Results of Physical, Chemical, and Bioassay Testing of Sediments Collected From The Los Angeles River Estuary

Volume II
Appendices

Prepared For:

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APPENDIX A

Sampling and Analysis Plan

SAMPLING AND ANALYSIS PLAN

For Testing of Sediments Collected From The Los Angeles River Estuary

Version 2

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Section

1

1.0 Introduction

1.1 Background and History

The U.S. Army Corps of Engineers (ACOE) plans to dredge sediments from the entrance of Queens Way Marina down the central channel of the lower Los Angeles River Estuary in southern California (Figure 1). Current conditions in this channel are potentially hazardous due to insufficient depths for safe navigation by commercial vessels such as the Catalina Express Ferry. Existing depths range from -0.2 meters Mean Lower Low Water (MLLW) in the upper (northwest) portion of the proposed dredge area to -9.8 meters MLLW in the lower (southeast) portion of the proposed dredge area.

The proposed dredge area is subject to both the tidal influences of the Pacific Ocean / San Pedro Bay and the hydrologic influences of the Los Angeles River. Adjacent land uses include the Queens Way Marina, a variety of industrial activities, several tourist attractions, and a host of urban uses associated with the Los Angeles River watershed.

In a previous study the ACOE conducted bulk sediment chemistry analysis of the proposed dredged materials in the Los Angeles River channel. The analysis indicated the presence of elevated concentrations of arsenic, cadmium, copper, lead, mercury, nickel, zinc, organotins, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), phthalates, and polychlorinated biphenyls (PCBs) In that study, sampling and analysis performed in accordance with methods described in the Evaluation of Dredged Material Proposed for Ocean Disposal (Green Book) (EPA/ACOE, 1991), led to results which indicated that the proposed dredge material may not be suitable for ocean or beach disposal (ACOE, 1996).

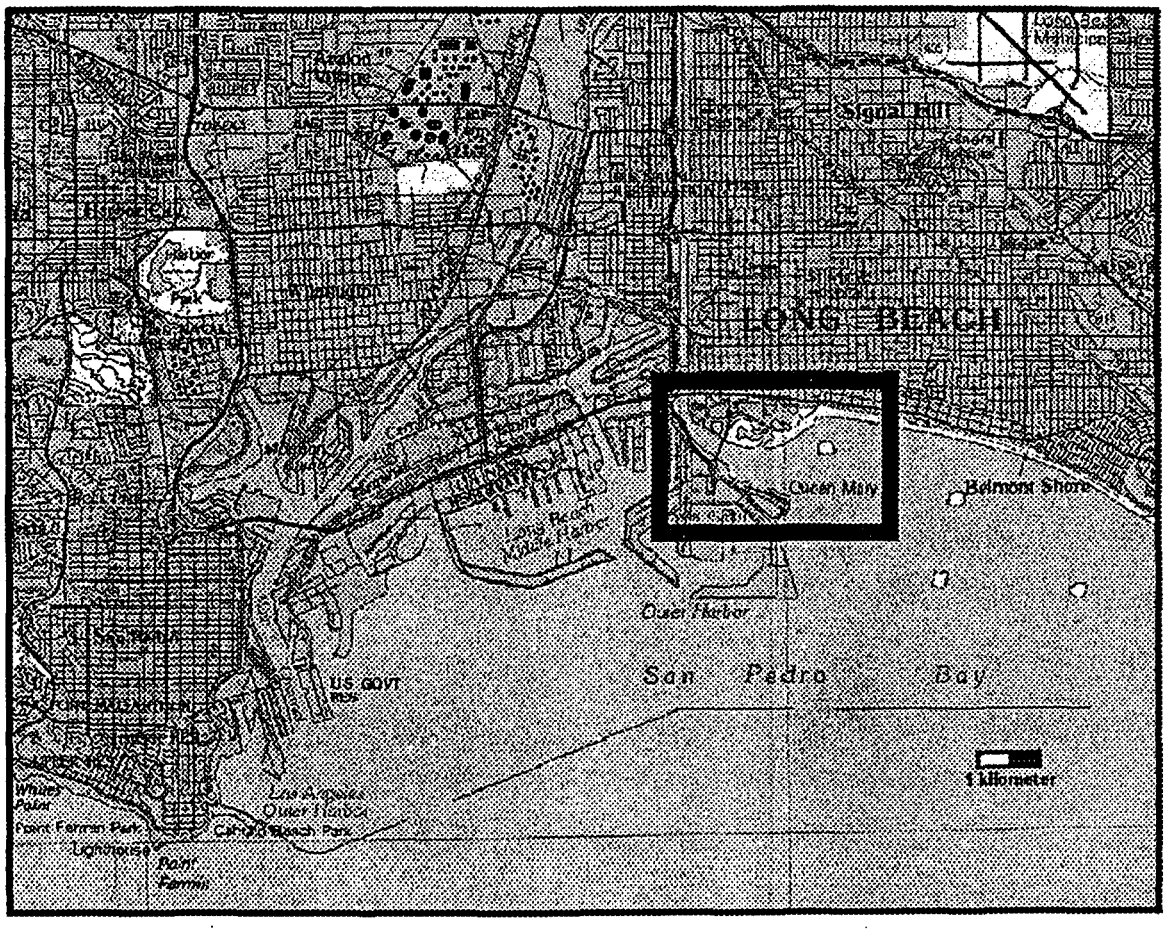

Figure 1: Los Angeles River Estuary study area.

1.2 Sampling and Testing Objectives

The objective of this sampling and analysis program is to characterize the sediments to be dredged from the Los Angeles River Estuary for environmental suitability for ocean disposal. Tasks include the collection of sediment samples, chemical analysis, suspended particulate phase (SPP) bioassays, solid phase (SP) bioassays, and bioaccumulation tests. The material to be disposed of will be tested based upon Tier III testing methods and criteria outlined in the Green Book (EPA/ACOE 1991), and the Regional Implementation Agreement for the Los Angeles District (RIA) (ACOE/EPA, 1993).

1.3 Overview of the Field Activities and Analyses

The proposed dredge area has been divided into three geographic sections (Area 1, Area 2, Area 3) as shown in Figure 2. Current target dredge depths are –5.5 meters. However, sampling and analysis will be conducted to a depth of –9.6 meters MLLW at Areas 1 and 2, and –7.6 meters MLLW at Area 3 should deepening become necessary. The sediment collected from Areas 1 and 2 will be split vertically into top and bottom composite layers (at -5.5 meters). The proposed dredge material will be compared to reference sediments collected from the LA-2 Ocean Dredge Material Disposal Site (ODMDS) located approximately seven miles west of Queen's Gate in Long Beach Harbor along the 600 meter depth contour. Field sampling activities are expected to take from three to five days.

This project design will result in five dredge material samples for Tier III ocean disposal suitability testing (EPA/ACOE, 1991). Chemical analysis of the sediment will include metals, organotins, pesticides, PCBs, PAHs, and total phthalates. In addition, conventional analyses will include grain size, total organic carbon (TOC), total and water soluble sulfides, total recoverable petroleum hydrocarbons (TRPH), and percent solids. Biological evaluation of the proposed dredge material for ocean disposal will include three suspended particulate phase (SPP) tests (bivalve larvae, fish, mysid shrimp), two solid phase (SP) tests (polychaete worm and amphipod), and two bioaccumulation tests (polychaete worm and bivalve mollusc). Tissue chemistry for bioaccumulation tests will include metals, organotins, pesticides, PCBs, total phthalates, and PAHs.

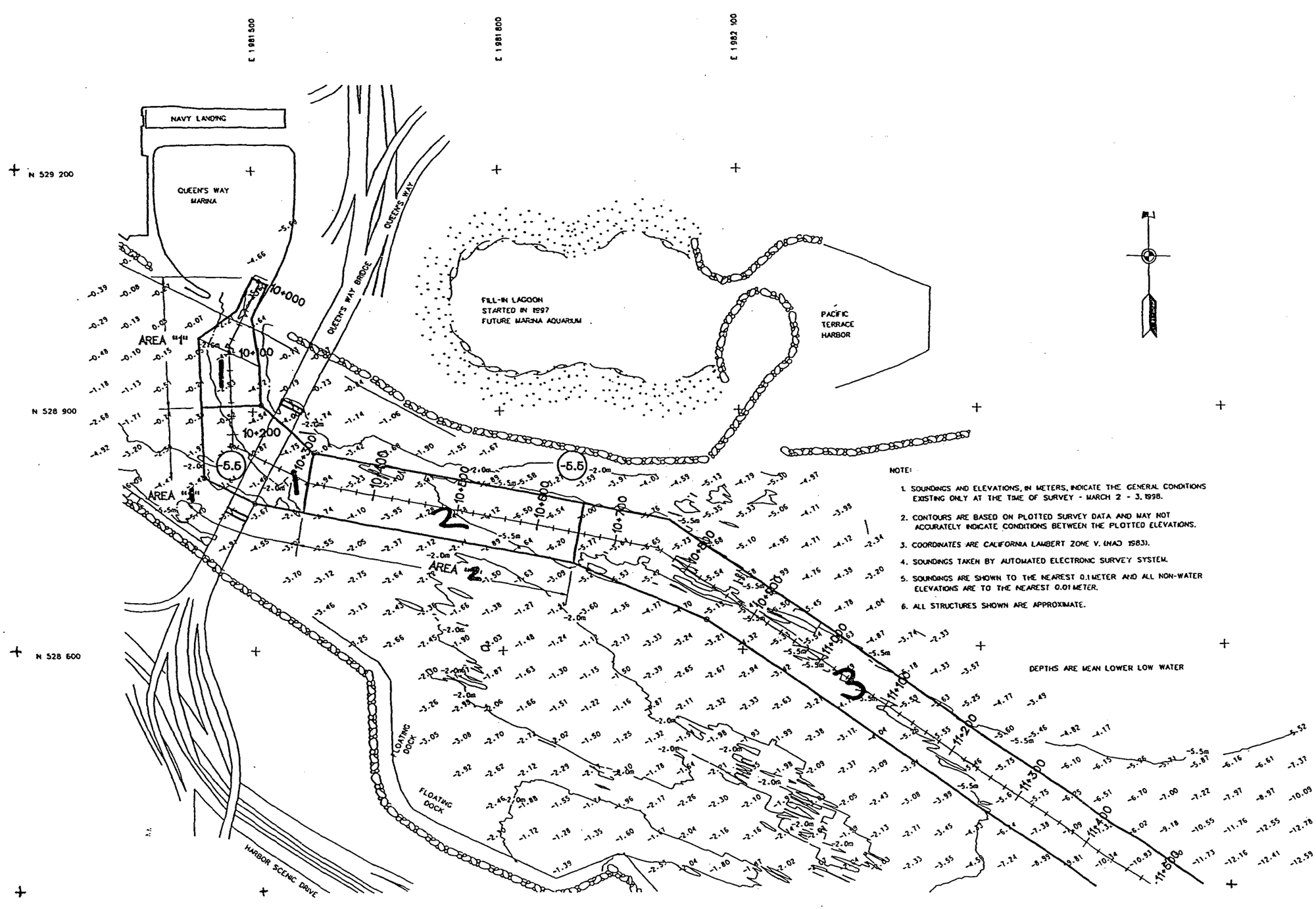

Figure 2. Bathymetry and project areas within the Los Angeles River Estuary

Section
2

2.0 Project Management and Team Responsibilities

2.1 Project Management

Dr. Paul Krause and Karen Green of MEC Analytical Systems, Inc. (MEC) act as co-managers for the consultant team that will perform the work. They will coordinate the efforts of the other team members, interact with the Army Corps of Engineers, respond to requests, and ensure that project goals, budgets, and schedules are met. Mr. Jason Mubarak of MEC will serve as the Deputy Project Manager. He will assist Dr. Krause and Karen Green in coordinating team efforts and will provide additional technical oversight to the field and reporting effort. Dr. Cindy Collins of MEC will serve as the QA/QC officer and be responsible for the adherence to QA/QC requirements specified for collection, handling, and analyses. Ms. Lisa Kay of MEC will provide QA/QC review of all chemical data and interact with the analytical laboratories. The Geotechnical Branch of the Army Corps of Engineers will also be conducting auxiliary geotechnical analyses outside of the scope of work of dredge material ocean disposal suitability testing.

2.2 Team Responsibilities

MEC will arrange field logistics and coordinate the field sampling. Sea Ventures of Dana Pt., CA will provide the sampling vessel for standard vibracoring. Biological testing will be performed by MEC, Toxicology and Chemistry Division. Laboratories are located in Tiburon, Carlsbad, and San Diego, California. MEC will review all analytical data, and perform all data analyses. MEC's physical laboratory in Carlsbad, CA will provide TOC and grain size analyses for the dredge material ocean disposal evaluation. Analytical chemistry will be carried out by Pacific Treatment Analytical Services, Inc. (PTAS) in San Diego, California. MEC has successfully utilized the chemistry services of PTAS for numerous sediment characterization studies. MEC will produce all reports.

Section
3

3.0 Sediment Core Sample Field Collection Program

The project scope of work designates 24 locations for vibracore sample collection within the Los Angeles River Estuary. Samples will be analyzed for several environmental parameters.

3.1 Sample Locations and Depths

Sediment samples will be collected from within three project areas (Areas 1 through 3) in the Los Angeles River Estuary using a boat mounted vibracorer. Sediments will be sampled at 8 target sites in each of the areas presented in Table 1 and Figure 3.

Table 1. Target Sample Locations

AREA	SITE	LATITUDE	LONGITUDE	EXPECTED DEPTH (m MLLW)	PROJECT DEPTH (m MLLW)
1	1	33º 45.696'	118º 11.985'	-4.2	-9.6
	2	33º 45.674'	118º 12.000'	-4.3	-9.6
	3	33º 45.641'	118º 12.016'	-2.0	-9.6
	4	33º 45.610'	118º 12.012'	-1.0	-9.6
	5	33º 45.578'	118º 12.010'	-1.8	-9.6
	6	33º 45.617'	118º 11.986'	-4.3	-9.6
	7	33º 45.572'	118º 11.959'	-2.0	-9.6
	8	33º 45.591'	118º 11.947'	-4.9	-9.6
2	1	33º 45.563'	118º 11.922'	-4.1	-9.6
	2	33º 45.576'	118º 11.887'	-5.3	-9.6
	3	33º 45.555'	118º 11.869'	-4.3	-9.6
	4	33º 45.570'	118º 11.839'	-5.6	-9.6
	5	33º 45.547'	118º 11.823'	-4.8	-9.6
	6	33º 45.560'	118º 11.789'	-6.5	-9.6
	7	33º 45.539'	118º 11.776'	-6.2	-9.6
	8	33º 45.552'	118º 11.749'	-6.6	-9.6
3	1	33º 45.538'	118º 11.687'	-5.9	-7.6
	2	33º 45.509'	118º 11.654'	-5.4	-7.6
	3	33º 45.490'	118º 11.582'	-5.5	-7.6
	4	33º 45.446'	118º 11.543'	-5.3	-7.6
	5	33º 45.433'	118º 11.487'	-5.6	-7.6
	6	33º 45.387'	118º 11.452'	-5.4	-7.6
	7	33º 45.374'	118º 11.393'	-5.7	-7.6
	8	33º 45.334'	118º 11.358'	-7.4	-7.6

Source: Geographic coordinates (NAD83) calculated from maps provide by ACOE in Lambert Zone V. (NAD83:meters) datum.

