<.01	<.01	—	<.01	—	<.01
172	SS89-73	<.01	—	<.01	<.01	—	<.01	—	<.01
173	SS89-66	<.01	—	<.01	<.01	—	<.01	—	<.01
174	SS89-67	<.01	—	<.01	<.01	—	<.01	—	<.01
175	SS89-68	<.01	—	<.01	<.01	—	.01	—	<.01
176	SS89-69	<.01	—	<.01	<.01	—	<.01	—	<.01
177	SS89-70	<.01	—	<.01	<.01	—	<.01	—	<.01

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	p,p'-DDE	o,p'-DDD	p,p'-DDD	o,p'-DDT	p,p'-DDT	Total DDT	Endrin	Dieldrin	Aldrin
				Site B18 (Alamo River at Garst Road)						
138	SS89-64	0.01	<0.01	<0.01	<0.01	<0.01	0.010	<0.01	<0.01	—
139	SS89-120	2.9	.09	.14	.25	.26	3.500	<.01	.01	—
140	SS89-165	.71	<.01	.10	<.01	<.01	.810	<.01	.09	—
141	SS89-167	3.0	<.01	<.01	<.01	<.01	3.350	<.01	.24	—
142	SS89-175	.38	<.01	<.01	<.01	<.01	.380	<.01	.01	—
143	SS89-176	.01	<.01	<.01	<.01	<.01	.010	<.01	<.01	—
				Site B19 (San Felipe Creek)						
144	SS90S1	0.025	<0.01	<0.009	<0.01	<0.009	—	<0.009	<0.009	—
				Site B20 (Salt Creek)						
145	SS90S4	0.053	<0.01	<0.0099	<0.01	<0.0099	—	<0.0099	<0.0099	—
				Site B21 (Colorado River at Palo Verde)						
146	SS89-117	0.02	<0.01	<0.01	<0.01	<0.01	0.020	<0.01	<0.01	—
147	SS89-118	.01	<.01	<.01	<.01	<.01	.010	<.01	<.01	—
148	SS89-119	.02	<.01	<.01	<.01	<.01	.020	<.01	<.01	—
				Site B22 (Trifolium 5 Drain)						
149	LNSS86-59B	0.25	—	<0.0099	—	0.014	0.264	<0.0099	<0.0099	—
				Site B23 (Trifolium 13 Drain)						
150	SS89-62	0.08	<0.01	<0.01	<0.01	<0.01	0.080	<0.01	<0.01	—
151	SS89-168	.37	<.01	<.01	<.01	<.01	.370	<.01	<.01	—
				Site B24 (Trifolium 14 Drain)						
152	LNSS88-95	0.55	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
153	LNSS88-94	1.32	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05
154	LNSS88-89	.67	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05
155	LNSS88-90	.64	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05
156	88-192	3.7	<.01	.02	<.01	.17	3.890	<.01	.05	—
157	88-204	6.5	<.01	.02	<.01	.02	6.540	<.01	.06	—
158	88-207	2.7	<.01	<.01	<.01	<.01	2.700	<.01	.02	—
159	88-210	1.9	<.01	<.01	<.01	<.01	1.900	<.01	.01	—
160	88-213	2.1	<.01	<.01	<.01	<.01	2.100	<.01	.01	—
161	88-216	.26	<.01	<.01	<.01	<.01	.260	<.01	<.01	—
162	88-225	2.6	<.01	.02	<.01	.12	2.740	<.01	.03	—
163	88-228	4.8	<.01	.02	<.01	.02	4.840	<.01	.03	—
164	88-231	4.6	<.01	<.01	<.01	.04	4.640	<.01	.02	—
165	88-232	2.2	<.01	.01	<.01	.02	2.230	<.01	<.01	—
166	SS89-166	.27	<.01	<.01	<.01	<.01	.270	<.01	<.01	—
167	SS89-122	.83	.02	<.01	.03	.05	.900	<.01	<.01	—
168	SS90C1	.49	<.01	.064	<.01	.075	.629	<.049	<.049	—
169	SS90C2	.31	<.01	.070	<.01	.079	.459	<.049	.059	—
				Site B25 (Vail Cutoff Drain)						
170	SS89-71	0.01	<0.01	<0.01	<0.01	<0.01	0.010	<0.01	<0.01	—
171	SS89-72	.01	<.01	<.01	<.01	<.01	.010	<.01	<.01	—
172	SS89-73	.03	<.01	<.01	<.01	<.01	.030	<.01	<.01	—
173	SS89-66	.71	<.01	<.01	<.01	<.01	.710	<.01	<.01	—
174	SS89-67	.55	<.01	<.01	<.01	<.01	.550	<.01	<.01	—
175	SS89-68	2.8	<.01	<.01	<.01	.06	2.860	<.01	.14	—
176	SS89-69	.9	<.01	<.01	<.01	<.01	.900	<.01	.02	—
177	SS89-70	.05	<.01	<.01	<.01	<.01	.050	<.01	<.01	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Lindane	Hexachlorobenzene	Endosulfan I	Endosulfan II	Endosulfan sulfate	Mirex	DCPA	Dicofol
						Site B18 (Alamo River at Garst Road)							
138	SS89-64	<0.01	<0.01	<0.01	<0.01	—	<0.01	—	—	—	<0.01	—	—
139	SS89-120	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
140	SS89-165	<.01	<.01	<.01	<.01	—	.01	<0.01	<0.01	—	<.01	—	—
141	SS89-167	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
142	SS89-175	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
143	SS89-176	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
						Site B19 (San Felipe Creek)							
144	SS90S1	—	—	—	—	—	—	—	—	—	—	—	—
						Site B20 (Salt Creek)							
145	SS90S4	—	—	—	—	—	—	—	—	—	—	—	—
						Site B21 (Colorado River at Palo Verde)							
146	SS89-117	<0.01	<0.01	<0.01	<0.01	—	<0.01	—	—	—	<0.01	—	—
147	SS89-118	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
148	SS89-119	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
						Site B22 (Trifolium 5 Drain)							
149	LNSS86-59B	—	—	—	—	—	—	—	—	—	—	—	—
						Site B23 (Trifolium 13 Drain)							
150	SS89-62	<0.01	<0.01	<0.01	<0.01	—	<0.01	<0.01	<0.01	—	<0.01	—	—
151	SS89-168	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
						Site B24 (Trifolium 14 Drain)							
152	LNSS88-95	<0.05	<0.05	<0.05	—	<0.05	<0.05	—	—	—	<0.05	—	—
153	LNSS88-94	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
154	LNSS88-89	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
155	LNSS88-90	<.05	<.05	<.05	—	<.05	<.05	—	—	—	<.05	—	—
156	88-192	<.01	.15	<.01	<0.01	—	.01	—	—	—	<.01	—	—
157	88-204	<.01	.01	<.01	<.01	—	.02	—	—	—	<.01	—	—
158	88-207	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
159	88-210	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
160	88-213	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
161	88-216	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
162	88-225	<.01	.10	<.01	<.01	—	.01	—	—	—	.01	—	—
163	88-228	<.01	.01	<.01	<.01	—	.01	—	—	—	.01	—	—
164	88-231	<.01	.16	<.01	<.01	—	.01	—	—	—	.01	—	—
165	88-232	<.01	.04	<.01	<.01	—	.01	—	—	—	<.01	—	—
166	SS89-166	<.01	<.01	<.01	<.01	—	<.01	<0.01	<0.01	—	<.01	—	—
167	SS89-122	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
168	SS90C1	—	—	—	—	—	—	—	—	—	—	—	—
169	SS90C2	—	—	—	—	—	—	—	—	—	—	—	—
						Site B25 (Vail Cutoff Drain)							
170	SS89-71	<0.01	<0.01	<0.01	<0.01	—	<0.01	—	—	—	<0.01	—	—
171	SS89-72	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
172	SS89-73	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
173	SS89-66	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
174	SS89-67	<.01	.04	<.01	<.01	—	.01	—	—	—	<.01	—	—
175	SS89-68	<.01	.03	<.01	<.01	—	.11	—	—	—	<.01	—	—
176	SS89-69	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
177	SS89-70	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Tetra-difon	BI PH CL-2	BI PH CL-3	BI PH CL-4	BI PH CL-5	BI PH CL-6	BI PH CL-7	BI PH CL-8	BI PH CL-9	PCB 1016	PCB 1221	PCB 1232	PCB 1242
						Site B18 (Alamo River at Garst Road)								
138	SS89-64	—	—	—	—	—	—	—	—	—	—	—	—	—
139	SS89-120	—	—	—	—	—	—	—	—	—	—	—	—	—
140	SS89-165	—	—	—	—	—	—	—	—	—	—	—	—	—
141	SS89-167	—	—	—	—	—	—	—	—	—	—	—	—	—
142	SS89-175	—	—	—	—	—	—	—	—	—	—	—	—	—
143	SS89-176	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B19 (San Felipe Creek)								
144	SS90S1	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B20 (Salt Creek)								
145	SS90S4	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B21 (Colorado River at Palo Verde)								
146	SS89-117	—	—	—	—	—	—	—	—	—	—	—	—	—
147	SS89-118	—	—	—	—	—	—	—	—	—	—	—	—	—
148	SS89-119	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B22 (Trifolium 5 Drain)								
149	LNSS86-59B	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B23 (Trifolium 13 Drain)								
150	SS89-62	—	—	—	—	—	—	—	—	—	—	—	—	—
151	SS89-168	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B24 (Trifolium 14 Drain)								
152	LNSS88-95	—	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	<0.05	<0.05	—	—	—	—
153	LNSS88-94	—	<.05	<.05	.06	<.05	.05	.07	<.05	<.05	—	—	—	—
154	LNSS88-89	—	<.05	<.05	.07	<.05	.05	.05	<.05	<.05	—	—	—	—
155	LNSS88-90	—	<.05	<.05	<.05	<.05	.48	<.05	<.05	<.05	—	—	—	—
156	88-192	—	—	—	—	—	—	—	—	—	—	—	—	—
157	88-204	—	—	—	—	—	—	—	—	—	—	—	—	—
158	88-207	—	—	—	—	—	—	—	—	—	—	—	—	—
159	88-210	—	—	—	—	—	—	—	—	—	—	—	—	—
160	88-213	—	—	—	—	—	—	—	—	—	—	—	—	—
161	88-216	—	—	—	—	—	—	—	—	—	—	—	—	—
162	88-225	—	—	—	—	—	—	—	—	—	—	—	—	—
163	88-228	—	—	—	—	—	—	—	—	—	—	—	—	—
164	88-231	—	—	—	—	—	—	—	—	—	—	—	—	—
165	88-232	—	—	—	—	—	—	—	—	—	—	—	—	—
166	SS89-166	—	—	—	—	—	—	—	—	—	—	—	—	—
167	SS89-122	—	—	—	—	—	—	—	—	—	—	—	—	—
168	SS90C1	—	—	—	—	—	—	—	—	—	—	—	—	—
169	SS90C2	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B25 (Vail Cutoff Drain)								
170	SS89-71	—	—	—	—	—	—	—	—	—	—	—	—	—
171	SS89-72	—	—	—	—	—	—	—	—	—	—	—	—	—
172	SS89-73	—	—	—	—	—	—	—	—	—	—	—	—	—
173	SS89-66	—	—	—	—	—	—	—	—	—	—	—	—	—
174	SS89-67	—	—	—	—	—	—	—	—	—	—	—	—	—
175	SS89-68	—	—	—	—	—	—	—	—	—	—	—	—	—
176	SS89-69	—	—	—	—	—	—	—	—	—	—	—	—	—
177	SS89-70	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene
			Site B18 (Alamo River at Garst Road)			
138	SS89-64	—	—	—	<0.05	<0.05
139	SS89-120	—	—	—	<.05	<.05
140	SS89-165	—	—	—	<.05	<.05
141	SS89-167	—	—	—	<.05	<.05
142	SS89-175	—	—	—	<.05	<.05
143	SS89-176	—	—	—	<.05	<.05
			Site B19 (San Felipe Creek)			
144	SS90S1	—	<0.049	—	—	—
			Site B20 (Salt Creek)			
145	SS90S4	—	<0.049	—	—	—
			Site B21 (Colorado River at Palo Verde)			
146	SS89-117	—	—	—	<0.05	<0.05
147	SS89-118	—	—	—	<.05	<.05
148	SS89-119	—	—	—	<.05	<.05
			Site B22 (Trifolium 5 Drain)			
149	LNSS86-59B	—	<0.099	<0.099	—	<0.49
			Site B23 (Trifolium 13 Drain)			
150	SS89-62	—	—	—	<0.05	<0.05
151	SS89-168	—	—	—	<.05	<.05
			Site B24 (Trifolium 14 Drain)			
152	LNSS88-95	—	—	—	—	<0.50
153	LNSS88-94	—	—	—	—	<.50
154	LNSS88-89	—	—	—	—	<.50
155	LNSS88-90	—	—	—	—	<.50
156	88-192	—	—	—	<0.05	<.05
157	88-204	—	—	—	<.05	<.05
158	88-207	—	—	—	<.05	<.05
159	88-210	—	—	—	<.05	<.05
160	88-213	—	—	—	<.05	<.05
161	88-216	—	—	—	<.05	<.05
162	88-225	—	—	—	<.05	<.05
163	88-228	—	—	—	<.05	<.05
164	88-231	—	—	—	<.05	<.05
165	88-232	—	—	—	<.05	<.05
166	SS89-166	—	—	—	<.05	<.05
167	SS89-122	—	—	—	<.05	<.05
168	SS90C1	—	<0.25	—	—	<2.5
169	SS90C2	—	<.25	—	—	<2.5
			Site B25 (Vail Cutoff Drain)			
170	SS89-71	—	—	—	<0.05	<0.05
171	SS89-72	—	—	—	<.05	<.05
172	SS89-73	—	—	—	<.05	<.05
173	SS89-66	—	—	—	<.05	<.05
174	SS89-67	—	—	—	<.05	<.05
175	SS89-68	—	—	—	<.05	<.05
176	SS89-69	—	—	—	<.05	<.05
177	SS89-70	—	—	—	<.05	<.05

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Percent lipid	Oxychlor-dane	alpha-Chlordane	cis-Chlordane
			Site B26 (Vail 4 Drain)					
178	LNSS88-31	Ruddy duck	Breast muscle	74.4	2.17	<0.01	<0.01	---
179	SS89-159	Spiny softshell turtle	Fat	25.0	74.8	.64	.13	---
180	SS89-161	Spiny softshell turtle	Fat	26.0	74.5	.05	.13	---
181	SS89-163	Spiny softshell turtle	Fat	35.8	56.8	.05	.14	---
182	SS90C3	Asiatic river clam	Soft tissue	82.7	3.85	<.049	<.049	---
			Site B27 (Vail 4A Drain)					
183	SS89-63	Pileworms	Composite	84.0	1.02	<0.01	<0.01	---
184	SS89-65	Pileworms	Composite	85.0	1.35	<.01	<.01	---
			Site B28 (Vail Drain at New River)					
185	LNSS86-06B	Asiatic river clam	Soft tissue	93.2	0.25	<0.010	---	<0.010
186	LNSS86-07B	Asiatic river clam	Soft tissue	93.8	.28	<.0099	---	<.0099
187	LNSS86-08B	Asiatic river clam	Soft tissue	93.1	.41	<.0099	---	<.0099
			Site B29 (S Lateral Drain)					
188	SS89-123	Black-necked stilt	Carcass	59.7	9.00	<0.01	<0.01	---
189	SS89-124	Black-necked stilt	Carcass	67.6	7.95	.03	<.01	---
190	SS89-125	Black-necked stilt	Carcass	66.5	14.5	.01	<.01	---
191	SS89-126	Black-necked stilt	Carcass	67.4	16.0	<.01	<.01	---
192	SS89-127	Black-necked stilt	Carcass	62.6	12.9	.03	<.01	---
			Site B30 (Z Lateral Drain)					
193	SS90S5	Sediment	Sediment	66.2	---	<0.0095	<0.0095	---
194	SS90C5	Asiatic river clam	Soft tissue	70.6	4.00	<.049	<.049	---
			Site B31 (81st Street Drain)					
195	SS90S2	Sediment	Sediment	63.6	---	<0.009	<0.009	---
			Site B32 (Johnson Street Drain)					
196	SS90S3	Sediment	Sediment	38.1	---	<0.0098	<0.0098	---
197	SS90C4	Asiatic river clam	Soft tissue	76.5	2.68	<.019	<.019	---