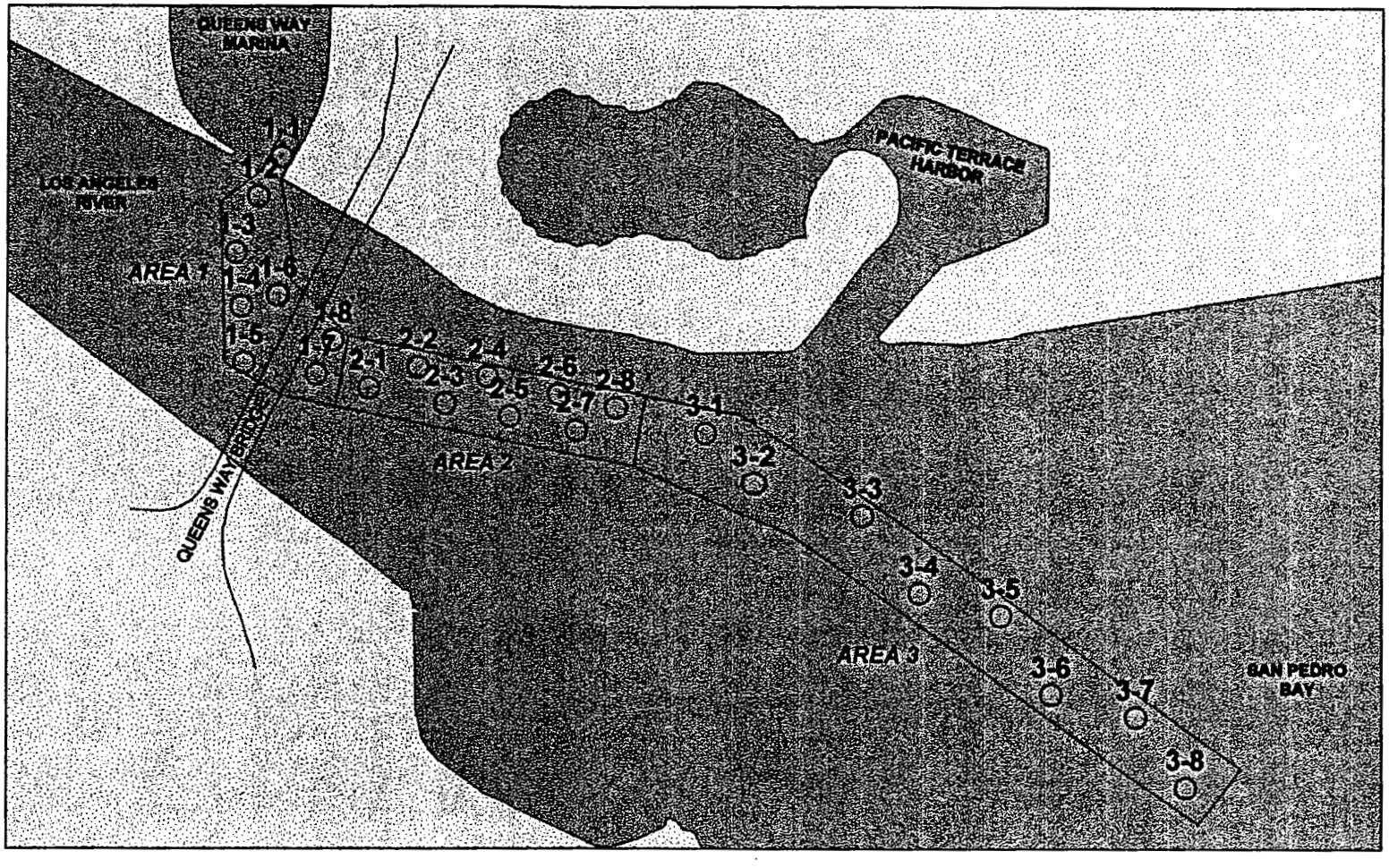

Figure 3. Target sample locations in the Los Angeles River Estuary

Sediment cores will be vibracored to project depth unless refusal is encountered. Refusal will be defined as a lack of visual evidence of penetration during vibracoring for a period of one minute or longer. If refusal due to geological conditions is encountered, the vessel will be moved and a second core attempted. If refusal is encountered again, additional cores will not be attempted unless the lack of penetration is suspected to be the result of equipment malfunctions or operational problems. Depending on the amount of sediment retrieved, more than one replicate may be collected to ensure that there is sufficient material for all the required testing and archival.

A sufficient amount of sediment shall be collected from each site to run the required suite of analyses. Individual cores will be subdivided by strata and composited in the manner presented in Table 2.

Table 2. Sample Composites and Analyses by Area

AREA	DEPTH (m MLLW)	NUMBER OF LOCATIONS	SAMPLE COMPOSITING	ANALYSES
1	mudline to -5.5	8 upper	1 Composite	Chemistry, SPP & SP Bioassay, Bioaccumulation
1	-5.5 to –9.6	8 lower	1 Composite	Chemistry, SPP & SP Bioassay, Bioaccumulation
2	mudline to -5.5	8 upper	1 Composite	Chemistry, SPP & SP Bioassay, Bioaccumulation
2	-5.5 to –9.6	8 lower	1 Composite	Chemistry, SPP & SP Bioassay, Bioaccumulation
3	mudline to –7.6	8	1 Composite	Chemistry, SPP & SP Bioassay, Bioaccumulation
Reference	NA	1	1 grab	Chemistry, SP Bioassay, Bioaccumulation
Control	NA	NA	1	Chemistry Archive, SPP & SP Bioassay, Bioaccumulation

NUMBER OF CHEMISTRY SAMPLES: **6 Sediment, 6 Tissue sets per species**

NUMBER OF SEDIMENT TOXICITY SAMPLES: **6 SSP, 7 SP, 7 Bioaccumulation**

Cores will be split into upper and lower layers at locations in Areas 1 and 2. Sediment from the surface ("mudline") to –5.5 meters MLLW will be considered the upper sample from each of Areas 1 and 2. Sediment from below –5.5 meters MLLW to –9.6 meters MLLW will be considered the lower sample from each of Areas 1 and 2. Samples will be composited to represent each of the layers within each of Areas 1 and 2, and all cores collected in Area 3 will be composited into a single sample.

The sampling strategy will result in five sets of samples from the study area, plus one reference sample from the LA-2 ODMDS to be tested for sediment physical and chemical characteristics and tissue chemistry. The sampling strategy will also result in five bioassay test samples, plus one reference and one control sample for analysis (Table 2). Sediment and tissue samples from the control samples will be archived for further chemical analysis if deemed necessary (e.g., unexplained toxicity or questionable bioaccumulation results).

3.2 Core Collection Platform

Cores will be collected using a Rossfelder P-5 electric vibracore. The vibracore will be deployed from the *R/V Early Bird* or comparable research vessel equipped with a fathometer. A smaller vessel will be used to assist in positioning and the setup of a multiple anchoring system to ensure vertical control while sampling. Sediment cores will be sampled utilizing pre-cleaned 4 inch diameter aluminum tubing and a stainless steel cutter head/catcher assembly. The standard system is capable of collecting cores up to 20 feet long. Longer cores are possible depending on the geological characteristics of the sediment.

Reference sediments will be collected from the LA-2 ODMDS using a stainless steel pipe dredge. Control sediments will be sampled at the time of collection of corresponding test organisms.

3.3 Navigation

For all cores, station locations will been pre-plotted on field maps. In the field, marker buoys will be dropped at the station location from an auxiliary vessel. Field sample positions will be determined using a Differential Global Positioning System (DGPS) with an accuracy of ± 0.5 to 2 meters and verified visually. The system uses the U.S. Coast Guard Differential correction data. DGPS systems will be verified before and after sampling at ACOE predefined boat tie up points. In the event of differential failure, stations will be located using a land surveying system,

or laser range finder and visual lineups. All final station locations will be recorded in the field both using positions from the DGPS and through lineups on the field map.

3.4 Sediment Core Handling

3.4.1 Core Handling

All sediment samples will be extruded on the vessel onto polyethylene lined PVC observation trays. All samples will be examined and documented by a qualified scientist, measured to tenths of feet, photographed with a labeled placard, divided into upper and lower strata, enclosed in double polyethylene bags labeled for location, date, time, core segment, and collector and stored on ice in coolers until transferred to the laboratory for processing.

Field measurements include core location, sample designation, date, time, field personnel, core number, mudline elevation, penetration and recovery length/depth, and sediment geological characteristics (see Section 3.4.2). All relevant project/ sample information and field measurements will be recorded on customized core log data forms (sample form provided in Appendix A). Multiple cores may be sampled at each site in order to collect enough sediment for all analyses. A daily field log will be maintained and formal chain-of-custody procedures will be followed and documented.

3.4.2 Geologic Description

A qualified scientist will examine each core for stratigraphy. The geologic description of each core will include the texture, odor, color, length, approximate grain size category, any evident stratification of the sediment, and any organic debris or trash. Material will be split into layers according to project depths (Area 1 and 2). Based upon the in field geological assessment, any obvious stratified sublayers observed within individual cores in Areas 1, 2, or 3 will be composited separately for subsequent analysis of grain size and chemistry.

3.4.3 Sample Processing

All samples will be stored at 4°C until used, and testing will begin as soon as possible (within two weeks) from the end of collection. The sediments will be thoroughly homogenized to a uniform color and consistency at the laboratory using a stainless steel mixing apparatus. Sub-samples for chemical analysis will be taken from the homogenized sample and placed into clean glass jars with Teflon lined lids. Remaining sediment from each sample (both top and bottom layers, as appropriate), as well as each composite used in testing, will be archived at 4° C to be used if further definition of chemical contamination is required.

3.4.4 Sample Shipping

Prior to shipping, sample containers will be placed in sealable plastic bags, wrapped in bubble wrap, and securely packed inside the cooler with ice packs or crushed ice. Chain-of-custody (COC) forms will be filled out (see Section 5.4), and the original signed COC forms will be placed in a sealable plastic bag and placed inside the cooler. The cooler lids will be securely taped shut and custody seals applied.

Samples will be shipped via overnight express to the analytical laboratories or couriered by MEC personnel following sample handling and custody procedures.

3.5 Documentation and Chain-of-Custody

This section describes the minimum program requirements for sample handling and COC procedures. Samples are considered to be in custody if they are: (1) in the custodian's possession or view, (2) retained in a secured place (under lock) with restricted access, or (3) placed in a container and secured with an official seal(s) such that the sample cannot be reached without breaking the seal(s). The principal documents used to identify samples and to document possession are COC records, field log books, and field tracking forms. COC procedures will be used for all samples throughout the collection, transport, and analytical process, and for all data and data documentation whether in hard copy or electronic format.

COC procedures will be initiated during sample collection. A COC record will be provided with each sample or sample group (sample form provided in Appendix A). Each person who has custody of the samples will sign the form and ensure that the samples are not left unattended unless properly secured. Minimum documentation of sample handling and custody will include:

- Sample Identifier
- Sample collection date and time
- Any special notations on sample characteristics
- Initials of the person collecting the sample
- Date the sample was sent to the laboratory
- Shipping company and waybill information

The completed COC form will be placed in a plastic envelope that will travel inside the ice chest containing the listed samples. Custody seals will be affixed to the ice chests. Upon transfer and receipt of samples at the laboratory, the shipping container custody seal(s) will be broken. The COC form will be signed by the person transferring custody of the samples. The condition of the samples will be recorded by the receiver. COC records will be included in the

final analytical report prepared by the laboratory, and will be considered an integral part of that report.

3.6 Decontamination of Field and Laboratory Equipment

All vibracore equipment and tubes will be cleaned prior to sampling. Between stations, the core barrel will be cleaned with Alconox and deionized water and the deck of the vessel will be rinsed with site water. Prior to creating each composite in the laboratory, all stainless steel utensils will be cleaned according to procedures designed to avoid contamination of the sediment samples. Stainless steel bowls, spoons, spatulas, mixers, and other utensils will be washed with Alconox detergent, rinsed with tap water, and then rinsed three times with deionized water.

Section
4

4.0 Bioassay Testing

The project plan is for five composite dredge material samples to be tested for ocean disposal suitability. Bioassay testing will consist of three SPP tests, two SP tests, and two bioaccumulation tests.

4.1 Suspended-Particulate Phase Testing, Ocean Disposal

Suspended-particulate phase bioassay tests will be performed to estimate the potential impact of ocean disposal of dredge sediments to organisms that live in the water column. The SPP tests will be performed according to the Green Book (EPA/ACOE, 1991) using a 4:1 dilution of seawater to test sediment. Three species will be tested, *Mysidopsis bahia* (mysid shrimp), *Menidia beryllina* (Inland silverside) and a bivalve larvae (either *Mytilus edulis* or *Crassostrea gigas*). In the event that bivalve larvae are unobtainable, an echinoderm development test will be substituted using either *Strongylocentrotus purpuratus or Dendraster excentricus* larvae.

For the mysid and the fish, the SPP will be tested at 10, 50 and 100 percent levels against a seawater control under static conditions. Ten animals will be used per replicate with five replicates being tested. The test will be run for 96 hours. If mortality in the control exceeds 10 percent, the test will be rerun. At the termination of the test, survival will be compared between the control and test groups to determine if significant mortality exists.

The bivalve larvae test will be run on the test sediment elutriates at 1, 10, 50 and 100 percent dilutions. The test (ASTM, 1992a) will be run for 48 hours, or longer if necessary, for the development of the bivalve larvae to the "D-hinge" stage. The ASTM method uses the test criterion of 70 percent survival of normally developed D-hinge larvae in the control to determine test acceptability. At the termination of the test, survival of normally developed larvae will be compared between the control and test groups to determine if significant mortality exists.