			Site B33 (Shady Acres Duck Club)					
198	LNSS88-59	Northern shoveler	Breast muscle	75.2	2.68	<0.01	<0.01	---
			Site B34 (RH Pond)					
199	88-98	Black-necked stilt	Egg	70.5	16.0	0.04	<0.01	---
200	88-101	Black-necked stilt	Egg	69.0	15.5	.04	<.01	---
201	88-104	Black-necked stilt	Egg	71.5	16.8	.04	<.01	---
202	88-107	Black-necked stilt	Egg	70.5	13.1	.01	<.01	---
203	88-110	Black-necked stilt	Egg	71.0	15.6	.01	<.01	---
204	88-116	Black-necked stilt	Egg	71.0	15.1	.01	<.01	---
205	88-119	Black-necked stilt	Egg	64.5	16.7	.01	<.01	---
206	88-128	Black-necked stilt	Egg	73.0	15.3	.01	<.01	---
207	88-131	Black-necked stilt	Egg	72.0	15.7	.02	<.01	---
			Site B35 (HQ Pond)					
208	LNSS88-33	Ruddy duck	Breast muscle	72.8	2.16	<0.01	<0.01	---
209	LNSS88-37	Ruddy duck	Breast muscle	73.6	4.82	<.01	<.01	---

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	gamma-Chlordane	trans-Chlordane	cis-Nona-chlor	trans-Nonachlor	Hepta-chlor	Heptachlor epoxide	Methyoxy-chlor	o,p'-DDE
				Site B26 (Vail 4 Drain)					
178	LNSS88-31	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
179	SS89-159	<.01	—	.05	.16	—	.02	—	<.01
180	SS89-161	.02	—	.02	.14	—	.03	—	<.01
181	SS89-163	.02	—	.03	.14	—	.03	—	<.01
182	SS90C3	—	<0.049	.05	<.049	—	<.049	—	<.01
				Site B27 (Vail 4A Drain)					
183	SS89-63	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
184	SS89-65	<.01	—	<.01	<.01	—	<.01	—	<.01
				Site B28 (Vail Drain at New River)					
185	LNSS86-06B	—	<0.010	<0.010	<0.010	—	<0.010	—	—
186	LNSS86-07B	—	<.0099	<.0099	<.0099	—	<.0099	—	—
187	LNSS86-08B	—	<.0099	<.0099	<.0099	—	<.0099	—	—
				Site B29 (S Lateral Drain)					
188	SS89-123	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
189	SS89-124	<.01	—	<.01	<.01	—	<.01	—	<.01
190	SS89-125	<.01	—	<.01	<.01	—	<.01	—	<.01
191	SS89-126	<.01	—	<.01	<.01	—	<.01	—	<.01
192	SS89-127	<.01	—	<.01	<.01	—	<.01	—	<.01
				Site B30 (Z Lateral Drain)					
193	SS90S5	—	<0.0095	<0.0095	<0.0095	—	<0.0095	—	<0.01
194	SS90C5	—	<.049	<.049	<.049	—	<.049	—	<.01
				Site B31 (81st Street Drain)					
195	SS90S2	—	<0.009	<0.009	<0.009	—	<0.009	—	<0.01
				Site B32 (Johnson Street Drain)					
196	SS90S3	—	<0.0098	<0.0098	<0.0098	—	<0.0098	—	<0.01
197	SS90C4	—	<.019	<.019	<.019	—	<.019	—	<.01
				Site B33 (Shady Acres Duck Club)					
198	LNSS88-59	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
				Site B34 (RH Pond)					
199	88-98	<0.01	—	<0.01	0.01	—	0.01	—	<0.01
200	88-101	<.01	—	<.01	.01	—	.02	—	<.01
201	88-104	<.01	—	<.01	.01	—	.02	—	<.01
202	88-107	<.01	—	<.01	.01	—	.01	—	<.01
203	88-110	<.01	—	<.01	<.01	—	<.01	—	<.01
204	88-116	<.01	—	<.01	.01	—	<.01	—	<.01
205	88-119	<.01	—	<.01	.01	—	<.01	—	<.01
206	88-128	<.01	—	<.01	.01	—	<.01	—	<.01
207	88-131	<.01	—	<.01	<.01	—	<.01	—	<.01
				Site B35 (HQ Pond)					
208	LNSS88-33	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
209	LNSS88-37	<.01	—	<.01	<.01	—	<.01	—	<.01

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	p,p'-DDE	o,p'-DDD	p,p'-DDD	o,p'-DDT	p,p'-DDT	Total DDT	Endrin	Dieldrin	Aldrin
				Site B26 (Vail 4 Drain)						
178	LNSS88-31	0.19	<0.01	0.01	<0.01	<0.01	0.200	<0.01	<0.01	—
179	SS89-159	12	<.01	.16	<.01	<.01	12.160	<.01	.43	—
180	SS89-161	17	<.01	.45	<.01	<.01	17.450	<.01	.71	—
181	SS89-163	14	<.01	.25	<.01	<.01	14.250	<.01	.85	—
182	SS90C3	5.5	<.01	.12	<.01	.12	5.740	<.049	.12	—
				Site B27 (Vail 4A Drain)						
183	SS89-63	0.04	<0.01	<0.01	<0.01	<0.01	0.040	<0.01	<0.01	—
184	SS89-65	.03	<.01	<.01	<.01	<.01	.030	<.01	<.01	—
				Site B28 (Vail Drain at New River)						
185	LNSS86-06B	0.13	—	<0.010	—	<0.010	0.130	<0.010	<0.010	—
186	LNSS86-07B	.16	—	<.0099	—	<.0099	.160	<.0099	<.0099	—
187	LNSS86-08B	.24	—	<.0099	—	<.0099	.240	<.0099	<.0099	—
				Site B29 (S Lateral Drain)						
188	SS89-123	0.75	<0.01	<0.01	<0.01	<0.01	0.750	<0.01	0.01	—
189	SS89-124	3.1	<.01	<.01	<.01	<.01	3.100	<.01	.09	—
190	SS89-125	1.2	<.01	<.01	<.01	<.01	1.200	<.01	.02	—
191	SS89-126	2.7	<.01	<.01	<.01	<.01	2.700	<.01	.11	—
192	SS89-127	5.8	<.01	<.01	<.01	<.01	5.800	<.01	.15	—
				Site B30 (Z Lateral Drain)						
193	SS90S5	0.10	<0.01	<0.0095	<0.01	<0.0095	—	<0.0095	<0.0095	—
194	SS90C5	<.049	<.01	<.049	<.01	<.049	0.000	<.049	<.049	—
				Site B31 (81st Street Drain)						
195	SS90S2	0.066	<0.01	<0.009	<0.01	<0.009	—	<0.009	<0.009	—
				Site B32 (Johnson Street Drain)						
196	SS90S3	0.023	<0.01	<0.0098	<0.01	<0.0098	—	<0.0098	<0.0098	—
197	SS90C4	.16	<.01	.025	<.01	<.019	0.185	<.019	.070	—
				Site B33 (Shady Acres Duck Club)						
198	LNSS88-59	0.57	<0.01	0.01	<0.01	0.01	0.590	<0.01	0.01	—
				Site B34 (RH Pond)						
199	88-98	7.4	<.01	0.09	<0.01	<0.01	7.490	<0.01	0.10	—
200	88-101	7.7	<.01	<.01	<.01	.08	7.780	<.01	.11	—
201	88-104	7.7	<.01	<.01	<.01	.08	7.780	<.01	.11	—
202	88-107	6.9	<.01	.02	<.01	.03	6.950	<.01	.06	—
203	88-110	4.7	<.01	.01	<.01	.16	4.870	<.01	.03	—
204	88-116	4.9	<.01	.01	<.01	.02	4.930	<.01	.07	—
205	88-119	5.4	<.01	.01	<.01	.03	5.440	<.01	.08	—
206	88-128	4.5	<.01	.01	<.01	.02	4.530	<.01	.09	—
207	88-131	8.9	<.01	.01	<.01	.02	8.930	<.01	.06	—
				Site B35 (HQ Pond)						
208	LNSS88-33	0.56	<0.01	<0.01	<0.01	0.01	0.570	<0.01	0.01	—
209	LNSS88-37	.64	<.01	.01	<.01	.01	.660	<.01	.01	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Lindane	Hexachlorobenzene	Endosulfan I	Endosulfan II	Endosulfan sulfate	Mirex	DCPA	Dicofol
						Site B26 (Vail 4 Drain)							
178	LNSS88-31	<0.01	<0.01	<0.01	<0.01	—	<0.01	—	—	—	<0.01	—	—
179	SS89-159	<.01	.02	<.01	<.01	—	.12	<0.01	<0.01	—	<.01	—	—
180	SS89-161	<.01	.01	<.01	<.01	—	.01	<.01	<.01	—	<.01	—	—
181	SS89-163	<.01	.01	<.01	<.01	—	.02	<.01	<.01	—	<.01	—	—
182	SS90C3	—	—	—	—	—	—	—	—	—	—	—	—
						Site B27 (Vail 4A Drain)							
183	SS89-63	<0.01	<0.01	<0.01	<0.01	—	<0.01	—	—	—	<0.01	—	—
184	SS89-65	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
						Site B28 (Vail Drain at New River)							
185	LNSS86-06B	—	—	—	—	—	—	—	—	—	—	—	—
186	LNSS86-07B	—	—	—	—	—	—	—	—	—	—	—	—
187	LNSS86-08B	—	—	—	—	—	—	—	—	—	—	—	—
						Site B29 (S Lateral Drain)							
188	SS89-123	<0.01	<0.01	<0.01	<0.01	—	<0.01	<0.01	<0.01	—	<0.01	—	—
189	SS89-124	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
190	SS89-125	<.01	<.01	<.01	<.01	—	.01	<.01	<.01	—	<.01	—	—
191	SS89-126	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
192	SS89-127	<.01	.13	<.01	<.01	—	.02	<.01	<.01	—	<.01	—	—
						Site B30 (Z Lateral Drain)							
193	SS90S5	—	—	—	—	—	—	—	—	—	—	—	—
194	SS90C5	—	—	—	—	—	—	—	—	—	—	—	—
						Site B31 (81st Street Drain)							
195	SS90S2	—	—	—	—	—	—	—	—	—	—	—	—
						Site B32 (Johnson Street Drain)							
196	SS90S3	—	—	—	—	—	—	—	—	—	—	—	—
197	SS90C4	—	—	—	—	—	—	—	—	—	—	—	—
						Site B33 (Shady Acres Duck Club)							
198	LNSS88-59	<0.01	<0.01	<0.01	<0.01	—	0.01	—	—	—	<0.01	—	—
						Site B34 (RH Pond)							
199	88-98	<0.01	0.25	<0.01	<0.01	—	0.01	—	—	—	<0.01	—	—
200	88-101	<.01	.14	<.01	<.01	—	.01	—	—	—	<.01	—	—
201	88-104	<.01	.15	<.01	<.01	—	.01	—	—	—	<.01	—	—
202	88-107	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
203	88-110	<.01	.05	<.01	<.01	—	.01	—	—	—	<.01	—	—
204	88-116	<.01	.03	<.01	<.01	—	.01	—	—	—	<.01	—	—
205	88-119	<.01	.04	<.01	<.01	—	.01	—	—	—	<.01	—	—
206	88-128	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
207	88-131	<.01	.02	<.01	<.01	—	<.01	—	—	—	<.01	—	—
						Site B35 (HQ Pond)							
208	LNSS88-33	<0.01	<0.01	<0.01	<0.01	—	0.01	—	—	—	<0.01	—	—
209	LNSS88-37	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Tetra-difon	BI PH CL-2	BI PH CL-3	BI PH CL-4	BI PH CL-5	BI PH CL-6	BI PH CL-7	BI PH CL-8	BI PH CL-9	PCB 1016	PCB 1221	PCB 1232	PCB 1242
							Site B26 (Vail 4 Drain)							
178	LNSS88-31	—	—	—	—	—	—	—	—	—	—	—	—	—
179	SS89-159	—	—	—	—	—	—	—	—	—	—	—	—	—
180	SS89-161	—	—	—	—	—	—	—	—	—	—	—	—	—
181	SS89-163	—	—	—	—	—	—	—	—	—	—	—	—	—
182	SS90C3	—	—	—	—	—	—	—	—	—	—	—	—	—
							Site B27 (Vail 4A Drain)							
183	SS89-63	—	—	—	—	—	—	—	—	—	—	—	—	—
184	SS89-65	—	—	—	—	—	—	—	—	—	—	—	—	—
							Site B28 (Vail Drain at New River)							
185	LNSS86-06B	—	—	—	—	—	—	—	—	—	—	—	—	—
186	LNSS86-07B	—	—	—	—	—	—	—	—	—	—	—	—	—
187	LNSS86-08B	—	—	—	—	—	—	—	—	—	—	—	—	—
							Site B29 (S Lateral Drain)							
188	SS89-123	—	—	—	—	—	—	—	—	—	—	—	—	—
189	SS89-124	—	—	—	—	—	—	—	—	—	—	—	—	—
190	SS89-125	—	—	—	—	—	—	—	—	—	—	—	—	—
191	SS89-126	—	—	—	—	—	—	—	—	—	—	—	—	—
192	SS89-127	—	—	—	—	—	—	—	—	—	—	—	—	—
							Site B30 (Z Lateral Drain)							
193	SS90S5	—	—	—	—	—	—	—	—	—	—	—	—	—
194	SS90C5	—	—	—	—	—	—	—	—	—	—	—	—	—
							Site B31 (81st Street Drain)							
195	SS90S2	—	—	—	—	—	—	—	—	—	—	—	—	—
							Site B32 (Johnson Street Drain)							
196	SS90S3	—	—	—	—	—	—	—	—	—	—	—	—	—
197	SS90C4	—	—	—	—	—	—	—	—	—	—	—	—	—
							Site B33 (Shady Acres Duck Club)							
198	LNSS88-59	—	—	—	—	—	—	—	—	—	—	—	—	—
							Site B34 (RH Pond)							
199	88-98	—	—	—	—	—	—	—	—	—	—	—	—	—
200	88-101	—	—	—	—	—	—	—	—	—	—	—	—	—
201	88-104	—	—	—	—	—	—	—	—	—	—	—	—	—
202	88-107	—	—	—	—	—	—	—	—	—	—	—	—	—
203	88-110	—	—	—	—	—	—	—	—	—	—	—	—	—
204	88-116	—	—	—	—	—	—	—	—	—	—	—	—	—
205	88-119	—	—	—	—	—	—	—	—	—	—	—	—	—
206	88-128	—	—	—	—	—	—	—	—	—	—	—	—	—
207	88-131	—	—	—	—	—	—	—	—	—	—	—	—	—
							Site B35 (HQ Pond)							
208	LNSS88-33	—	—	—	—	—	—	—	—	—	—	—	—	—
209	LNSS88-37	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene
			Site B26 (Vail 4 Drain)			
178	LNSS88-31	—	—	—	<0.05	<0.05
179	SS89-159	—	—	—	<.05	3.6
180	SS89-161	—	—	—	<.05	5.6
181	SS89-163	—	—	—	<.05	4.3
182	SS90C3	—	<0.25	—	—	7.0
			Site B27 (Vail 4A Drain)			
183	SS89-63	—	—	—	<0.05	<0.05
184	SS89-65	—	—	—	<.05	<.05
			Site B28 (Vail Drain at New River)			
185	LNSS86-06B	—	<0.01	<0.10	—	<0.50
186	LNSS86-07B	—	<.099	<.099	—	<.50
187	LNSS86-08B	—	<.099	<.099	—	<.49
			Site B29 (S Lateral Drain)			
188	SS89-123	—	—	—	<0.05	<0.05
189	SS89-124	—	—	—	<.05	<.05
190	SS89-125	—	—	—	<.05	<.05
191	SS89-126	—	—	—	<.05	<.05
192	SS89-127	—	—	—	<.05	<.05
			Site B30 (Z Lateral Drain)			
193	SS90S5	—	<0.047	—	—	—
194	SS90C5	—	<.25	—	—	<2.5
			Site B31 (81st Street Drain)			
195	SS90S2	—	<0.050	—	—	—
			Site B32 (Johnson Street Drain)			
196	SS90S3	—	<0.049	—	—	—
197	SS90C4	—	<.01	—	—	1.1
			Site B33 (Shady Acres Duck Club)			
198	LNSS88-59	—	—	—	<0.05	<0.05
			Site B34 (RH Pond)			
199	88-98	—	—	—	<0.05	0.52
200	88-101	—	—	—	<.05	.70
201	88-104	—	—	—	<.05	.81
202	88-107	—	—	—	<.05	.71
203	88-110	—	—	—	<.05	.29
204	88-116	—	—	—	<.05	.45
205	88-119	—	—	—	<.05	.49
206	88-128	—	—	—	<.05	.64
207	88-131	—	—	—	<.05	<.05
			Site B35 (HQ Pond)			
208	LNSS88-33	—	—	—	<0.05	<0.05
209	LNSS88-37	—	—	—	<.05	<.05

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Percent lipid	Oxychlor-dane	alpha-Chlordane	cis-Chlordane
			Site B36 (Reidman Pond)					
210	88-179	Black-necked stilt	Egg	71.0	16.3	<0.01	<0.01	—
211	88-182	Black-necked stilt	Egg	65.0	18.7	.02	<.01	—
212	LNSS88-84	Black-necked stilt	Carcass	84.0	3.83	<.05	<.05	—
213	88-219	Black-necked stilt	Egg	74.0	11.9	<.01	<.01	—
214	88-222	Black-necked stilt	Egg	70.5	16.7	.02	<.01	—
			Site B37 (Hazard Pond)					
215	LNSS86-09B	Mosquitofish	Whole body	75.1	3.68	<0.0099	—	<0.0099
216	LNSS86-10B	Mosquitofish	Whole body	75.1	3.49	<.0098	—	<.0098
217	LNSS86-11B	Sailfin molly	Whole body	79.3	2.14	<.010	—	<.010
218	LNSS86-12B	Tilapia	Whole body	77.2	1.77	<.010	—	<.010