If mortality in excess of 50 percent occurs in the 100% concentration of any of the SPP tests, a calculation of the Limiting Permissible Concentration (LPC) will be carried out. The LPC will be compared to estimated exposure concentrations generated from the mixing zone models used

in the Green Book (EPA/ACOE, 1991). Seawater used in all testing will meet EPA water quality criteria. Daily water quality monitoring of test chambers will be carried out for pH, dissolved oxygen, salinity, and temperature. Ammonia will be analyzed at the start and end of the test for the 100% concentration. Measurements in other concentrations will only be performed if the readings in the 100% concentration are greater than 4 mg/L ammonia. To evaluate the relative sensitivity of the organisms, reference toxicity tests will be performed using standard reference toxicants (Lee, 1980).

4.4 Solid Phase Testing, Ocean Disposal

Solid phase bioassays will be performed to estimate the potential impact of ocean disposal on benthic organisms that attempt to re-colonize the area. Dredge material will be tested in 10-day solid phase tests using two species, the polychaete worm *Neanthes arenaceodentata* and the amphipod *Eohaustorius estuarius*. Prior to testing, reference, test, and control sediments will be sieved to remove organisms. This will be accomplished by press sieving the sediments through a 2.0 mm mesh screen using only the water available in the sediment sample. Each sediment type (test, reference, and control) will be run with five replicates. Control sediment will be those sediments in which the organisms have been collected.

Ammonia, pH, and salinity will be tested at the beginning and end of the tests. If there is evidence that ammonia is present at toxicologically important levels prior to the initiation of testing, ammonia in the interstitial water will be reduced to below 20 mg/liter before addition of test organisms.

Testing will be carried out in 1-liter glass test chambers for the amphipod and the polychaete worm. A single 2-cm layer of test, reference, or control material will be placed into each test chamber. Static renewal of the overlying water will be performed every other day. Initial stocking densities in each replicate will be 20 *E. estuarius* per test chamber in the amphipod test. Initial stocking densities in each replicate will be 10 *N. arenaceodentata* per test chamber in the polychaete test. Aeration will be provided through glass or plastic pipettes, with care taken to avoid disturbing the sediment. Water quality measurements will be taken in one chamber from each test treatment daily and will include pH, salinity, temperature and dissolved oxygen. Ammonia will be measured at the start and finish of the test for each site. All instruments used will be calibrated and logged daily. After 10 days, the animals will be carefully sieved out to determine if significant mortality occurred in the test using statistical methods described in the Green Book (EPA/ACOE, 1991). If control survival is below 90

percent for either species, the test will be rerun. The solid phase bioassay will be run using the ASTM (1992b) methods. To evaluate the relative sensitivity of the organisms, reference toxicity tests will be performed using standard reference toxicants (Lee, 1980).

4.5 Bioaccumulation Testing, Ocean Disposal

Assessment of bioaccumulation potential will be carried out using a polychaete worm (either *Neanthes arenaceodentata* or *Nephtys caecoides*), and a bivalve mollusc (*Macoma nasuta*) over a 28-day test period. The test will be initiated using test, reference, and control sediments in the same manner as the 10-day test. A minimum of 75 polychaetes and 20 *Macoma* will be placed in each replicate test chamber. The test chambers will be maintained under flow-through conditions, and daily water quality measurements will be taken on each chamber as specified in the 10-day test. On Day 28, the sediments will be sieved to remove the worms and clams. The surviving animals will be placed in clean flow-through aquaria to depurate for 24 hours and then sent to the chemistry laboratory for analysis. If greater than 25 percent mortality is encountered in reference or test sediments, discussion will ensue regarding reduced tissue volume for chemical analysis.

The analysis of bioaccumulation will be made by statistically comparing tissue levels from the reference group to those of the test group for each species. The analysis will be conducted using an analysis of variance or non-parametric analysis, depending upon the normality and homoscedasticity of the data, and will be carried out using methods described in the Green Book (EPA/ACOE, 1991).

4.6 Seawater for Bioassay Testing

Filtered seawater used in this study program, including the flow-through studies, will come from either Scripps Institution of Oceanography at La Jolla, San Diego Bay, or from Bodega Bay Marine Laboratory in Bodega Bay, California. These seawater sources have been used successfully on similar bioassay testing programs by MEC. Extensive reference toxicity testing on a wide variety of test species has shown that there is no significant potential for toxicity or bioaccumulation from these water supplies. Good survival of organisms in control sediment has been achieved consistently in previous dredge material testing conducted at these laboratories.

4.7 Bioassay Quality Assurance/Quality Control

The quality assurance objectives for toxicity testing conducted by MEC Analytical Systems Bioassay Division are those detailed in U.S. EPA (1985a, 1985b) and the Green Book (EPA/ACOE, 1991). These objectives for accuracy and precision involve all aspects of the testing process, including: (1) water and sediment sampling and handling; (2) source and condition of test organisms; (3) condition of equipment; (4) test conditions; (5) instrument calibration; (6) use of reference toxicants; (7) record keeping; and (8) data evaluation. A summary of all bioassay QC procedures and results will be presented in the final report.

A reference toxicant will be tested on each test organism during the test period to establish the validity of the toxicity data. For those species with substantive reference toxicant data available, the LC50 and EC50 should fall within two standard deviations of the laboratory mean. The majority of the species in this testing program do not have reference toxicant data available and the data will be provided for informational purposes. Water quality measurements will be monitored to ensure they fall within prescribed limits, and corrective actions (EPA recommended) will be taken if necessary. All limits established for this program meet or exceed those recommended by EPA.

The methods employed in every phase of the toxicity testing program are detailed in MEC's Laboratory Standard Operating Procedures (SOPs). These SOPs have been audited and approved by and independent, EPA recommended laboratory and placed in the QA files as well as laboratory files. All MEC laboratory staff receive regular documented training in all SOPs and test methods.

Finally, all data collected and produced as a result of analysis will be recorded on approved data sheets which will become the permanent data record for the program. If any aspect of a test deviates from protocol, the test will be evaluated to determine whether it is valid according to the regulatory agency to which it will be submitted. If it is determined to be invalid, the client will be notified and the test will be rerun, if necessary, at MEC's expense.

4.7.1 Data Analysis, Validation and Reporting

All acute and chronic toxicity tests are performed according to protocols and conditions listed in MEC SOPs. Raw data and study records are checked to ensure that required test conditions are within specifications cited in the SOPs. Major deviations from protocol must be approved by both the client and the quality control manager. Unforeseen circumstances that may affect the integrity of the study are reported with the test results. The data, analysis and report are also reviewed for accuracy by the Quality Control Manager.

4.7.2. Internal Quality Control

MEC's quality control staff performs periodic audits to ensure that test conditions, data collection and test procedures are conducted according to Green Book protocol and MEC SOPs. Animal receipt and maintenance log books are used to record the source and health of organisms. Reference toxicant tests act as an internal check on organism health and performance.

4.7.3. Preventive Maintenance

Key analytical equipment are maintained routinely to ensure that equipment failure or changes in operational parameters can be prevented. Procedures used to maintain equipment are included in the Maintenance and Calibration Log.

Replacement parts are available for commonly expected repairs and replacement. Spare parts include pH electrodes, dissolved oxygen (DO) probe membrane replacement kits, calibrated thermometers, pipettes, graduated cylinders, etc.

Stock standard solutions are stored in at least two separate containers, so that a fresh standard solution is available in case the stock standard currently in use becomes contaminated. Working standards which are in frequent contact with electrodes, pipettes, etc., are kept in separate working bottles to reduce chances of contamination of stock standards.

4.7.4. Data Precision and Accuracy

The precision of the LC50 determinations will be shown by calculating the 95 percent confidence intervals. The computer program used to analyze the data is designed in such a way that regardless of the data characteristics, it will calculate an LC50 and corresponding confidence intervals as long as sufficient mortality is observed. Accuracy cannot be determined as a true value but rather must be determined relative to a reference value of the substance being measured.

The precision of all the analytical instruments (DO meter, pH meter, balances, etc.) is assumed to be that stipulated by the manufacturer. The accuracy of the measurements is assessed through calibration each time the instruments are used.

4.7.5. Sample Storage and Tracking

Sample chain-of-custody sheets, sample receipt logs, sample holding, and sample labeling procedures are audited periodically by MEC's quality control staff. Sample storage conditions and holding times are adhered to strictly. Samples are archived when necessary.

Section

5

5.0 Physical and Chemical Analysis

Physical and chemical parameters to be measured in this testing program were selected to provide data on potential chemicals of concern in the Los Angeles River Estuary sediments. The specific sediment analyses and target detection limits are specified in Table 3.

5.1 Physical Analyses

Characterization of the physical properties of the sediments will be performed to predict the behavior of sediments after disposal and to compare reference and test sediments. Physical analyses of the samples for dredge material testing will include grain size, total organic carbon (TOC), and total solids.

5.1.1 Physical Analyses for Evaluation of Dredged Material Proposed for Ocean Disposal

Grain size is analyzed to determine the general size classes that make up the sediment (e.g. gravel, sand, silt, and clay) to support bioassay testing and interpretation of results. The analysis is conducted using the sieve-pipette method (Plumb 1981). The frequency distribution of the size ranges (reported in mm) of the sediment will be reported in the final data report. U.S. standard sieve sizes will include nos. 4, 7, 10, 14, 18, 25, 35, 45, 60, 80, 120, 170, 200 and 230. Total organic carbon, made up of volatile and non-volatile organic compounds, will be determined as recommended in the Green Book (EPA/ACOE, 1991), or using ASTM D 4129M. Sediments will be treated with HCl or H_2SO_4 to remove the inorganic carbon (carbonates and bicarbonates) prior to TOC analysis (Plumb, 1981). Total solids will also be measured to convert concentrations of the chemical parameters from a wet-weight to a dry-weight basis. Total solids will be determined by methods described in Plumb, 1981. These physical analysis will be performed on the five composited samples and the LA-2 reference sample as part of the dredge material testing of sediments proposed for ocean disposal.

5.1.2 Grain Size Analysis for Geotechnical Evaluation of Sediment

In an auxiliary study, the Army Corps of Engineers will be conducting a set of more detailed grain size analyses. Samples for geotechnical analysis will be taken from each core sampled at regular intervals of 2 feet or at distinct changes in sediment type (i.e. stratification). Analysis for geotechnical grain size will follow the same laboratory methods used for the grain size analysis for evaluation of dredged material proposed for ocean disposal (Section 5.1.1). The purpose of the geotechnical analysis of grain size is to characterize the sediment for dredge maintenance construction specifications. This independent study is not a part of the testing of the sediment for suitability for ocean disposal. The necessary samples will be collected from cores taken in the ocean disposal suitability testing but all sample handling, analysis and reporting will be conducted by ACOE staff in an independent reporting effort.

5.2 Sediment Chemistry and Conventional Parameters

The test and reference sediments and tissues will be analyzed for the list of chemicals shown in Table 3. The target detection limits are also presented in Table 3.

Table 3. Chemical and Physical Parameters, Analytical Methods, and Target Detection Limits.

Parameter	Method	Procedure	Sediment Target Detection Limit (dry wt)	Tissue Target Detection Limit (wet wt.)
Physical / Conventional Tests				
Grain Size	Plumb 1981	Sieve/Pipette	1.0% (phi & mm)	---
Total Solids	Plumb 1981	Gravimetric	0.1%	---
TOC	ASTM D 4192M	Combustion IR	0.5%	---
Total Sulfides	EPA 9030M	Titrametric	0.1 mg/Kg	---
Dissolved Sulfides	EPA 9030M	Titrametric	0.1 mg/Kg	---
TRPH	EPA 418.1	IR Spectroscopy	5.0 mg/Kg	---
Total Lipids	1986/1987		---	0.1%
Metals				
Arsenic (As)	EPA 200.8	ICP-MS	0.1 mg/Kg	0.1 mg/Kg
Cadmium (Cd)	EPA 200.8	ICP-MS	0.1 mg/Kg	0.1 mg/Kg
Chromium (Cr)	EPA 200.8	ICP-MS	0.1 mg/Kg	0.1 mg/Kg
Copper (Cu)	EPA 200.8	ICP-MS	0.1 mg/Kg	0.1 mg/Kg
Lead (Pb)	EPA 200.8	ICP-MS	0.1 mg/Kg	0.1 mg/Kg
Mercury (Hg)	EPA 7471M	AA Graphite Furnace	0.02 mg/Kg	0.02 mg/Kg
Nickel (Ni)	EPA 200.8	ICP-MS	0.1 mg/Kg	0.1 mg/Kg
Selenium (Se)	EPA 200.8	ICP-MS	0.1 mg/Kg	0.1 mg/Kg
Silver (Ag)	EPA 200.8	ICP-MS	0.1 mg/Kg	0.1 mg/Kg
Zinc (Zn)	EPA 200.8	ICP-MS	0.1 mg/Kg	0.1 mg/Kg
Pesticides				
DDT and Derivatives	EPA 8080M	GC/ECD	20 µg/Kg	20 µg/Kg
4-4'-DDE	EPA 8080M	GC/ECD	20 µg/Kg	20 µg/Kg
Aldrin	EPA 8080M	GC/ECD	20 µg/Kg	20 µg/Kg
Chlordane and Derivatives	EPA 8080M	GC/ECD	20 µg/Kg	20 µg/Kg

Table 3 (Con't). Chemical and Physical Parameters, Analytical Methods, and Target Detection Limits.

Parameter	Method	Procedure	Sediment Target Detection Limit (dry wt)	Tissue Target Detection Limit (dry wt.)
Pesticides (cont.)				
Dieldrin	EPA 8080M	GC/ECD	20 µg/Kg	20 µg/Kg
Endosulfan I	EPA 8080M	GC/ECD	20 µg/Kg	20 µg/Kg
Endosulfan II	EPA 8080M	GC/ECD	20 µg/Kg	20 µg/Kg
Endosulfan Sulfate	EPA 8080M	GC/ECD	20 µg/Kg	20 µg/Kg
Endrin	EPA 8080M	GC/ECD	20 µg/Kg	20 µg/Kg
Hexachlorocyclo-hexane Isomers	EPA 8080M	GC/ECD	20 µg/Kg	20 µg/Kg
Toxaphene	EPA 8080M	GC/ECD	30 µg/Kg	30 µg/Kg
PCBs				
Aroclor 1016	EPA 8080M	GC/ECD	10 µg/Kg	10 µg/Kg
Aroclor 1221	EPA 8080M	GC/ECD	10 µg/Kg	10 µg/Kg
Aroclor 1232	EPA 8080M	GC/ECD	10 µg/Kg	10 µg/Kg
Aroclor 1242	EPA 8080M	GC/ECD	10 µg/Kg	10 µg/Kg
Aroclor 1248	EPA 8080M	GC/ECD	10 µg/Kg	10 µg/Kg
Aroclor 1254	EPA 8080M	GC/ECD	10 µg/Kg	10 µg/Kg
Aroclor 1260	EPA 8080M	GC/ECD	10 µg/Kg	10 µg/Kg
Total PCBs	EPA 8080M	GC/ECD	10 µg/Kg	10 µg/Kg
Semi-volatile Organics				
Total Phthalates (Σ EPA 625 Analytes)	EPA 8270M	GC/MS SIM	10 µg/Kg	10 µg/Kg
Napthhalene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Acenaphthylene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg

Table 3 (Con't). Chemical and Physical Parameters, Analytical Methods, and Target Detection Limits.

Parameter	Method	Procedure	Sediment Target Detection Limit (dry wt)	Tissue Target Detection Limit (dry wt.)
Semi-volatile Organics (cont.)				
Acenaphthene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Fluorene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Phenantherene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Anthracene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Fluoranthene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Pyrene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Chrysene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Benzo(a)anthracene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Benzo(b)fluoranthene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Benzo(k)fluoranthene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Benzo(a)pyrene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Indeno(1,2,3-cd)pyrene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Dibenzo(A,H)anthracene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Benzo(g,h,i) perylene	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Total PAHs	EPA 8270M	GC/MS SIM	20 µg/Kg	20 µg/Kg
Organotins				
Monobutyltin	Unger, 1986	GC/FPD	1 µg/Kg	1 µg/Kg
Dibutyltin	Unger, 1986	GC/FPD	1 µg/Kg	1 µg/Kg
Tributyltin	Unger, 1986	GC/FPD	1 µg/Kg	1 µg/Kg

To minimize salt interference, the following analyses will be performed as recommended by the Green Book (EPA/ACOE, 1991). The analysis for priority pollutant metals will involve a nitric acid digestion of the sample and subsequent analysis of the acid extract using Inductively Coupled Plasma (ICP) with mass detector (6010/ EPA method 200.8). Where necessary, the analysis of single elements may also be performed using atomic absorption with graphite furnace (EPA 7000 series). The analysis for total and dissolved sulfides will follow EPA 9030M, and TRPH will be measured by EPA 418.1. Semi-volatile organics (PAHs and phthalates) will be analyzed using gas chromatography-mass spectrometry with selective ion monitoring (GC-MS SIM) following serial extraction with methylene chloride and clean-up using

alumina and/or gel permeation column procedures, as necessary. Organochlorine pesticides and PCBs will be run using the EPA method 8080M using gas chromatography-electron capture detector (GC-ECD). The PCBs will be identified to the Aroclor level. The analysis of organotin compounds will be carried out by methods described in Unger, 1986.

All procedural blanks, reagent blanks, and standard reference materials will be analyzed, and results incorporated into a discussion of the analytical quality assurance and control parameters. All analytical results for sediments will be reported in dry weight units.

Two essential chemical analyses, total sulfides (EPA 9030) and ammonia, will also be performed prior to biological testing. Porewater obtained by centrifugation will be analyzed for ammonia, pH and salinity using the standard laboratory water quality meters (Orion SA-720, Beckman Ø10 and Orion 140, respectively). Ammonia will also be measured in the bioassay waters at the start and end of each test (elutriates or water overlying sediment as described in Section 4.

5.3 Bioaccumulation Tissue Chemistry

Tissue analysis will be performed to determine the availability of sediment contaminants to be taken up by organisms. Test and reference tissue from bioaccumulation organisms will be analyzed according to Green Book (EPA/ACOE, 1991) guidelines for those constituents listed in Table 3 and to the stated target detection limits (based on wet weight). Tissue composites from each replicate will be analyzed individually.

5.4 Laboratory Quality Assurance/Quality Control

The quality assurance objectives for chemical analysis conducted by the participating analytical laboratories (Pacific Treatment Analytical Services, Inc. and MEC's physical laboratory) are detailed in their Laboratory QA Manuals. These objectives for accuracy and precision involve all aspects of the testing process including:

- Methods and SOPs
- Calibration Methods and Frequency
- Data Analysis, Validation, and Reporting
- Internal Quality Control
- Preventative Maintenance
- Procedures to Assure Data Accuracy and Completeness

5.4.1. Laboratory QA/QC Procedures

Duplicate data can provide an indication of laboratory precision. Laboratory duplicate analyses will be made on 10% of all samples, and precision will be reported in the quality control report.

Method or reagent blanks will be analyzed at a frequency of 5% or for every analytical batch, whichever is greater.

An audit or reference sample will be included with the chemical analyses. This will be an EPA, NABS, or other EPA-acceptable source material and will be analyzed and reported in the quality control report. The source material will be of a similar matrix as the test samples and will include analyte concentrations in a similar range.

Environmental sample matrix spike and matrix spike duplicate analysis will be performed at a rate of 5%. In the absence of adequate sample quantity to perform matrix spiking for all matrix types, either the imaginary matrix as described in SW-846 or a laboratory water will be used for preparing matrix spikes. Matrix spikes are an environmental sample which is split into three separate aliquots and one aliquot is analyzed free from matrix spike introduction. A known concentration of the analyte of interest is added to the other two aliquots prior to sample preparation and analysis. Both percent recovery and relative percent difference are reported for matrix spikes/matrix spike duplicates. Spike data can provide an indication of matrix bias or interference on analyte recovery.

All laboratory analyses will be completed within the recommended holding time for each analytical method. Any QC samples that fail to meet the QC criteria specified in the methodology or in this SAP will be identified and the corresponding data appropriately qualified in the final report. All laboratory QC procedures and results will be summarized in the final report.

All Quality Assurance/Quality Control records for the various testing programs will be kept on file for review by regulatory agency personnel. It is also anticipated that ACOE, RWQCB, and/or EPA personnel will be present during sampling and may visit the laboratory during testing.

Section

6

6.0 Data Review, Management, and Analysis

6.1 Data Review

All data will be reviewed and verified to determine whether all data quality objectives have been met, and that appropriate corrective actions have been taken, when necessary.

6.2 Data Management

All laboratories will supply analytical results both in hard copy and electronic formats. Laboratories will have the responsibility of ensuring that both forms are accurate.

After completion of the sediment data review by MEC, hard copy results will be placed in the project file at MEC, and the results in electronic format will be imported into MEC's database system. Data will be available for electronic transfer to the U.S. Army Corps of Engineers at this time if necessary.

6.3 Data Analysis

Data analysis will consist of tabulation and comparison with regulatory guidelines. Chemistry data for sediments will be compared to the LA-2 reference site. Biological results will be compared to controls and reference (LA-2) results as designated in the Green Book (EPA/ACOE, 1991).

Section
7

7.0 Reporting

7.1 75% Report

MEC will provide a "75% Report" to aid in the decision making process. This report will contain the results of the bulk sediment chemical analysis, physical analysis, and preliminary SPP and SP bioassay results. If any results indicate that the bioaccumulation tissue analyte list should be changed, or if sites fail Tier III testing altogether, these issues will be addressed.

7.2 Draft and Final Reports

After all results are received, statistical analyses completed, and all evaluations made, MEC will provide draft and final reports. These will include summaries of all activities associated with collecting, compositing, transporting, and chemically and biologically analyzing sediment samples. The chemical and biological data reports will be included as appendices. As a minimum, the following will be included in the final report:

- Summary of all field activities including a description of any deviations from the approved SAP.
- Descriptions of each sample and all original core logs.
- Locations of sediment sampling stations.
- Plan view of the project showing the actual sampling locations.
- Final QA/QC report.
- Data Results. In addition to hard copies of field data, laboratory analysis results, and associated QA/QC data, electronic copies for all data will be stored at MEC.

7.3 QA/QC and Laboratory Data Report

Analytical laboratories will provide a QA/QC narrative that describes the results of the standard QA/QC protocols that accompany analysis of field samples. All hard copies of results will be maintained in the project file at MEC and included in the final report. At a minimum, the laboratory reports will contain results of the laboratory analysis, QA/QC results, all protocols and any deviations from the project SAP, and a case narrative of COC details. The QA/QC report will also include a description of laboratory and field equipment used, calibration records, maintenance schedules, field procedures, record keeping methods, and responsible personnel.

Section

8

8.0 References

ACOE – see U.S. Army Corps of Engineers

American Society for Testing and Materials (ASTM). 1992a. Annual Book of Standards. Vol. 11.04. Guide for conducting static acute toxicity tests starting with embryos of four species of saltwater bivalve mollusca. E-724-89.

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Lee, D.R., 1980. Reference Toxicants in Quality Control of Aquatic Bioassays, In: Aquatic Invertebrate Bioassays, ASTM STP 715. American Society for Testing and Materials, Philadelphia, PA

EPA/ACOE – see U.S. Environmental Protection Agency/U.S. Army Corps of Engineers.

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U.S. Army Corps of Engineers (ACOE). 1996. Hydrographic and Sediment Profile Imaging Investigation Report, Long Beach Harbor, California, March and April 1996, Prepared for the U.S. Army Corps of Engineers, Los Angeles District, Los Angeles, California and Prepared by Coastal Frontiers Corporation, Chatsworth, California and Striplin Environmental Associates, Olympia, WA, July 1996.

U.S. Environmental Protection Agency/U.S. Army Corps of Engineers (EPA/ACOE). 1991. Evaluation of Dredged Material Proposed for Ocean Disposal- Testing Manual. Office of Water. Washington, DC. EPA-503/8-91/001. February, 1991.

U.S. Army Corps of Engineers/U.S. Environmental Protection Agency (ACOE/EPA). 1993. Draft document. Regional Implementation Agreement (RIA) to Evaluate Dredged Material Proposed For Ocean Disposal. Pp. 30.

U.S. Environmental Protection Agency (EPA). 1985a. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Horning, W.B. and Weber, C.I., eds. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, OH, EPA/600/4-85/014.

U.S. Environmental Protection Agency (EPA). 1985b. Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms. Third Edition. Peltier, W.H. and Weber, C.I., eds. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, OH, EPA/600/4-85/013.

U.S. Environmental Protection Agency (EPA). 1989. General Requirements for Sediment Testing of Dredged Material Proposed for Ocean Dumping. Region 9, 1989.

Appendix

A

A. Examples of Field Forms

A) Field Core Log

B) Field Chain-of-Custody

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY			DATE	PROJECT MANAGER	RECORDER
STATION ID			NAV DATUM WGS 84	LATITUDE	LONGITUDE
ATTEMPT of	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
SAP DEPTH (FT)	SAP DEPTH - MLLW		TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN) 4.0
START TAPE (FT)	FINISH TAPE (FT)		PENETRATION (FT) = FINISH - START		RECOVERY

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1					
2	2					
3	3					
4	4					
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					
21	21					
22	22					
23	23					
24	24					
25	25					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

(☒ Check One)

☐ 6060 Corte del Cedro • Carlsbad, CA 92009-1514 • (619) 931-9225, FAX 931-9251
☐ *2433 Impala Drive • Carlsbad, CA 92008 • (619) 931-8081, FAX 931-1580*
☐ 98 Main Street, Suite #428 • Tiburon, CA 94920 • (415) 435-1847, FAX 435-0479

CHAIN OF CUSTODY

02626

DATE _____ PAGE _____ OF _____

PROJECT NAME/SURVEY/PROJECT NUMBER

PROJECT MANAGER

COMPANY

ADDRESS

PHONE/FAX

NUMBER & TYPE OF CONTAINERS

ANALYSIS/TEST REQUESTED

SAMPLE I.D.	DATE	TIME	MATRIX	INITIALS							PRESERVED HOW/ COMMENTS

SHIPPING:

Shipping VIA: _____ Airbill No: _____

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Firm	Firm	Firm	Firm	Firm	Firm
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

WHITE - return to originator • YELLOW - lab • PINK - retained by originator

APPENDIX B

Core Logs and Field Documentation

MEC ANALYTICAL SYSTEMS, INC.

STATION COORDINATE LOG

Project/Program: ACOE-LA River Estuary - 1998 Cruise Director: KN

Survey Number LA2 - Reference Sediment Recorder: KN

DATE	TIME	STATION	DROP NO.	LATITUDE	LONGITUDE	DEPTH (m)	
7-13-98	1030	LA-2	1	33°33.200	118°10.800	600	

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/16/98	Krause/ Green	J Mc
STATION ID	**NAV DATUM**	**LATITUDE**	**LONGITUDE**
1-1	WGS 84	33° 45696	118° 11.985

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of	1816	1821	22.4 JM	4.3	18.1

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	13.4	13.4		4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
		17.6	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE, VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty	Organic Hydrocarb	Black		
2	2					
3	3					
4	4	Fine	No	light gray		
5	5	Grain	Strong			All lower
6	6	Sand	Odor			
7	7		(shell hash)			
8	8					
9	9		cleaner			
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/17/98	Krause/ Green	SB
STATION ID	**NAV DATUM**	**LATITUDE**	**LONGITUDE**
1-2	WGS 84	33°45.672	118° 11.997

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
of	1325	1335	17.7	3.0	14.7

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	16.8	16.8	12.5	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
+1.5	17.0	18.5	12.5

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty/Clay	organic Hydrocarbon	Black	1-2T	Detritus
2	2	Silty Sand		Black/Dark Grey		Detritus
3	3					
4	4.27				1-2B	
5	5	Silty Clay				
6	5.6	Dk Grey				
7	7					
8	8					
9	8.8	Olive Green Clay	None	Olive Green		5% shell hash
10	10					
11	11	Sand/Shell	Hash, Slight Organic	Grey		Shell Hash
12	12					Shell Hash
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/17/98	Krause/ Green	SB

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
1-3	WGS 84	33° 45.639'	118° 12.013'

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 1	1215	1230	7.6	2.1	5.5

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5-5.5	26.0	9.0	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
+12.0	2.0	14'	9.0

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Peat/Silty Clay	Sulfides Hydrocarbons	Black	1-3T	
2	2					
3	3	Fine Grain Sand	Slight hydrocarbon	Gray		
4	4					
5	5					
6	6					
7	7					
8	8					
9	9	Peat/Silty Sand	Hydrocarbons	Dark Gray		
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					
21	21					
22	22					
23	23					
24	24					
25	25					