219	LNSS86-13B	Tilapia	Whole body	75.9	1.13	<.010	—	<.010
220	LNSS86-21	Double-crested cormorant	Breast muscle	69.2	5.44	<.010	—	<.010
221	LNSS86-19	Ruddy duck	Breast muscle	72.0	2.71	<.0099	—	<.0099
222	LNSS86-17	American coot	Breast muscle	73.0	5.09	<.010	—	<.010
223	LNSS86-15	Black-necked stilt	Breast muscle	64.1	6.10	<.010	—	<.010
224	LNSS87-19	Crayfish	Whole body	68.9	1.0	<.01	—	<.01
225	LNSS87-25	Tilapia	Whole body	65.4	11.2	—	—	—
226	LNSS87-26	Tilapia	Whole body	68.6	2.6	.01	—	<.01
227	LNSS87-03	Double-crested cormorant	Breast muscle	70.6	4.7	<.01	—	<.01
228	LNSS87-17	Cattle egret	Breast muscle	69.3	3.5	<.01	—	<.01
229	LNSS87-01	Herring gull	Breast muscle	66.1	11.5	.02	—	<.01
230	LNSS88-25	Northern shoveler	Breast muscle	73.4	4.38	<.01	<0.01	—
231	LNSS88-01	Ruddy duck	Breast muscle	69.4	3.70	<.01	<.01	—
232	LNSS88-03	Ruddy duck	Breast muscle	71.6	2.67	<.01	<.01	—
233	LNSS88-05	Ruddy duck	Breast muscle	70.8	3.64	<.01	<.01	—
234	LNSS88-07	Ruddy duck	Breast muscle	70.8	2.53	<.01	<.01	—
235	LNSS88-09	Ruddy duck	Breast muscle	71.0	2.27	<.01	<.01	—
236	LNSS88-11	Ruddy duck	Breast muscle	71.2	2.43	<.01	<.01	—
237	LNSS88-13	Ruddy duck	Breast muscle	74.8	2.15	.04	<.01	—
238	LNSS88-15	Ruddy duck	Breast muscle	72.4	3.64	.01	<.01	—
239	LNSS88-17	Ruddy duck	Breast muscle	69.0	5.84	<.01	<.01	—
240	LNSS88-19	Ruddy duck	Breast muscle	71.0	3.21	<.01	<.01	—
241	88-113	Black-necked stilt	Egg	65.0	14.9	.03	<.01	—
242	88-122	Black-necked stilt	Egg	64.0	20.0	.03	<.01	—
243	88-125	Black-necked stilt	Egg	67.0	16.1	.04	<.01	—
244	88-134	Black-necked stilt	Egg	73.0	12.8	.01	<.01	—
245	SS89-153	Spiny softshell turtle	Egg	58.0	14.3	.01	.03	—
246	SS89-152	Spiny softshell turtle	Fat	19.0	78.5	.05	.16	—
247	SS89-155	Spiny softshell turtle	Fat	18.0	83.9	.07	.24	—
248	SS89-157	Spiny softshell turtle	Fat	23.0	76.5	.07	.09	—
249	SS89-74	Black-necked stilt	Egg	74.0	12.7	.02	<.01	—
250	SS89-75	Black-necked stilt	Egg	74.0	13.5	.02	<.01	—
251	SS89-77	Black-necked stilt	Egg	80.0	9.60	.02	<.01	—
252	SS89-83	Black-necked stilt	Egg	75.0	13.3	.01	.01	—
253	SS89-84	Black-necked stilt	Egg	76.0	11.5	.02	<.01	—
			Site B38 (South Brawley)					
254	89-030	White-faced ibis	Liver	70.5	4.30	<0.01	<0.01	—
255	89-031	White-faced ibis	Liver	71.5	4.90	<.01	<.01	—
256	89-032	White-faced ibis	Liver	71.2	3.60	<.01	<.01	—
257	89-033	White-faced ibis	Liver	72.9	—	<.01	<.01	—
258	89-034	White-faced ibis	Liver	70.0	7.20	<.01	<.01	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	gamma-Chlordane	trans-Chlordane	cis-Nona-chlor	trans-Nonachlor	Hepta-chlor	Heptachlor epoxide	Methyoxy-chlor	o,p'-DDE
				Site B36 (Reidman Pond)					
210	88-179	0.02	—	<0.01	<0.01	—	0.05	—	<0.01
211	88-182	<.01	—	<.01	.01	—	.01	—	<.01
212	LNSS88-84	<.05	—	<.05	<.05	<0.05	<.05	—	<.05
213	88-219	<.01	—	<.01	<.01	—	.01	—	<.01
214	88-222	<.01	—	<.01	.01	—	<.01	—	<.01
				Site B37 (Hazard Pond)					
215	LNSS86-09B	—	<0.0099	<0.0099	<0.0099	—	<0.0099	—	—
216	LNSS86-10B	—	<.0098	<.0098	<.0098	—	<.0098	—	—
217	LNSS86-11B	—	<.010	<.010	<.010	—	<.010	—	—
218	LNSS86-12B	—	<.010	<.010	<.010	—	<.010	—	—
219	LNSS86-13B	—	<.010	<.010	<.010	—	<.010	—	—
220	LNSS86-21	—	<.010	<.010	<.010	—	<.010	—	—
221	LNSS86-19	—	<.0099	<.0099	<.0099	—	<.0099	—	—
222	LNSS86-17	—	<.010	<.010	<.010	—	<.010	—	—
223	LNSS86-15	—	<.010	<.010	<.010	—	<.010	—	—
224	LNSS87-19	—	<.01	<.01	<.01	<0.01	<.01	<0.01	<0.01
225	LNSS87-25	—	—	—	—	—	—	—	—
226	LNSS87-26	—	<.01	<.01	.01	<.01	<.01	<.01	.02
227	LNSS87-03	—	<.01	<.01	<.01	<.01	<.01	.01	<.01
228	LNSS87-17	—	<.01	<.01	<.01	<.01	<.01	<.01	<.01
229	LNSS87-01	—	<.01	<.01	<.01	<.01	.02	.02	<.01
230	LNSS88-25	<0.01	—	<.01	<.01	—	<.01	—	<.01
231	LNSS88-01	<.01	—	<.01	<.01	—	<.01	—	<.01
232	LNSS88-03	<.01	—	<.01	<.01	—	<.01	—	<.01
233	LNSS88-05	<.01	—	<.01	<.01	—	<.01	—	<.01
234	LNSS88-07	<.01	—	<.01	<.01	—	<.01	—	<.01
235	LNSS88-09	<.01	—	<.01	<.01	—	<.01	—	<.01
236	LNSS88-11	<.01	—	<.01	<.01	—	<.01	—	<.01
237	LNSS88-13	<.01	—	<.01	<.01	—	.02	—	<.01
238	LNSS88-15	<.01	—	<.01	<.01	—	<.01	—	<.01
239	LNSS88-17	<.01	—	<.01	<.01	—	<.01	—	<.01
240	LNSS88-19	<.01	—	<.01	<.01	—	<.01	—	<.01
241	88-113	<.01	—	<.01	.01	—	.01	—	<.01
242	88-122	<.01	—	<.01	.01	—	.01	—	<.01
243	88-125	<.01	—	<.01	.01	—	.01	—	<.01
244	88-134	<.01	—	<.01	.01	—	<.01	—	<.01
245	SS89-153	.02	—	.02	.05	—	.01	—	<.01
246	SS89-152	.05	—	.11	.23	—	.04	—	<.01
247	SS89-155	.08	—	.11	.29	—	.04	—	<.01
248	SS89-157	.02	—	.02	.10	—	.04	—	<.01
249	SS89-74	<.01	—	<.01	<.01	—	.01	—	<.01
250	SS89-75	<.01	—	<.01	<.01	—	.02	—	<.01
251	SS89-77	<.01	—	<.01	<.01	—	.01	—	<.01
252	SS89-83	<.01	—	<.01	<.01	—	<.01	—	<.01
253	SS89-84	<.01	—	<.01	<.01	—	.01	—	<.01
				Site B38 (South Brawley)					
254	89-030	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
255	89-031	<.01	—	<.01	.03	—	<.01	—	<.01
256	89-032	<.01	—	<.01	<.01	—	<.01	—	<.01
257	89-033	<.01	—	<.01	<.01	—	<.01	—	<.01
258	89-034	<.01	—	<.01	<.01	—	<.01	—	<.01

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	p,p'-DDE	o,p'-DDD	p,p'-DDD	o,p'-DDT	p,p'-DDT	Total DDT	Endrin	Dieldrin	Aldrin
				Site B36 (Reidman Pond)						
210	88-179	10	<0.01	0.06	<0.01	1.2	11.260	<0.01	0.10	—
211	88-182	6.2	<.01	.01	<.01	.06	6.270	<.01	.10	—
212	LNSS88-84	.75	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<0.05
213	88-219	1.6	<.01	<.01	<.01	<.01	1.600	<.01	<.01	—
214	88-222	6.6	<.01	.01	<.01	.03	6.640	<.01	08	—
				Site B37 (Hazard Pond)						
215	LNSS86-09B	0.61	—	<0.0099	—	<0.0099	0.610	<0.0099	<0.0099	—
216	LNSS86-10B	.54	—	.030	—	<.0098	.570	<.0098	.024	—
217	LNSS86-11B	.35	—	.018	—	<.010	.368	<.010	.016	—
218	LNSS86-12B	.37	—	<.010	—	<.010	.370	<.010	<.010	—
219	LNSS86-13B	.23	—	<.010	—	<.010	.230	<.010	<.010	—
220	LNSS86-21	.78	—	<.010	—	<.010	.780	<.010	<.010	—
221	LNSS86-19	.30	—	<.0099	—	<.0099	.300	<.0099	<.0099	—
222	LNSS86-17	.17	—	<.010	—	<.010	.170	<.010	<.010	—
223	LNSS86-15	4.2	—	<.010	—	<.010	4.200	<.010	.098	—
224	LNSS87-19	.25	<0.01	<.01	<0.01	<.01	.250	<.01	<.01	<0.01
225	LNSS87-25	—	—	—	—	—	—	—	—	—
226	LNSS87-26	.30	<.01	.02	.01	.01	.360	<.01	.02	<.01
227	LNSS87-03	4.9	<.01	.02	<.01	<.01	4.920	<.01	.02	<.01
228	LNSS87-17	2.4	<.01	.02	<.01	.01	2.430	<.01	.03	<.01
229	LNSS87-01	2.8	01	.01	<.01	<.01	2.820	<.01	.03	<.01
230	LNSS88-25	2.1	<.01	.03	<.01	.01	2.140	<.01	.01	—
231	LNSS88-01	.14	<.01	<.01	<.01	<.01	.140	<.01	.01	—
232	LNSS88-03	.19	<.01	.01	<.01	<.01	.200	<.01	.01	—
233	LNSS88-05	.26	<.01	.01	<.01	<.01	.270	<.01	.01	—
234	LNSS88-07	.49	<.01	<.01	<.01	<.01	.490	<.01	.01	—
235	LNSS88-09	.1	<.01	<.01	<.01	<.01	.100	<.01	.01	—
236	LNSS88-11	.13	<.01	<.01	<.01	<.01	.130	<.01	.01	—
237	LNSS88-13	.28	<.01	<.01	<.01	<.01	.280	<.01	.01	—
238	LNSS88-15	.22	<.01	<.01	<.01	<.01	.220	<.01	.01	—
239	LNSS88-17	.12	<.01	.01	<.01	<.01	.130	<.01	01	—
240	LNSS88-19	.12	<.01	.01	<.01	<.01	.130	<.01	.01	—
241	88-113	6.0	<.01	.02	<.01	.03	6.050	<.01	.05	—
242	88-122	5.5	<.01	.02	<.01	.02	5.540	<.01	.03	—
243	88-125	12	<.01	.01	<.01	.05	12.060	.03	.10	—
244	88-134	3.6	<.01	.02	<.01	.03	3.650	<.01	.04	—
245	SS89-153	7.8	<.01	.16	<.01	<.01	7.960	<.01	.13	—
246	SS89-152	21	<.01	.89	<.01	<.01	21.890	<.01	.68	—
247	SS89-155	16	<.01	.74	<.01	<.01	16.740	<.01	.81	—
248	SS89-157	11	<.01	.21	<.01	<.01	11.210	<.01	.25	—
249	SS89-74	3.4	<.01	<.01	<.01	.03	3.430	<.01	.05	—
250	SS89-75	3.2	<.01	<.01	<.01	.02	3.220	<.01	.07	—
251	SS89-77	1.8	<.01	<.01	<.01	<.01	1.800	<.01	.03	—
252	SS89-83	2.7	<.01	<.01	<.01	.09	2.790	<.01	.05	—
253	SS89-84	3.2	<.01	<.01	<.01	.13	3.330	<.01	.03	—
				Site B38 (South Brawley)						
254	89-030	5.6	<0.01	0.22	<0.01	<0.01	5.820	<0.01	0.05	—
255	89-031	4.6	<.01	.06	<.01	<.01	4.660	<.01	.15	—
256	89-032	4.5	<.01	.20	<.01	<.01	4.700	<.01	.12	—
257	89-033	7.9	<.01	.19	<.01	<.01	8.090	<.01	.08	—
258	89-034	5.6	<.01	.07	<.01	<.01	5.670	<.01	.08	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Lindane	Hexachlorobenzene	Endosulfan I	Endosulfan II	Endosulfan sulfate	Mirex	DCPA	Dicofol
						Site B36 (Reidman Pond)							
210	88-179	<0.01	<0.01	0.05	<0.01	—	0.02	—	—	—	<0.01	—	—
211	88-182	<.01	.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
212	LNSS88-84	<.05	<.05	<.05	—	<0.05	<.05	—	—	—	<.05	—	—
213	88-219	<.01	<.01	.02	<.01	—	.01	—	—	—	<.01	—	—
214	88-222	<.01	.01	<.01	<.01	—	.02	—	—	—	<.01	—	—
						Site B37 (Hazard Pond)							
215	LNSS86-09B	—	—	—	—	—	—	—	—	—	—	—	—
216	LNSS86-10B	—	—	—	—	—	—	—	—	—	—	—	—
217	LNSS86-11B	—	—	—	—	—	—	—	—	—	—	—	—
218	LNSS86-12B	—	—	—	—	—	—	—	—	—	—	—	—
219	LNSS86-13B	—	—	—	—	—	—	—	—	—	—	—	—
220	LNSS86-21	—	—	—	—	—	—	—	—	—	—	—	—
221	LNSS86-19	—	—	—	—	—	—	—	—	—	—	—	—
222	LNSS86-17	—	—	—	—	—	—	—	—	—	—	—	—
223	LNSS86-15	—	—	—	—	—	—	—	—	—	—	—	—
224	LNSS87-19	<0.01	0.01	<0.01	<0.01	—	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01
225	LNSS87-25	—	—	—	—	—	—	—	—	—	—	—	—
226	LNSS87-26	<.01	.03	<.01	<.01	—	<.01	<.01	<.01	.02	<.01	.14	<.01
227	LNSS87-03	<.01	<.01	<.01	<.01	—	<.01	<.01	<.01	<.01	<.01	.03	<.01
228	LNSS87-17	<.01	.01	<.01	<.01	—	.06	<.01	<.01	<.01	<.01	<.01	<.01
229	LNSS87-01	<.01	<.01	<.01	<.01	—	.01	<.01	<.01	<.01	<.01	<.01	<.01
230	LNSS88-25	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
231	LNSS88-01	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
232	LNSS88-03	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
233	LNSS88-05	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
234	LNSS88-07	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
235	LNSS88-09	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
236	LNSS88-11	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
237	LNSS88-13	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
238	LNSS88-15	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
239	LNSS88-17	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
240	LNSS88-19	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
241	88-113	<.01	.03	<.01	<.01	—	.02	—	—	—	<.01	—	—
242	88-122	<.01	.03	<.01	<.01	—	.02	—	—	—	<.01	—	—
243	88-125	<.01	.03	<.01	<.01	—	.05	—	—	—	<.01	—	—
244	88-134	<.01	.03	<.01	<.01	—	.01	—	—	—	<.01	—	—
245	SS89-153	<.01	.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
246	SS89-152	<.01	.02	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
247	SS89-155	<.01	.02	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
248	SS89-157	<.01	.01	<.01	<.01	—	<.01	<.01	<.01	—	<.01	—	—
249	SS89-74	<.01	.05	<.01	<.01	—	.01	—	—	—	<.01	—	—
250	SS89-75	<.01	.12	<.01	<.01	—	.01	—	—	—	<.01	—	—
251	SS89-77	<.01	.09	<.01	<.01	—	.01	—	—	—	<.01	—	—
252	SS89-83	<.01	.03	<.01	<.01	—	.01	—	—	—	<.01	—	—
253	SS89-84	<.01	.03	<.01	<.01	—	<.01	—	—	—	<.01	—	—
						Site B38 (South Brawley)							
254	89-030	<0.01	<0.01	<0.01	<0.01	—	2.9	—	—	—	<0.01	—	—
255	89-031	<.01	<.01	<.01	<.01	—	.04	—	—	—	<.01	—	—
256	89-032	<.01	<.01	<.01	<.01	—	1.5	—	—	—	<.01	—	—
257	89-033	<.01	<.01	<.01	<.01	—	2.7	—	—	—	<.01	—	—
258	89-034	<.01	<.01	<.01	<.01	—	.02	—	—	—	<.01	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Tetra-difon	BI PH CL-2	BI PH CL-3	BI PH CL-4	BI PH CL-5	BI PH CL-6	BI PH CL-7	BI PH CL-8	BI PH CL-9	PCB 1016	PCB 1221	PCB 1232	PCB 1242
						Site B36 (Reidman Pond)								
210	88-179	—	—	—	—	—	—	—	—	—	—	—	—	—
211	88-182	—	—	—	—	—	—	—	—	—	—	—	—	—
212	LNSS88-84	—	<0.05	<0.05	0.05	0.06	0.07	<0.05	<0.05	<0.05	—	—	—	—