NOTES: Refusal @ 9' Due to layer of organic detritus

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/17/98	Krause/ Green	SR

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
1-4	WGS 84	33°45.609	118°12.011

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 2	1030	1040	3.9	1.5	2.4

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
~~28.2~~ 31.5	~~28.2~~ 31.5 - 2.4	29.1 ~~25.8~~	9.0	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
+15.6 ~~31.5~~	2.5	18.1	9.0

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Clayey Silt	Slight Sulfides	GRAY	1-4T	
2	2	Fine grain Sand	Hydro Carbons			
3	3					
4	4					
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					
21	21					
22	22					
23	23					
24	24					
25	25					

NOTES: Refusal @ 9.0' Organic detritus in core tip - Suspected source of refusal

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/17/98	Krause/ Green	SB

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
1-4	WGS 84	33°45.609	118°12.011

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
2 of 2	1100	1115	4.2	1.5	2.7

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
~~28.2~~ 31.5	~~28-2~~ 36 - 2.7	~~28.8~~ 25.5	8.0	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
+15.3	+4.5	10.8	8.0

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Fine Grain Sand	Slight Sulfides & Hydro carbons	Gray		
2	2				PITCHED IN REFERENCE TO 1ST ATTEMPT	
3	3					
4	4					
5	5					
6	6					
7	7					
8	8	Silty Sand	Hydrocarbons	Dark Gray		
9	9					
10	10					
	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					
21	21					
22	22					
23	23					
24	24					
25	25					

NOTES: REFUSAL @ 8.0' ORGANIC DETRITUS IN CORE TIP - SUSPECTED CAUSE OF REFUSAL

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	17 Jul 98	Krause/ Green	Hardin

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
1-5	WGS 84	33°45.609	118° 12.011

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 1	0852		7.5	1.7	7.5 - 1.7 = 5.8

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 5.8 = 25.7	25.7	13.0	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
+17.0	2.5	2.5 + 17.0 = 19.5	13.5'

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty Clay PEAT	Hydrocarbon	Black	1-5 T	oil sheen
2	2	Fine grain Sand	Mild Hydrocarbons	Gray		
3	3					Aluminum
4	4		Organic			Leaves Roots
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					
11	11			Dark Gray		
12	12					
13	13				1-5B	13.0'
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
~~20~~	20					
21	21					
22	22					
23	23					
24	24					
25	25					

NOTES: SAND REFUSAL @ 19.5'

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	07/16/98	Krause/ Green	SB

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
1-6	WGS 84	33° 45. 619	118° 11.985

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 1	1718	1722	19.2	5.0	14.2

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5-14.2	17.3	16.7	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
	19.5	18	16.7

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE, VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty Clay	Hydrocarbon	Dark Gray +	-	
2	2	Fine Grain	organics	Black		Upper
3	3	Silty Sand				
4	4	Sandy Silt				
5	5					
6	6	Silty Clay				
7	7	Fine Grained Silty Sand				
8	8					Lower
9	9	Silty				
10	10	Clay				
11	11					
12	12					
13	13					
14	14	Silty Fine Sand				
15	15	Silty				
16	16	Clay				
17	17	Silty Sand				
18	18					
19	19					
20	20					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	16 Jul 98	Krause/ Green	tfeldin

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
FTH 1-7	WGS 84	33° 45.572	118° 11.951

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 2	1430		11.3	4.6	11.3 - 4.6 = 6.7

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 6.7 = 24.8	24.8		4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
+	6.8		

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1					
2	2		Refusal at ≈ 20-21 ft			
3	3		Lost core upon retreival at coupler			
4	4		Broke [redacted] Vibracore cable			
5	5		and had to dive to retrieve.			
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					
21	21					
22	22					
23	23					
24	24					
25	25					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/16/98	Krause/ Green	J. Mcbaugh
STATION ID	**NAV DATUM**	**LATITUDE**	**LONGITUDE**
1-7	WGS 84	33° 45.592	118° 11.951
ATTEMPT	**TIME STARTED**	**TIME FINISHED**	**WATER DEPTH (FT)**	**TIDE (FT)**	**MLLW (FT) = WATER DEPTH - TIDE**
2 of 2			12.7	5.2	7.5
SAP DEPTH (FT)	**SAP DEPTH - MLLW**	**TARGET CORE LENGTH (FT)**	**FINAL CORE LENGTH (FT)**	**CORE DIAMETER (IN)**
31.5	31.5 - 7.5	24	14	4.0
START TAPE (FT)	**FINISH TAPE (FT)**	**PENETRATION (FT) = FINISH - START**	**RECOVERY**
	9.5	16.8	14

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty Sand	Hydrocarbons			
2	2	↓	↓	Gray		
3	3					
4	4					
5	5					
6	6	↓				
7	7	Silty Clay		Black/Dark Gray		
8	8	Silty Sand				
9	9	↓		Gray		
10	10	↓				
11	11	Silty Clay		Dark Gray		
12	12					
13	13	Silty Sand				
14	14	↓	↓	↓		
15	15					Refusal @ 14
16	16					
17	17					
18	18					
19	19					
20	20					
21	21					
22	22					
23	23					
24	24					
25	25					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/16/98	Krause/ Green	J. Mobarak

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
1-8	WGS 84	33°45,592	118° 11.944

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 1	1300		18.3	3.4	~~+5.2~~ 14.9

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	14.9	16.6	15.0	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1			Black		Upper
2	2	Silty	hydrocarbon			Strata
3	3	Clay				
4	4			Dark Gray/		
5	5	Fine Grain		Black		Lower
6	6	Silty Sand				
7	7					Strata
8	8	Silty				
9	9	Clay				
10	10					
11	11					
12	12					
13	13	Fine Grain Silty Sand				
14	14	Silty				
15	15	Clay				
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY			DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary			7/15/98	Krause/ Green	Hardin
STATION ID			NAV DATUM	LATITUDE	LONGITUDE
2-1			WGS 84	33° 45.562'	118° 11.922'
ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 2	1423		18.5	4.8	18.5-4.8=13.7
SAP DEPTH (FT)	SAP DEPTH - MLLW		TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5-13.7=17.8.		17.8	5.5	4.0
START TAPE (FT)	FINISH TAPE (FT)		PENETRATION (FT) = FINISH - START		RECOVERY
+1.5	4.0		4 +1.5 = 5.5		2.0'

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silt/Sand/Clay	Petroleum +2.5	Black/ Dark Grey	2-1 T	
2	2					
3	3					
4	4					
5	5					
~~6~~	~~6~~	Refusal @ 5.5 ft				
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/15/98	Krause/ Green	Hardin

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-1	WGS 84	33° 45.561	118° 11.919

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
2 of	1539		18.8	4.9	18.8 - 4.9 = 13.9

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 13.9 = 17.6	17.6	13.6'	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
+1.2	12.4	12.4 + 1.2 = 13.6'	78 ft

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silt/Clay	Organic Petroleum	Black/Dark Grey	2-1 T (2of3)	
2	2	Sand/Silt	Organic	Grey/Dark Grey	2-1 B (2of2)	
3	3					
4	4					
5	5					
6	6					
7	7	Silt/Clay Sand/Detritus		Black/Dark Grey		
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES

Core nose suspected to plug w/ detritus, limiting recovery.

Station moved ≈ 10' for second Attempt

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/15/98	Krause/ Green	Hardin

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-1	WGS 84	33°45.562'	118°11.913'

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
3 of 3	1605	1659	19.8	4.8	19.0 - 4.8 = 14.2

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 14.2 = 17.3	17.3	17.0 Pen.	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
0.0	19.8	19.8	17.3

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty Clay		Black Dark Grey	2-1T (3of3)	0.8
2	2	Silty		Grey Black		
3	3	Sand	Sulfides			Upper
4	4					
5	5				2-1B (2of3)	
6	6					
7	7		Hydrocarbons			
8	8	Silty				
9	9	Clay	Sulfides			Lower
10	10					
11	11					
12	12					
13	13	Fine grain	Sulfides			
14	14	Silty Sand				
15	15					
16	16	Clay	Hydro. Carbons			
17	17	Silt	Sulfides			
18	18					17.3
19	19					
20	20					

NOTES Trash, leaves, organics

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/15/98	Krause/ Green	Hardin

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-2	WGS 84	33° 45.576	118° 11.891

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 1	0837	0902	16.8	0.6	16.8 - 0.6 = 16.2

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 16.2 = 15.3	15.3	15.3	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
		15.3	14.7

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE, VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silt/clay	Organic/ H_2S/ petroleum	Black / Drk Grey	2-2T (1 of 2)	
2	2				↓	
3	3				2-2B	
4	4	↓	3.7			
5	5	sand/silt				
6	6	~~Silt~~/clay	5.6			
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13	Fine sand		↓		
14	14			Dark Grey		
15	15			↓	↓	14.7

15.3 NOTES: organic detritus throughout core

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/15/98	Krause/ Green	J. Mobarak

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-3	WGS 84	33° 45.555	118° 11.869

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 2	1728	1735	18.5	4.0	18.5 - 4 = 14.5

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 14.5 = 17.0	17.0	13.5	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
		17.5	13.5

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty Clay	Hydrocarbons	Black/		
2	2	Silty Sand	Sewage			Upper
3	3	↓	Sulfides	Dark		
4	4	Silty Sand		gray		
5	5	with Silty Clay				
6	6	lenses				
7	7	Silty Clay				Lower
8	8					
9	9	Silty Sand				
10	10	↓				
11	11	Silty Clay				
12	12	↓				
13	13	Silty Sand				
14	14	↓				
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES No Photo - Out of Silo
Organic Matter, Trash

MFC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/15/98	Krause/ Green	J. Mobank

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-3 (Top Only)	WGS 84	33° 45.555'	118° 11.869'

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
2 of 2	1819	1825	19.0	4.5	19.0 - 4.5 = 14.5

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 14.5 = 17.0	3.5 ft	5.0	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
		6.0	5.0

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty clay	Sewage	Dark gray		
2	2	Fine grain silty sand	Hydrocarbons	Black		Upper
3	3		↓	↓		
4	4					
5	5	Silty clay				
6	6					Scrap
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES Oil sheen, Trash, plant matter

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/15/98	Krause/ Green	Hardin

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-4	WGS 84	33° 45.570'	118° 11.839'

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 1	0935	1010	18.0	0.9	18.0 - 0.9 = 17.1

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 17.1 = 14.4	14.4		4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
~~18.0~~ 3.5	~~31.5~~ 18.0	14.5	12.8

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silt/Clay	Organic/ H_2S / Petroleum	Black/Dk Olive	2-4T	0.9
2	2				2-4B	
3	3	Sand, Silt	3.4 3.9			
4	4	Silt/Clay				
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13	12.8				12.8
14	14					
14.5 ~~15~~	15					

NOTES

organic detritus throughout core

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	16 July 98	Krause/ Green	Hardin

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-5	WGS 84	33° 45.547	118° 11.821'

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 4	0858		17.2	1.1	17.2 - 1.1 = 16.1

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 16.1 = 15.4	15.4		4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1					
2	2					
3	3			Nothing		
4	4					
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES: Almost 0 penetration — refusal from unknown object @ ≈ 1-2 ft

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY			DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary			7/16/98	Krause/ Green	Hardin
STATION ID			NAV DATUM	LATITUDE	LONGITUDE
2-5 Upper Only			WGS 84	33° 45.547	118° 11.820
ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
2 of 4	0914	15	15.7	1.1	15.7-1.1=14.6
SAP DEPTH (FT)	SAP DEPTH - MLLW		TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5-14.6=16.9		16.9	2	4.0
START TAPE (FT)	FINISH TAPE (FT)		PENETRATION (FT) = FINISH - START		RECOVERY
			6		2

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE, VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silt Sand	Slight Hydrocarbon	Black/		Upper
2	2			Dark grey		
3	3					
4	4					
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/16/98	Krause/ Green	J. M. Lark

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
25	WGS 84	33°45.548	118° 11.825

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
3 of 4			17.1	1.2	15.9

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 15.9	15.6	8.6	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
	11.8	13	8.5

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty Clay	Hydrocarbon Strong	Black		Upper
2	2	↓	↓	↓		
3	3			Dark Gray/		2.1
4	4	↓		Black		
5	5	Fine Grain Silty Sand		↓		
6	6	Silty Clay				lower
7	7	↓	↓			
8	8	↓	↓	↓		
9	9					8.6
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

MFC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	16 July 98	Krause/ Green	Harden

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-5	WGS 84	33° 45.548	118° 11.805

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
4 of 4	11:10		17.3'	1.8'	17.3 - 1.8 = 15.5

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 15.5 = 16.0	16.0	14.2 13.9'	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
+0.5	13.7	13.7 + 0.5 = 14.2' 13.9'	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty Clay	strong	Black		
2	2		hydrocarbon			Upper
3	3					
4	4	Fine grain Silty San	3.8-4.4	Dark gray/		
5	5	Silty Clay		Black		Lower
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

14.2

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/15/98	Krause/ Green	Hardin

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-6	WGS 84	33° 45.555'	118° 11.787'

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 1	1130	1210	23.5	2.5	23.5 - 2.5 = 21.0

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 21.0 = 10.5	10.5		4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
11.0	21.5	21.5 - 11 = 10.5	87

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silt/Clay	organic/H_2S petroleum	Black/ dark olive	2-6 B	
2	2					
3	3					
4	4					
5	5					
6	6	Sand/silt				
7	7	↓ Silt/clay				
8	8					
9	9					8.7
10	10					
~~11~~	11					
12	12					
13	13					
14	14					
15	15					

NOTES

organic detritus throughout core

(1st photo mis-Cabeled 2-8)

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	15 Jul 98	Krause/ Green	Hurdin

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-7	WGS 84	33° 45.541'	118° 11.775

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of 1	1040	1112	22.4	1.6	20.8

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5 - 20.8 = 10.7	10.7	10.6	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
9.4	21.4	11.0	10.6

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	silt/clay	organic/ H_2S/ petroleum	Black/dark grey	2-7B	
2	2					
3	3					
4	4	sand/silt				
5	5					
6	6	~~silty/sand~~ clay/silt				
7	7					
8	8					
9	9					
10	10	10.6				10.6
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES organic detritus throughout core

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/15/98	Krause/ Green	Hardin

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
2-8	WGS 84	33°45.352	118° 11.719

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of	1228	1249	24.8	3.5	24.8-3.5=21.3