213	88-219	—	—	—	—	—	—	—	—	—	—	—	—	—
214	88-222	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B37 (Hazard Pond)								
215	LNSS86-09B	—	—	—	—	—	—	—	—	—	—	—	—	—
216	LNSS86-10B	—	—	—	—	—	—	—	—	—	—	—	—	—
217	LNSS86-11B	—	—	—	—	—	—	—	—	—	—	—	—	—
218	LNSS86-12B	—	—	—	—	—	—	—	—	—	—	—	—	—
219	LNSS86-13B	—	—	—	—	—	—	—	—	—	—	—	—	—
220	LNSS86-21	—	—	—	—	—	—	—	—	—	—	—	—	—
221	LNSS86-19	—	—	—	—	—	—	—	—	—	—	—	—	—
222	LNSS86-17	—	—	—	—	—	—	—	—	—	—	—	—	—
223	LNSS86-15	—	—	—	—	—	—	—	—	—	—	—	—	—
224	LNSS87-19	<0.01	—	—	—	—	—	—	—	—	<0.05	<0.50	<0.05	<0.05
225	LNSS87-25	—	—	—	—	—	—	—	—	—	—	—	—	—
226	LNSS87-26	<.01	—	—	—	—	—	—	—	—	<.05	<.50	<.05	<.05
227	LNSS87-03	<.01	—	—	—	—	—	—	—	—	<.05	<.50	<.05	<.05
228	LNSS87-17	<.01	—	—	—	—	—	—	—	—	<.05	<.50	<.05	<.05
229	LNSS87-01	<.01	—	—	—	—	—	—	—	—	<.05	<.50	<.05	<.05
230	LNSS88-25	—	—	—	—	—	—	—	—	—	—	—	—	—
231	LNSS88-01	—	—	—	—	—	—	—	—	—	—	—	—	—
232	LNSS88-03	—	—	—	—	—	—	—	—	—	—	—	—	—
233	LNSS88-05	—	—	—	—	—	—	—	—	—	—	—	—	—
234	LNSS88-07	—	—	—	—	—	—	—	—	—	—	—	—	—
235	LNSS88-09	—	—	—	—	—	—	—	—	—	—	—	—	—
236	LNSS88-11	—	—	—	—	—	—	—	—	—	—	—	—	—
237	LNSS88-13	—	—	—	—	—	—	—	—	—	—	—	—	—
238	LNSS88-15	—	—	—	—	—	—	—	—	—	—	—	—	—
239	LNSS88-17	—	—	—	—	—	—	—	—	—	—	—	—	—
240	LNSS88-19	—	—	—	—	—	—	—	—	—	—	—	—	—
241	88-113	—	—	—	—	—	—	—	—	—	—	—	—	—
242	88-122	—	—	—	—	—	—	—	—	—	—	—	—	—
243	88-125	—	—	—	—	—	—	—	—	—	—	—	—	—
244	88-134	—	—	—	—	—	—	—	—	—	—	—	—	—
245	SS89-153	—	—	—	—	—	—	—	—	—	—	—	—	—
246	SS89-152	—	—	—	—	—	—	—	—	—	—	—	—	—
247	SS89-155	—	—	—	—	—	—	—	—	—	—	—	—	—
248	SS89-157	—	—	—	—	—	—	—	—	—	—	—	—	—
249	SS89-74	—	—	—	—	—	—	—	—	—	—	—	—	—
250	SS89-75	—	—	—	—	—	—	—	—	—	—	—	—	—
251	SS89-77	—	—	—	—	—	—	—	—	—	—	—	—	—
252	SS89-83	—	—	—	—	—	—	—	—	—	—	—	—	—
253	SS89-84	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B38 (South Brawley)								
254	89-030	—	—	—	—	—	—	—	—	—	—	—	—	—
255	89-031	—	—	—	—	—	—	—	—	—	—	—	—	—
256	89-032	—	—	—	—	—	—	—	—	—	—	—	—	—
257	89-033	—	—	—	—	—	—	—	—	—	—	—	—	—
258	89-034	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene
			Site B36 (Reidman Pond)			
210	88-179	—	—	—	<0.05	0.01
211	88-182	—	—	—	<.05	<.05
212	LNSS88-84	—	—	—	<.50	<.50
213	88-219	—	—	—	<.05	<.05
214	88-222	—	—	—	<.05	<.05
			Site B37 (Hazard Pond)			
215	LNSS86-09B	—	<0.099	<0.099	—	<0.49
216	LNSS86-10B	—	<.098	<.098	—	<.49
217	LNSS86-11B	—	<.10	<.10	—	<.50
218	LNSS86-12B	—	<.10	<.10	—	<.50
219	LNSS86-13B	—	<.10	<.10	—	<.50
220	LNSS86-21	—	<.10	<.10	—	<.50
221	LNSS86-19	—	<.099	<.099	—	<.50
222	LNSS86-17	—	<.10	<.10	—	<.50
223	LNSS86-15	—	<.10	<.10	—	<.50
224	LNSS87-19	<0.05	<.05	<.05	—	<.50
225	LNSS87-25	—	—	—	—	—
226	LNSS87-26	<.05	<.05	<.05	—	<.50
227	LNSS87-03	<.05	<.05	<.05	—	<.50
228	LNSS87-17	<.05	<.05	<.05	—	<.50
229	LNSS87-01	<.05	<.05	<.05	—	<.50
230	LNSS88-25	—	—	—	<0.05	<0.05
231	LNSS88-01	—	—	—	<.05	<.05
232	LNSS88-03	—	—	—	.05	<.05
233	LNSS88-05	—	—	—	.15	<.05
234	LNSS88-07	—	—	—	<.05	<.05
235	LNSS88-09	—	—	—	<.05	<.05
236	LNSS88-11	—	—	—	<.05	<.05
237	LNSS88-13	—	—	—	.30	<.05
238	LNSS88-15	—	—	—	.26	<.05
239	LNSS88-17	—	—	—	<.05	<.05
240	LNSS88-19	—	—	—	<.05	<.05
241	88-113	—	—	—	<.05	.41
242	88-122	—	—	—	<.05	<.05
243	88-125	—	—	—	<.05	.95
244	88-134	—	—	—	<.05	<.05
245	SS89-153	—	—	—	<.05	.99
246	SS89-152	—	—	—	<.05	5.9
247	SS89-155	—	—	—	<.05	4.9
248	SS89-157	—	—	—	<.05	2.3
249	SS89-74	—	—	—	<.05	<.05
250	SS89-75	—	—	—	<.05	<.05
251	SS89-77	—	—	—	<.05	<.05
252	SS89-83	—	—	—	<.05	<.05
253	SS89-84	—	—	—	<.05	<.05
			Site B38 (South Brawley)			
254	89-030	—	—	—	<0.05	<0.05
255	89-031	—	—	—	<.05	<.05
256	89-032	—	—	—	<.05	<.05
257	89-033	—	—	—	<.05	<.05
258	89-034	—	—	—	<.05	<.05

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Species	Matrix	Percent moisture	Percent lipid	Oxychlor-dane	alpha-Chlordane	cis-Chlordane
			Site B38 (South Brawley)--Continued					
259	89-035	White-faced ibis	Liver	72.3	4.00	<0.01	<0.01	---
260	89-036	White-faced ibis	Liver	72.3	4.60	<.01	<.01	---
261	89-037	White-faced ibis	Liver	69.8	5.40	<.01	<.01	---
262	89-038	White-faced ibis	Liver	71.2	3.60	<.01	<.01	---
263	SS89-103	White-faced ibis	Breast/fat	72.0	5.30	.01	.02	---
264	SS89-104	White-faced ibis	Breast/fat	70.5	6.40	.03	.03	---
265	SS89-105	White-faced ibis	Breast/fat	70.0	7.75	.01	.01	---
266	SS89-106	White-faced ibis	Breast/fat	73.5	2.30	.01	.01	---
267	SS89-107	White-faced ibis	Breast/fat	73.5	2.35	.01	.02	---
268	SS89-108	White-faced ibis	Breast/fat	73.0	2.40	.01	.02	---
269	SS89-109	White-faced ibis	Breast/fat	72.0	3.15	.02	.03	---
270	SS89-110	White-faced ibis	Breast/fat	70.0	7.45	.01	.01	---
271	SS89-111	White-faced ibis	Breast/fat	72.0	4.30	.01	.01	---
			Site B39 (McKendry Road)					
272	SS89-78	Black-necked stilt	Egg	80.0	8.95	<0.01	<0.01	---
273	SS89-79	Black-necked stilt	Egg	73.0	13.8	.01	.02	---
274	SS89-90	Black-necked stilt	Egg	68.0	17.0	.03	.03	---
275	SS89-81	Black-necked stilt	Egg	74.0	12.2	.01	<.01	---
276	SS89-82	Black-necked stilt	Egg	74.0	13.0	.01	.01	---

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	gamma-Chlordane	trans-Chlordane	cis-Nona-chlor	trans-Nonachlor	Hepta-chlor	Heptachlor epoxide	Methyoxy-chlor	o,p'-DDE
				Site B38 (South Brawley)--Continued					
259	89-035	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
260	89-036	<.01	—	<.01	.03	—	<.01	—	<.01
261	89-037	<.01	—	<.01	.04	—	<.01	—	<.01
262	89-038	<.01	—	<.01	<.01	—	<.01	—	<.01
263	SS89-103	<.01	—	<.01	<.01	—	<.01	—	<.01
264	SS89-104	<.01	—	<.01	.07	—	.03	—	<.01
265	SS89-105	<.01	—	<.01	.03	—	.01	—	<.01
266	SS89-106	<.01	—	<.01	.02	—	.01	—	<.01
267	SS89-107	<.01	—	<.01	.02	—	.01	—	<.01
268	SS89-108	<.01	—	<.01	.02	—	<.01	—	<.01
269	SS89-109	<.01	—	<.01	.03	—	.01	—	<.01