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
31.5	31.5-21.3 = 10.2	10.2	~~11.4~~ 11.4	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
~~13.3~~ 13.3	23.7	23.7-13.3 = 11.4	10.1

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE, VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silt/Clay	Organic H2S Petroleum	Black/ Dark Grey	2-8 Bottom	organic detritus
2	2					
3	3					
4	4					
5	5					
6	6					
7	7	clay/silt	Light Petroleum	~~Dark Grey~~ olive green		
8	8		Light organic			
9	9					
10	10	~~Sandy~~ silt				
11	11					1061
12	12					
13	13					
14	14					
15	15					

MLW

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY			DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary			7/14	Krause/ Green	gk
STATION ID			NAV DATUM	LATITUDE	LONGITUDE
3-1			WGS 84	33 45.537	118 11.686
ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
of			21.5	2.7	18.8
SAP DEPTH (FT)	SAP DEPTH - MLLW		TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
24.9	24.9 - 18.8		6.1	6.0	4.0
START TAPE (FT)	FINISH TAPE (FT)		PENETRATION (FT) = FINISH - START		RECOVERY
			10		

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	silty clay	organic	black	3-1	
2	2		odors			
3	3					
4	4					
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/14	Krause/ Green	

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
3-2	WGS 84	33.45.508	118.11.654

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
of	1855	1900	20.8	2.8	18.0

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
~~24.9~~	6.9	6.9	6.5	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	SIH	H2S	Black	3-2	
2	2	Silty clay	some organic decay			
3	3					
4	4	sandy silt				
5	5					
6	6	sandy clay				
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/14	Krause/ Green	

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
3-3	WGS 84	3345.193	118.11.582

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
of	430	2	21.2	3.7	17.5

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
24.4	24.4 - 17.5 = 7.4	7.4	7.6	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silty clay	H2S /	black	3-3	
2	2		Organic			
3	3					
4	4	Silty				
5	5	Fine sandy silty				
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/14	Krause/ Green	PK

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
3-4	WGS 84	33 45.441	118.11.543

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
of	8:50		20.2	4.1	16.1

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
24.2	24.2 - 16.1	8.8	~~8.8~~ 8.0	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
		10	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Silt w/ leaves/	black	Hy	3-4	
2	2	organic silt clay				
3	3	Debris				
4	4	silty clay				
5	5					
6	6					
7	7	sand silt				
8	8	8.2				
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/14	Krause/ Green	PK
STATION ID: 3-5	NAV DATUM: WGS 84	LATITUDE: 33 45.435	LONGITUDE: 118 11.483

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
of	1515		229	4.4	18.5

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
24.9	27.9 - 18.5	6.4	6.5	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
		8.0	6.5

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	SW / silty clay	H2S	black	3-5	
2	2					
3	3					
4	4					
5	5	silty sand				
6	6	silty clay				
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/14	Krause/ Green	PK

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
3-6 A	WGS 84	33 45.382	118 .98. 454

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
of	~~1~~ 130		18~~4~~	3.4	15~~0~~

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
24.9	24.9 - 15~~0~~	~~10.0~~ 9.9	5.0	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
1	~~20~~ 18	10	5.0

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	organic debris	brown	Black	3-6A	
2	2	silty clay	organic decay			
3	3					
4	4					
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES Broke barrel

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/14	Krause/ Green	

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
3-6B	WGS 84		

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
of	1430		9.9	4.5	15.4

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
24.9	24.4 - 15 = 9.5	9.5	7.0	4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
		10'	7.0

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	organic Debris	black →	none	3-6B	
2	2	sil-jcly				
3	3	Debris				
4	4	Silt Debris				
5	5					
6	6	silty clay				
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary	7/14	Krause/ Green	

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
3-7	WGS 84	33 45.382	118 11.391

ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
of	0921		18.9	0.8	18.1

SAP DEPTH (FT)	SAP DEPTH - MLLW	TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
24.9	24.9 - 18.1	6.9		4.0

START TAPE (FT)	FINISH TAPE (FT)	PENETRATION (FT) = FINISH - START	RECOVERY
		10'	9.2

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	clayey silt	organic	black	3-7	
2	2	w/ loose	deg			
3	3	organic debris				
4	4	throughout				
5	5					
6	6					
7	7					6.7'
8	8					
9	9	9.2				
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

VIBRACORE CORING LOG

PROJECT/SURVEY			DATE	PROJECT MANAGER	RECORDER
ACOE - LA River Estuary			7-14	Krause/ Green	RK
STATION ID			NAV DATUM	LATITUDE	LONGITUDE
3-8			WGS 84	3345.3371	118 11.3646
ATTEMPT	TIME STARTED	TIME FINISHED	WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE
1 of	0915	1000	24.6	0.8	23.8
SAP DEPTH (FT)	SAP DEPTH - MLLW		TARGET CORE LENGTH (FT)	FINAL CORE LENGTH (FT)	CORE DIAMETER (IN)
24.9	24.9 - 23.8 =		1.1		4.0
START TAPE (FT)	FINISH TAPE (FT)		PENETRATION (FT) = FINISH - START		RECOVERY
1	27				3.0

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE, VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Clay/silt	organic odor	Black	3-8	
2	1.1 2					
3	2.53	Organic				
4	4					
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					

NOTES

MEC ANALYTICAL SYSTEMS, INC.

CRUISE STATUS REPORT

Project/ Program: LA - COE -

Cruise Director: KRAUSE

Type of Sampling: Ubiacon

Sampling Dates/Time: 7/14

Samples Collected: 7/14/98 Area 3 Stations 3-1 through 8
7/15/98 Area 2 Stations 2-1, 2-2, 2-3, 2-4, 2-6, 2-7, 0
7/16/98 Area 2 - 2-5, Area ~~3~~ Stations ~~3~~-7, ~~3~~-8, ~~3~~-6,

Problems:

Observers: J. Devine LA COE

Extra sampling effort:

Weather delays or cruise suspension: OSW - O'Cool

Other observations:

MEC ANALYTICAL SYSTEMS, INC.

DAILY CRUISE LOG

Project/ Program: LACOE LA River

Survey Number: 1

Vessel: Earl Bird

Type of Sampling: Vibrocore

Date: 7-14-98

Start Time: 0800

End Time: 1900

Cruise Director: Krause

Boat Captain: Nelson

Crew: KRAUSE - MEC
Mubarak - MEC
Bodenstein - MEC
J. Devine. LACOE
Nelson - EBI
Fellow - EB

WEATHER OBSERVATIONS

Time:	Wind:	Sky:	Sea State:
0800	light	overcast	Flat

Comments/Other Observations:

MEC ANALYTICAL SYSTEMS, INC.

DAILY CRUISE LOG

Project/ Program: LACOE LA River Estuary

Survey Number: 9807 1

Vessel: Early Bird

Type of Sampling: Vibracore

Date: 7/15/98

Start Time: 0700

End Time: 1845

Cruise Director: J. Hardin

Boat Captain: K. Nielson

Crew: Otto Fellin - ED
J. Mubarak MEC
S. Baderstiener
J. Hardin
J. Devine ACOE

WEATHER OBSERVATIONS

Time:	Wind:	Sky:	Sea State:
0700	None	light fog	Dead Calm
1847	None	Clear	Calm

Comments/Other Observations:

MEC ANALYTICAL SYSTEMS, INC.

DAILY CRUISE LOG

Project/ Program: LA River Estuary

Survey Number: 9807 1

Vessel: Early Bird

Type of Sampling: Vibracore

Date: 7/16/98

Start Time: 0700

End Time: 2000

Cruise Director: J. Hardin

Boat Captain: K. Nielson

Crew: J. Mabank
S. Bodenstiener } MEC
J. Hardin
D. Moore
J. Devine ACOE
Otto Kellie. - EB

WEATHER OBSERVATIONS

Time:	Wind:	Sky:	Sea State:
0700	None	Heavy fog	Calm
1000	None	Clear - Morning Haze	Calm
1600	None - light Breeze	Clear	Calm

Comments/Other Observations:

Broke Vibracore Cable upon retrieval at 1-7

MEC ANALYTICAL SYSTEMS, INC.

DIFFERENTIAL GPS FIELD VERIFICATION

Project/ Program: ACOE LA River Estuary

Survey: 9807

Cruise Director: P.Krause

Type of Sampling: Vibracore

Recorder: JM

GPS Model: Leica MX 400

Differential Model: Same Unit

Field Nav. Datum (NAD83,NAD27, etc.): NAD83

Verification/ Calibration Point

Source Nav. Datum (NAD83,NAD27, etc.) ~~[illegible]~~ NAD83

Coordinates (Lat,Long): 33 45.503

Location Description: 118° 11.989

Source of Point: [/] ACOE predetermined calibration point.

[ ] Field determined verification point.

Initial GPS verification:

Date/Time: 7/14/98 0930

Coordinates (Lat,Lon): 33° 45.503', 118° 11.790

Deviations from verified location: Could Not locate Rod

Will any deviations present problems in the current survey: No - Verified by MAP

Follow-up GPS verification:

Date/Time: 7/14/98 1844

Coordinates (Lat,Lon): 33 45.503 118 11.933

Deviations from verified location: Same Area

Will any deviations present problems in the current survey: No - Will pick field point tomorrow

Comments:

MEC ANALYTICAL SYSTEMS, INC.

DIFFERENTIAL GPS FIELD VERIFICATION

Project/ Program: ACOE LA River Estuary

Survey: 9807

Cruise Director: J. Hardin

Type of Sampling: Vibracore

Recorder: J Mubarak

GPS Model: Leica 400 MX

Differential Model: Sama

Field Nav. Datum (NAD83,NAD27, etc.): NAD83

Verification/ Calibration Point

Source Nav. Datum (NAD83,NAD27, etc.) NAD 83

Coordinates (Lat,Long): 33° 45.503 118° 11.989

Location Description: Could Not locate

Source of Point:

[✓] ACOE predetermined calibration point.

[ ] Field determined verification point.

Initial GPS verification:

Date/Time: 7/15/98 0730

Coordinates (Lat,Lon): 33° 45.504' 118° 11.989'

Deviations from verified location: None

Will any deviations present problems in the current survey: No

Follow-up GPS verification:

Date/Time: 7/15/98 1900

Coordinates (Lat,Lon): 33 45.514 118° 11.988

Deviations from verified location: None - Point on Shore

Will any deviations present problems in the current survey: No

Comments:

APPENDIX C

Sediment Chemistry

Pacific Treatment
Analytical Services, Inc.

4340 Viewridge Avenue, Suite A • San Diego, CA 92123
(619) 560-7717 • Fax (619) 560-7763
Analytical Chemistry Laboratory

September 14, 1998

MEC Analytical Systems, Inc.
Attn: Lisa Kay
2433 Impala Drive
Carlsbad, California 92009

Project Name/No.: LARE/ACOE
Laboratory Log No.: 1519-98 (Addition)
Date Received: 07/28/98
Sample Matrix: Six sediment samples
PO No.: 0719-019

Please find the following enclosures for the above referenced project identified:

1) Analytical Report
2) QA/QC Report
3) Chain of Custody Form

Note: Due to nature of these samples, several cleanup steps were performed including:
1. Sulfur 2. Alumina 3. Florisil 4. Silica Gel.

Certificate of Analysis

Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. Date of extraction, date of analysis, detection limits and dilution factor are reported for each compound analyzed. All samples were analyzed within the method required holding time from sample collection.

Data for each analytical method was evaluated by assessing the following QA/QC functions, as applicable to the methodology:

- Quality Control Standard
- Surrogate Percent Recovery
- Laboratory Control Sample (LCS) percent recoveries for all analyses,
- Matrix Spike Recovery/Matrix Spike Duplicate Recovery (MSR & MSDR) and/or
- Relative Percent Difference (RPD from MSR & MSDR).

I certify that this data report is in compliance both technically and for completeness. Release of the data contained in this hardcopy data report has been authorized by the following signature.

Janis Columbo
Vice President/Laboratory Director

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: METHOD BLANK
SAMPLE ID: N/A
DILUTION FACTOR: 1

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE EXTRACTED: 09/05/98
DATE ANALYZED: 09/09/98
MATRIX: SOLID
SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2	2	< 2
ALPHA-BHC	2	< 2	2	< 2
BETA-BHC	2	< 2	2	< 2
GAMMA-BHC	2	< 2	2	< 2
DELTA-BHC	2	< 2	2	< 2
CHLORDANE	20	< 20	20	< 20
4,4-DDD	2	< 2	2	< 2
4,4-DDE	2	< 2	2	< 2
4,4-DDT	2	< 2	2	< 2
DIELDRIN	2	< 2	2	< 2
ENDOSULFAN I	2	< 2	2	< 2
ENDOSULFAN II	2	< 2	2	< 2
ENDOSULFAN SULFATE	2	< 2	2	< 2
ENDRIN	2	< 2	2	< 2
ENDRIN ALDEHYDE	2	< 2	2	< 2
HEPTACHLOR	2	< 2	2	< 2
HEPTACHLOR EPOXIDE	2	< 2	2	< 2
METHOXYCHLOR	20	< 20	20	< 20
TOXAPHENE	25	< 25	25	< 25
AROCHLOR-1016	10	< 10	10	< 10
AROCHLOR-1221	10	< 10	10	< 10
AROCHLOR-1232	10	< 10	10	< 10
AROCHLOR-1242	10	< 10	10	< 10
AROCHLOR-1248	10	< 10	10	< 10
AROCHLOR-1254	10	< 10	10	< 10
AROCHLOR-1260	10	< 10	10	< 10

DL = DETECTION LIMIT

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE PARAMETER	ACCEPTABLE RECOVERIES	% RECOVERY
TCMX	26-146	94

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-1
SAMPLE ID: REFERENCE
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 09/05/98
DATE ANALYZED: 09/09/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2	2.7	< 2.7
ALPHA-BHC	2	< 2	2.7	< 2.7
BETA-BHC	2	< 2	2.7	< 2.7
GAMMA-BHC	2	< 2	2.7	< 2.7
DELTA-BHC	2	< 2	2.7	< 2.7
CHLORDANE	20	< 20	27	< 27
4,4-DDD	2	< 2	2.7	< 2.7
4,4-DDE	2	< 2	2.7	< 2.7
4,4-DDT	2	< 2	2.7	< 2.7
DIELDRIN	2	< 2	2.7	< 2.7
ENDOSULFAN I	2	< 2	2.7	< 2.7
ENDOSULFAN II	2	< 2	2.7	< 2.7
ENDOSULFAN SULFATE	2	< 2	2.7	< 2.7
ENDRIN	2	< 2	2.7	< 2.7
ENDRIN ALDEHYDE	2	< 2	2.7	< 2.7
HEPTACHLOR	2	< 2	2.7	< 2.7
HEPTACHLOR EPOXIDE	2	< 2	2.7	< 2.7
METHOXYCHLOR	20	< 20	27	< 27
TOXAPHENE	25	< 25	34	< 34
AROCHLOR-1016	10	< 10	14	< 14
AROCHLOR-1221	10	< 10	14	< 14
AROCHLOR-1232	10	< 10	14	< 14
AROCHLOR-1242	10	< 10	14	< 14
AROCHLOR-1248	10	< 10	14	< 14
AROCHLOR-1254	10	< 10	14	< 14
AROCHLOR-1260	10	< 10	14	< 14