270	SS89-110	<.01	—	<.01	.03	—	.01	—	<.01
271	SS89-111	<.01	—	<.01	.03	—	.01	—	<.01
				Site B39 (McKendry Road)					
272	SS89-78	<0.01	—	<0.01	<0.01	—	<0.01	—	<0.01
273	SS89-79	<.01	—	<.01	.02	—	.01	—	<.01
274	SS89-80	<.01	—	<.01	.01	—	.01	—	<.01
275	SS89-81	<.01	—	<.01	<.01	—	<.01	—	<.01
276	SS89-82	<.01	—	<.01	<.01	—	<.01	—	<.01

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	p,p'-DDE	o,p'-DDD	p,p'-DDD	o,p'-DDT	p,p'-DDT	Total DDT	Endrin	Dieldrin	Aldrin
				Site B38 (South Brawley)--Continued						
259	89-035	8.2	<0.01	0.13	<0.01	<0.01	8.330	<0.01	0.11	—
260	89-036	9.6	<.01	.21	<.01	.04	9.850	<.01	.17	—
261	89-037	7.3	<.01	.06	<.01	<.01	7.360	<.01	.21	—
262	89-038	3.1	<.01	.04	<.01	<.01	3.140	<.01	.15	—
263	SS89-103	5.9	<.01	<.01	<.01	.09	5.990	.03	.13	—
264	SS89-104	9.2	<.01	.07	<.01	.30	9.570	.02	.22	—
265	SS89-105	11	<.01	.18	<.01	.54	11.720	.02	.08	—
266	SS89-106	4.4	<.01	.09	<.01	.08	4.570	.01	.06	—
267	SS89-107	4.6	<.01	.08	<.01	.07	4.750	.01	.05	—
268	SS89-108	3.7	<.01	.10	<.01	.10	3.900	<.01	.02	—
269	SS89-109	4.6	<.01	.10	<.01	.10	4.800	.02	.08	—
270	SS89-110	6.1	<.01	.11	<.01	.04	6.250	.01	.05	—
271	SS89-111	4.1	<.01	.03	<.01	.15	4.280	<.01	.15	—
				Site B39 (McKendry Road)						
272	SS89-78	0.6	<0.01	<0.01	<0.01	<0.01	0.600	<0.01	<0.01	—
273	SS89-79	4.3	<.01	<.01	<.01	.05	4.350	<.01	.15	—
274	SS89-80	2.5	<.01	<.01	<.01	.05	2.550	<.01	.10	—
275	SS89-81	.95	<.01	<.01	<.01	<.01	.950	<.01	.02	—
276	SS89-82	3.7	<.01	<.01	<.01	<.01	3.700	<.01	.08	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Lindane	Hexachlorobenzene	Endosulfan I	Endosulfan II	Endosulfan sulfate	Mirex	DCPA	Dicofol
						Site B38 (South Brawley)--Continued							
259	89-035	<0.01	<0.01	<0.01	<0.01	—	1.6	—	—	—	<0.01	—	—
260	89-036	<.01	<.01	<.01	<.01	—	1.5	—	—	—	<.01	—	—
261	89-037	<.01	<.01	<.01	<.01	—	.04	—	—	—	<.01	—	—
262	89-038	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
263	SS89-103	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
264	SS89-104	<.01	<.01	<.01	<.01	—	.05	—	—	—	<.01	—	—
265	SS89-105	<.01	<.01	<.01	<.01	—	2.4	—	—	—	<.01	—	—
266	SS89-106	<.01	<.01	<.01	<.01	—	.67	—	—	—	<.01	—	—
267	SS89-107	<.01	<.01	<.01	<.01	—	.74	—	—	—	<.01	—	—
268	SS89-108	<.01	<.01	<.01	<.01	—	1.3	—	—	—	<.01	—	—
269	SS89-109	<.01	<.01	<.01	<.01	—	1.0	—	—	—	<.01	—	—
270	SS89-110	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
271	SS89-111	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—
						Site B39 (McKendry Road)							
272	SS89-78	<0.01	0.04	<0.01	<0.01	—	<0.01	—	—	—	<0.01	—	—
273	SS89-79	<.01	.09	<.01	<.01	—	.02	—	—	—	<.01	—	—
274	SS89-80	<.01	.02	<.01	<.01	—	.01	—	—	—	<.01	—	—
275	SS89-81	<.01	<.01	<.01	<.01	—	<.01	—	—	—	<.01	—	—
276	SS89-82	<.01	<.01	<.01	<.01	—	.01	—	—	—	<.01	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	Tetra-difon	BI PH CL-2	BI PH CL-3	BI PH CL-4	BI PH CL-5	BI PH CL-6	BI PH CL-7	BI PH CL-8	BI PH CL-9	PCB 1016	PCB 1221	PCB 1232	PCB 1242
						Site B38 (South Brawley)--Continued								
259	89-035	—	—	—	—	—	—	—	—	—	—	—	—	—
260	89-036	—	—	—	—	—	—	—	—	—	—	—	—	—
261	89-037	—	—	—	—	—	—	—	—	—	—	—	—	—
262	89-038	—	—	—	—	—	—	—	—	—	—	—	—	—
263	SS89-103	—	—	—	—	—	—	—	—	—	—	—	—	—
264	SS89-104	—	—	—	—	—	—	—	—	—	—	—	—	—
265	SS89-105	—	—	—	—	—	—	—	—	—	—	—	—	—
266	SS89-106	—	—	—	—	—	—	—	—	—	—	—	—	—
267	SS89-107	—	—	—	—	—	—	—	—	—	—	—	—	—
268	SS89-108	—	—	—	—	—	—	—	—	—	—	—	—	—
269	SS89-109	—	—	—	—	—	—	—	—	—	—	—	—	—
270	SS89-110	—	—	—	—	—	—	—	—	—	—	—	—	—
271	SS89-111	—	—	—	—	—	—	—	—	—	—	—	—	—
						Site B39 (McKendry Road)								
272	SS89-78	—	—	—	—	—	—	—	—	—	—	—	—	—
273	SS89-79	—	—	—	—	—	—	—	—	—	—	—	—	—
274	SS89-80	—	—	—	—	—	—	—	—	—	—	—	—	—
275	SS89-81	—	—	—	—	—	—	—	—	—	—	—	—	—
276	SS89-82	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 23. Organic chemical analysis, moisture content, and lipid content for biotic samples collected during 1986-90 from the Salton Sea and associated drainwaters and rivers--Continued

Record number	Sample number	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene
			Site B38 (South Brawley)--Continued			
259	89-035	—	—	—	<0.05	<0.05
260	89-036	—	—	—	<.05	<.05
261	89-037	—	—	—	<.05	<.05
262	89-038	—	—	—	<.05	<.05
263	SS89-103	—	—	—	<.05	<.05
264	SS89-104	—	—	—	<.05	<.05
265	SS89-105	—	—	—	<.05	<.05
266	SS89-106	—	—	—	<.05	<.05
267	SS89-107	—	—	—	<.05	<.05
268	SS89-108	—	—	—	<.05	<.05
269	SS89-109	—	—	—	<.05	<.05
270	SS89-110	—	—	—	<.05	<.05
271	SS89-111	—	—	—	<.05	<.05
			Site B39 (McKendry Road)			
272	SS89-78	—	—	—	<0.05	<0.05
273	SS89-79	—	—	—	<.05	<.05
274	SS89-80	—	—	—	<.05	<.05
275	SS89-81	—	—	—	<.05	<.05
276	SS89-82	—	—	—	<.05	<.05

Table 24. Polycyclic aromatic hydrocarbon concentration, moisture content, and lipid content for single samples of crayfish and tilapia collected in the study area in 1987

[All chemical data reported in micrograms per gram, wet weight; NWR, National Wildlife Refuge. <, less than indicated reporting limit]

Site No. Location	B1 Salton Sea NWR--Unit 1	B37 Hazard Pond
Sample number	LNSS87-20	LNSS87-25
Species	Crayfish	Tilapia
Matrix	Whole body	Whole body
Percent moisture	72.2	65.4
Percent lipid	.69	11.2
Compound name		
Napthalene	<0.02	<0.02
Acenapthene	<.02	<.02
Fluorene	<.02	<.02
Phenanthrene	.035	<.02
Anthracene	<.02	<.02
Fluoranthene	<.02	<.02
Pyrene	<.02	<.02
Benzo(a)anthracene	<.02	<.02
Chrysene	<.02	<.02
Benzo(b)fluoranthene	<.02	<.02
Benzo(k)fluoranthene	<.02	<.02
Benzo(a)pyrene	<.02	<.02
Benzo(e)pyrene	<.02	<.02
Perylene	<.02	<.02
Indeno(1,2,3-cd)pyrene	<.02	<.02
Dibenzo(a,h)anthracene	<.02	<.02
Benzo(g,h,i)perylene	<.02	<.02

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