DL = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE PARAMETER	ACCEPTABLE RECOVERIES	% RECOVERY
TCMX	26-146	81

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-1 (DUPLICATE)
SAMPLE ID: REFERENCE (DUPLICATE)
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 09/05/98
DATE ANALYZED: 09/09/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2	2.7	< 2.7
ALPHA-BHC	2	< 2	2.7	< 2.7
BETA-BHC	2	< 2	2.7	< 2.7
GAMMA-BHC	2	< 2	2.7	< 2.7
DELTA-BHC	2	< 2	2.7	< 2.7
CHLORDANE	20	< 20	27	< 27
4,4-DDD	2	< 2	2.7	< 2.7
4,4-DDE	2	< 2	2.7	< 2.7
4,4-DDT	2	< 2	2.7	< 2.7
DIELDRIN	2	< 2	2.7	< 2.7
ENDOSULFAN I	2	< 2	2.7	< 2.7
ENDOSULFAN II	2	< 2	2.7	< 2.7
ENDOSULFAN SULFATE	2	< 2	2.7	< 2.7
ENDRIN	2	< 2	2.7	< 2.7
ENDRIN ALDEHYDE	2	< 2	2.7	< 2.7
HEPTACHLOR	2	< 2	2.7	< 2.7
HEPTACHLOR EPOXIDE	2	< 2	2.7	< 2.7
METHOXYCHLOR	20	< 20	27	< 27
TOXAPHENE	25	< 25	34	< 34
AROCHLOR-1016	10	< 10	14	< 14
AROCHLOR-1221	10	< 10	14	< 14
AROCHLOR-1232	10	< 10	14	< 14
AROCHLOR-1242	10	< 10	14	< 14
AROCHLOR-1248	10	< 10	14	< 14
AROCHLOR-1254	10	< 10	14	< 14
AROCHLOR-1260	10	< 10	14	< 14

DL = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE PARAMETER	ACCEPTABLE RECOVERIES	% RECOVERY
TCMX	26-146	101

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-2
SAMPLE ID: 1 TOP COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 09/05/98
DATE ANALYZED: 09/09/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2	2.5	< 2.5
ALPHA-BHC	2	< 2	2.5	< 2.5
BETA-BHC	2	< 2	2.5	< 2.5
GAMMA-BHC	2	< 2	2.5	< 2.5
DELTA-BHC	2	< 2	2.5	< 2.5
CHLORDANE	20	< 20	25	< 25
4,4-DDD	2	< 2	2.5	< 2.5
4,4-DDE	2	< 2	2.5	< 2.5
4,4-DDT	2	< 2	2.5	< 2.5
DIELDRIN	2	< 2	2.5	< 2.5
ENDOSULFAN I	2	< 2	2.5	< 2.5
ENDOSULFAN II	2	< 2	2.5	< 2.5
ENDOSULFAN SULFATE	2	< 2	2.5	< 2.5
ENDRIN	2	< 2	2.5	< 2.5
ENDRIN ALDEHYDE	2	< 2	2.5	< 2.5
HEPTACHLOR	2	< 2	2.5	< 2.5
HEPTACHLOR EPOXIDE	2	< 2	2.5	< 2.5
METHOXYCHLOR	20	< 20	25	< 25
TOXAPHENE	25	< 25	32	< 32
AROCHLOR-1016	10	<10	13	< 13
AROCHLOR-1221	10	<10	13	< 13
AROCHLOR-1232	10	<10	13	< 13
AROCHLOR-1242	10	<10	13	< 13
AROCHLOR-1248	10	<10	13	< 13
AROCHLOR-1254	10	<10	13	< 13
AROCHLOR-1260	10	<10	13	< 13

DL = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE PARAMETER	ACCEPTABLE RECOVERIES	% RECOVERY
TCMX	26-146	94

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-3
SAMPLE ID: 1 BOT COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 09/05/98
DATE ANALYZED: 09/09/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2	3.0	< 3.0
ALPHA-BHC	2	< 2	3.0	< 3.0
BETA-BHC	2	< 2	3.0	< 3.0
GAMMA-BHC	2	< 2	3.0	< 3.0
DELTA-BHC	2	< 2	3.0	< 3.0
CHLORDANE	20	< 20	30	< 30
4,4-DDD	2	< 2	3.0	< 3.0
4,4-DDE	2	< 2	3.0	< 3.0
4,4-DDT	2	< 2	3.0	< 3.0
DIELDRIN	2	< 2	3.0	< 3.0
ENDOSULFAN I	2	< 2	3.0	< 3.0
ENDOSULFAN II	2	< 2	3.0	< 3.0
ENDOSULFAN SULFATE	2	< 2	3.0	< 3.0
ENDRIN	2	< 2	3.0	< 3.0
ENDRIN ALDEHYDE	2	< 2	3.0	< 3.0
HEPTACHLOR	2	< 2	3.0	< 3.0
HEPTACHLOR EPOXIDE	2	< 2	3.0	< 3.0
METHOXYCHLOR	20	< 20	30	< 30
TOXAPHENE	25	< 25	37	< 37
AROCHLOR-1016	10	< 10	15	< 15
AROCHLOR-1221	10	< 10	15	< 15
AROCHLOR-1232	10	< 10	15	< 15
AROCHLOR-1242	10	< 10	15	< 15
AROCHLOR-1248	10	< 10	15	< 15
AROCHLOR-1254	10	< 10	15	< 15
AROCHLOR-1260	**10**	**14**	**15**	**21**

DL = DETECTION LIMIT

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE PARAMETER	ACCEPTABLE RECOVERIES	% RECOVERY
TCMX	26-146	84

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-4
SAMPLE ID: 2 TOP COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/15/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 09/05/98
DATE ANALYZED: 09/09/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2	3.2	< 3.2
ALPHA-BHC	2	< 2	3.2	< 3.2
BETA-BHC	2	< 2	3.2	< 3.2
GAMMA-BHC	2	< 2	3.2	< 3.2
DELTA-BHC	2	< 2	3.2	< 3.2
CHLORDANE	20	< 20	32	< 32
4,4-DDD	2	< 2	3.2	< 3.2
4,4-DDE	2	< 2	3.2	< 3.2
4,4-DDT	2	< 2	3.2	< 3.2
DIELDRIN	2	< 2	3.2	< 3.2
ENDOSULFAN I	2	< 2	3.2	< 3.2
ENDOSULFAN II	2	< 2	3.2	< 3.2
ENDOSULFAN SULFATE	2	< 2	3.2	< 3.2
ENDRIN	2	< 2	3.2	< 3.2
ENDRIN ALDEHYDE	2	< 2	3.2	< 3.2
HEPTACHLOR	2	< 2	3.2	< 3.2
HEPTACHLOR EPOXIDE	2	< 2	3.2	< 3.2
METHOXYCHLOR	20	< 20	32	< 32
TOXAPHENE	25	< 25	41	< 41
AROCHLOR-1016	10	< 10	16	< 16
AROCHLOR-1221	10	< 10	16	< 16
AROCHLOR-1232	10	< 10	16	< 16
AROCHLOR-1242	10	< 10	16	< 16
AROCHLOR-1248	10	< 10	16	< 16
AROCHLOR-1254	10	< 10	16	< 16
AROCHLOR-1260	**10**	**16**	**16**	**26**

DL = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE PARAMETER	ACCEPTABLE RECOVERIES	% RECOVERY
TCMX	26-146	107

* NOTE: SAMPLE DILUTION NECESSARY TO REDUCE INTERFERENCES FROM NON-TARGET ANALTYES.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-5
SAMPLE ID: 2 BOT COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/15/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 09/05/98
DATE ANALYZED: 09/09/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2	3.7	< 3.7
ALPHA-BHC	2	< 2	3.7	< 3.7
BETA-BHC	2	< 2	3.7	< 3.7
GAMMA-BHC	2	< 2	3.7	< 3.7
DELTA-BHC	2	< 2	3.7	< 3.7
CHLORDANE	20	< 20	37	< 37
4,4-DDD	2	< 2	3.7	< 3.7
4,4-DDE	2	< 2	3.7	< 3.7
4,4-DDT	2	< 2	3.7	< 3.7
DIELDRIN	2	< 2	3.7	< 3.7
ENDOSULFAN I	2	< 2	3.7	< 3.7
ENDOSULFAN II	2	< 2	3.7	< 3.7
ENDOSULFAN SULFATE	2	< 2	3.7	< 3.7
ENDRIN	2	< 2	3.7	< 3.7
ENDRIN ALDEHYDE	2	< 2	3.7	< 3.7
HEPTACHLOR	2	< 2	3.7	< 3.7
HEPTACHLOR EPOXIDE	2	< 2	3.7	< 3.7
METHOXYCHLOR	20	< 20	37	<137
TOXAPHENE	25	< 25	46	< 46
AROCHLOR-1016	10	< 10	18	< 18
AROCHLOR-1221	10	< 10	18	< 18
AROCHLOR-1232	10	< 10	18	< 18
AROCHLOR-1242	10	< 10	18	< 18
AROCHLOR-1248	10	< 10	18	< 18
AROCHLOR-1254	10	< 10	18	< 18
AROCHLOR-1260	**10**	**51**	**18**	**94**

DL = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE PARAMETER	ACCEPTABLE RECOVERIES	% RECOVERY
TCMX	26-146	92

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-6
SAMPLE ID: 3 COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/19/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 09/05/98
DATE ANALYZED: 09/09/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2	3.4	< 3.4
ALPHA-BHC	2	< 2	3.4	< 3.4
BETA-BHC	2	< 2	3.4	< 3.4
GAMMA-BHC	2	< 2	3.4	< 3.4
DELTA-BHC	2	< 2	3.4	< 3.4
CHLORDANE	20	< 20	34	< 34
4,4-DDD	2	< 2	3.4	< 3.4
4,4-DDE	2	< 2	3.4	< 3.4
4,4-DDT	2	< 2	3.4	< 3.4
DIELDRIN	2	< 2	3.4	< 3.4
ENDOSULFAN I	2	< 2	3.4	< 3.4
ENDOSULFAN II	2	< 2	3.4	< 3.4
ENDOSULFAN SULFATE	2	< 2	3.4	< 3.4
ENDRIN	2	< 2	3.4	< 3.4
ENDRIN ALDEHYDE	2	< 2	3.4	< 3.4
HEPTACHLOR	2	< 2	3.4	< 3.4
HEPTACHLOR EPOXIDE	2	< 2	3.4	< 3.4
METHOXYCHLOR	20	< 20	34	< 34
TOXAPHENE	25	< 25	42	< 42
AROCHLOR-1016	10	< 10	17	< 17
AROCHLOR-1221	10	< 10	17	< 17
AROCHLOR-1232	10	< 10	17	< 17
AROCHLOR-1242	10	< 10	17	< 17
AROCHLOR-1248	10	< 10	17	< 17
AROCHLOR-1254	10	< 10	17	< 17
AROCHLOR-1260	**10**	***26***	**17**	**44**

DL = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE PARAMETER	ACCEPTABLE RECOVERIES	% RECOVERY
TCMX	26-146	103

QA/QC REPORT						
METHOD: EPA 8080-SEDIMENT DATE ANALYZED: 09/09/98 QA/QC SAMPLE: PTAS 1519-98-1					ACCEPTABLE LCS, MS/MSD CRITERIA	ACCEPTABLE RPD CRITERIA
SPIKED ANALYTE	LCS % R	MS % R	MSD % R	RPD	%	%
GAMMA-BHC	98	58	52	11	32-127	<30
HEPTACHLOR	99	59	52	13	34-111	<30
ALDRIN	95	59	50	16	42-122	<30
DIELDRIN	95	46	41	11	36-146	<30
ENDRIN	120	66	59	11	30-147	<30
4,4-DDT	102	38	59	3	25-160	<30

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY

MS % R = MATRIX SPIKE PERCENT RECOVERY

MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY

RPD = RELATIVE PERCENT DIFFERENCE

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
PROJECT NAME/No.:	LARE/ACOE	DATE RECEIVED:	07/28/98
ANALYSIS METHOD:	SMEWW 2540 G	DATE ANALYZED:	08/03/98
ANALYSIS:	PERCENT SOLIDS	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	REPORTING LIMIT %	DF	RESULTS %
REFERENCE	1519-98-1	0.1	1	73.2
1 TOP COMP	1519-98-2	0.1	1	78.6
1 BOT COMP	1519-98-3	0.1	1	66.8
2 TOP COMP	1519-98-4	0.1	1	61.5
2 BOT COMP	1519-98-5	0.1	1	54.0
3 COMP	1519-98-6	0.1	1	59.1
3 COMP (DUP.)	1519-98-6 (DUP.)	0.1	1	56.0

DF = DILUTION FACTOR

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

Pacific Treatment
Analytical Services, Inc.

4340 Viewridge Avenue, Suite A • San Diego, CA 92123
(619) 560-7717 • Fax (619) 560-7763
Analytical Chemistry Laboratory

August 19, 1998

MEC Analytical Systems, Inc.
Attn: Paul Krause
98 Main Street
Tiburon, California 94920

Project Name/No.: LARE/ACOE
Laboratory Log No.: 1519-98
Date Received: 07/28/98
Sample Matrix: Six sediment samples
PO No.: 0719-019

Please find the following enclosures for the above referenced project identified:

1) Analytical Report
2) QA/QC Report
3) Chain of Custody Form

.....***Certificate of Analysis***.....

Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. Date of extraction, date of analysis, detection limits and dilution factor are reported for each compound analyzed. All samples were analyzed within the method required holding time from sample collection.

Data for each analytical method was evaluated by assessing the following QA/QC functions, as applicable to the methodology:

- Quality Control Standard
- Surrogate Percent Recovery
- Laboratory Control Sample (LCS) percent recoveries for all analyses,
- Matrix Spike Recovery/Matrix Spike Duplicate Recovery (MSR & MSDR) and/or
- Relative Percent Difference (RPD from MSR & MSDR).

I certify that this data report is in compliance both technically and for completeness. Release of the data contained in this hardcopy data report has been authorized by the following signature.

Janis Columbo
Vice President/Laboratory Director

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
PROJECT NAME/No.:	LARE/ACOE	DATE RECEIVED:	07/28/98
ANALYSIS METHOD:	EPA 418.1	DATE ANALYZED:	07/31/98
ANALYSIS:	TRPH	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	5	< 5	7.0	< 7.0
REFERENCE (DUP.)	1519-98-1 (DUP.)	5	< 5	7.0	< 7.0
1 TOP COMP	1519-98-2	5	565	6.4	719
1 BOT COMP	1519-98-3	5	245	7.5	367
2 TOP COMP	1519-98-4	5	504	8.1	820
2 BOT COMP	1519-98-5	5	181	9.3	335
3 COMP	1519-98-6	5	173	8.7	300

RL = REPORTING LIMIT

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
PROJECT NAME/No.:	LARE/ACOE	DATE RECEIVED:	07/28/98
ANALYSIS METHOD:	PLUMB, 1981	DATE ANALYZED:	08/11/98
ANALYSIS:	TOTAL SULFIDE	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	0.1	0.2	0.1	0.3
1 TOP COMP	1519-98-2	0.5	1.1	0.6	1.4
1 BOT COMP	1519-98-3	5	19	7	28
2 TOP COMP	1519-98-4	5	17	8	28
2 BOT COMP	1519-98-5	5	82	9	152
3 COMP	1519-98-6	5	56	9	97

RL = REPORTING LIMIT

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: METHOD BLANK
SAMPLE ID: N/A
DILUTION FACTOR: 1

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SOLID
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10	10	< 10
ACENAPHTHYLENE	10	< 10	10	< 10
ACENAPHTHENE	10	< 10	10	< 10
FLUORENE	10	< 10	10	< 10
PHENANTHRENE	10	< 10	10	< 10
ANTHRACENE	10	< 10	10	< 10
FLUORANTHENE	10	< 10	10	< 10
PYRENE	10	< 10	10	< 10
BENZO(A)ANTHRACENE	10	< 10	10	< 10
CHRYSENE	10	< 10	10	< 10
BENZO(B)FLUORANTHENE	10	< 10	10	< 10
BENZO(K)FLUORANTHENE	10	< 10	10	< 10
BENZO(A)PYRENE	10	< 10	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10	10	< 10
BENZO(GHI)PERYLENE	10	< 10	10	< 10
TOTAL PAH'S	10	< 10	10	< 10

D.L. = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	88
2-FLUOROBIPHENYL	30-115	93
4-TERPHENYL-d14	18-137	110

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-1
SAMPLE ID: REFERENCE
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10	14	< 14
ACENAPHTHYLENE	10	< 10	14	< 14
ACENAPHTHENE	10	< 10	14	< 14
FLUORENE	10	< 10	14	< 14
PHENANTHRENE	10	< 10	14	< 14
ANTHRACENE	10	< 10	14	< 14
FLUORANTHENE	10	< 10	14	< 14
PYRENE	10	< 10	14	< 14
BENZO(A)ANTHRACENE	10	< 10	14	< 14
CHRYSENE	10	< 10	14	< 14
BENZO(B)FLUORANTHENE	10	< 10	14	< 14
BENZO(K)FLUORANTHENE	10	< 10	14	< 14
BENZO(A)PYRENE	10	< 10	14	< 14
DIBENZO(A,H)ANTHRACENE	10	< 10	14	< 14
INDENO(1,2,3-CD)PYRENE	10	< 10	14	< 14
BENZO(GHI)PERYLENE	10	< 10	14	< 14
TOTAL PAH'S	10	< 10	14	< 14

D.L. = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	67
2-FLUOROBIPHENYL	30-115	78
4-TERPHENYL-d14	18-137	118

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-1 (DUPLICATE)
SAMPLE ID: REFERENCE (DUPLICATE)
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10	14	< 14
ACENAPHTHYLENE	10	< 10	14	< 14
ACENAPHTHENE	10	< 10	14	< 14
FLUORENE	10	< 10	14	< 14
PHENANTHRENE	10	< 10	14	< 14
ANTHRACENE	10	< 10	14	< 14
FLUORANTHENE	10	< 10	14	< 14
PYRENE	10	< 10	14	< 14
BENZO(A)ANTHRACENE	10	< 10	14	< 14
CHRYSENE	10	< 10	14	< 14
BENZO(B)FLUORANTHENE	10	< 10	14	< 14
BENZO(K)FLUORANTHENE	10	< 10	14	< 14
BENZO(A)PYRENE	10	< 10	14	< 14
DIBENZO(A,H)ANTHRACENE	10	< 10	14	< 14
INDENO(1,2,3-CD)PYRENE	10	< 10	14	< 14
BENZO(GHI)PERYLENE	10	< 10	14	< 14
TOTAL PAH'S	10	< 10	14	< 14

D.L. = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	65
2-FLUOROBIPHENYL	30-115	76
4-TERPHENYL-d14	18-137	116

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 07/14/98
	DATE RECEIVED: 07/28/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 07/29/98
PTAS LOG #: 1519-98-2	DATE ANALYZED: 07/30/98
SAMPLE ID: 1 TOP COMP	MATRIX: SEDIMENT
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 30 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10	13	< 13
ACENAPHTHYLENE	10	< 10	13	< 13
ACENAPHTHENE	10	< 10	13	< 13
FLUORENE	10	< 10	13	< 13
PHENANTHRENE	**10**	**36**	13	**46**
ANTHRACENE	**10**	< 10	13	< 13
FLUORANTHENE	**10**	**49**	13	**62**
PYRENE	**10**	**71**	13	**90**
BENZO(A)ANTHRACENE	**10**	**22**	13	**28**
CHRYSENE	**10**	**32**	13	**41**
BENZO(B)FLUORANTHENE	**10**	**28**	13	**36**
BENZO(K)FLUORANTHENE	**10**	**22**	13	**28**
BENZO(A)PYRENE	**10**	**20**	13	**25**
DIBENZO(A,H)ANTHRACENE	10	< 10	13	< 13
INDENO(1,2,3-CD)PYRENE	**10**	**20**	13	**25**
BENZO(GHI)PERYLENE	**10**	**30**	13	**38**
TOTAL PAH'S	**10**	**330**	13	**2,140**

D.L. = DETECTION LIMIT

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	78
2-FLUOROBIPHENYL	30-115	86
4-TERPHENYL-d14	18-137	126

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-3
SAMPLE ID: 1 BOT COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10	15	< 15
ACENAPHTHYLENE	10	< 10	15	< 15
ACENAPHTHENE	10	< 10	15	< 15
FLUORENE	**10**	**12**	**15**	**18**
PHENANTHRENE	**10**	**82**	**15**	**123**
ANTHRACENE	**10**	**11**	**15**	**16**
FLUORANTHENE	**10**	**100**	**15**	**150**
PYRENE	**10**	**167**	**15**	**250**
BENZO(A)ANTHRACENE	**10**	**44**	**15**	**66**
CHRYSENE	**10**	**84**	**15**	**126**
BENZO(B)FLUORANTHENE	**10**	**71**	**15**	**106**
BENZO(K)FLUORANTHENE	**10**	**53**	**15**	**79**
BENZO(A)PYRENE	**10**	**47**	**15**	**70**
DIBENZO(A,H)ANTHRACENE	**10**	**12**	**15**	**18**
INDENO(1,2,3-CD)PYRENE	**10**	**71**	**15**	**106**
BENZO(GHI)PERYLENE	**10**	**96**	**15**	**144**
TOTAL PAH'S	**10**	**850**	**15**	**1,270**

D.L. = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	77
2-FLUOROBIPHENYL	30-115	84
4-TERPHENYL-d14	18-137	129

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-4
SAMPLE ID: 2 TOP COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/15/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	**10**	**34**	**16**	**55**
ACENAPHTHYLENE	10	< 10	16	< 16
ACENAPHTHENE	**10**	**11**	**16**	**18**
FLUORENE	**10**	**12**	**16**	**20**
PHENANTHRENE	**10**	**109**	**16**	**177**
ANTHRACENE	**10**	**17**	**16**	**28**
FLUORANTHENE	**10**	**137**	**16**	**228**
PYRENE	**10**	**222**	**16**	**361**
BENZO(A)ANTHRACENE	**10**	**66**	**16**	**107**
CHRYSENE	**10**	**109**	**16**	**177**
BENZO(B)FLUORANTHENE	**10**	**87**	**16**	**141**
BENZO(K)FLUORANTHENE	**10**	**55**	**16**	**89**
BENZO(A)PYRENE	**10**	**68**	**16**	**111**
DIBENZO(A,H)ANTHRACENE	**10**	**13**	**16**	**21**
INDENO(1,2,3-CD)PYRENE	**10**	**98**	**16**	**159**
BENZO(GHI)PERYLENE	**10**	**99**	**16**	**161**
TOTAL PAH'S	**10**	**1,140**	**16**	**1,850**

D.L. = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	82
2-FLUOROBIPHENYL	30-115	86
4-TERPHENYL-d14	18-137	128

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-5
SAMPLE ID: 2 BOT COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/15/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10	19	< 19
ACENAPHTHYLENE	10	< 10	19	< 19
ACENAPHTHENE	10	< 10	19	< 19
FLUORENE	**10**	**21**	**19**	**39**
PHENANTHRENE	**10**	**126**	**19**	**233**
ANTHRACENE	**10**	**18**	**19**	**33**
FLUORANTHENE	**10**	**156**	**19**	**289**
PYRENE	**10**	**276**	**19**	**511**
BENZO(A)ANTHRACENE	**10**	**80**	**19**	**148**
CHRYSENE	**10**	**152**	**19**	**281**
BENZO(B)FLUORANTHENE	**10**	**95**	**19**	**176**
BENZO(K)FLUORANTHENE	**10**	**86**	**19**	**159**
BENZO(A)PYRENE	**10**	**87**	**19**	**161**
DIBENZO(A,H)ANTHRACENE	**10**	**25**	**19**	**46**
INDENO(1,2,3-CD)PYRENE	**10**	**113**	**19**	**209**
BENZO(GHI)PERYLENE	**10**	**159**	**19**	**294**
TOTAL PAH'S	**10**	**1,390**	**19**	**2,580**

D.L. = DETECTION LIMIT

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	78
2-FLUOROBIPHENYL	30-115	84
4-TERPHENYL-d14	18-137	116

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-6
SAMPLE ID: 3 COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/19/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10	17	< 17
ACENAPHTHYLENE	10	< 10	17	< 17
ACENAPHTHENE	10	< 10	17	< 17
FLUORENE	10	< 10	17	< 17
PHENANTHRENE	**10**	**56**	17	**97**
ANTHRACENE	**10**	< 10	17	< 17
FLUORANTHENE	**10**	**94**	17	**163**
PYRENE	**10**	**170**	17	**295**
BENZO(A)ANTHRACENE	**10**	**50**	17	**87**
CHRYSENE	**10**	**92**	17	**160**
BENZO(B)FLUORANTHENE	**10**	**66**	17	**115**
BENZO(K)FLUORANTHENE	**10**	**53**	17	**92**
BENZO(A)PYRENE	**10**	**54**	17	**94**
DIBENZO(A,H)ANTHRACENE	**10**	**16**	17	**28**
INDENO(1,2,3-CD)PYRENE	**10**	**87**	17	**151**
BENZO(GHI)PERYLENE	**10**	**97**	17	**168**
TOTAL PAH'S	**10**	**835**	17	**1,450**

D.L. = DETECTION LIMIT
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	83
2-FLUOROBIPHENYL	30-115	86
4-TERPHENYL-d14	18-137	120

QA/QC REPORT						
METHOD: PAHS by EPA 8270-SEDIMENT **DATE ANALYZED:** 07/30/98 **QA/QC SAMPLE:** PTAS 1519-98-1					**ACCEPTABLE LCS,MS/MSD CRITERIA**	**ACCEPTABLE RPD CRITERIA**
SPIKED ANALYTE	**LCS % R**	**MS % R**	**MSD % R**	**RPD**	**%**	**%**
ACENAPHTHENE	104	85	84	1	47-145	<30
ACENAPHTHYLENE	97	80	77	4	33-145	<30
ANTHRACENE	101	90	91	1	27-133	<30
BENZO(A)ANTHRACENE	114	98	102	4	33-143	<30
BENZO(A)PYRENE	106	96	97	1	17-163	<30
BENZO(B)FLUORANTHENE	103	98	91	7	24-159	<30
BENZO(GHI)PERYLENE	111	95	103	8	D-219	<30
BENZO(K)FLUORANTHENE	106	89	98	10	11-162	<30
CHRYSENE	112	97	101	4	17-168	<30
DIBENZO(A,H)ANTHRACENE	105	87	105	19	D-227	<30
FLUORANTHENE	104	87	91	4	26-137	<30
FLUORENE	99	87	88	1	59-121	<30
INDENO(1,2,3-CD)PYRENE	103	88	93	6	D-171	<30
NAPHTHALENE	96	67	63	6	21-133	<30
PHENANTHRENE	114	102	105	3	54-120	<30
PYRENE	112	120	119	1	52-115	<30

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY

MS % R = MATRIX SPIKE PERCENT RECOVERY

MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY

RPD = RELATIVE PERCENT DIFFERENCE

D = DETECTION LIMIT

Pacific Treatment Analytical Services, Inc. 4340 Viewridge Ave., Suite A • San Diego, CA 92123 (619) 560-7717 FAX (619) 560-7763

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: METHOD BLANK
SAMPLE ID: N/A
DILUTION FACTOR: 1

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	DRY WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**27**	**10**	**27**
BUTYL BENZYLPHTHALATE	10	< 10	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**47**	**10**	**47**
DIMETHYLPHTHALATE	10	< 10	10	< 10
DIETHYLPHTHALATE	10	< 10	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10	10	< 10
TOTAL PHTHALATES	**10**	**74**	**10**	**74**

D.L. = DETECTION LIMITS
ND = NON DETECT ABOVE INDICATED DETECTION LIMIT.
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	88
2-FLUOROBIPHENYL	30-115	93
4-TERPHENYL-d14	18-137	110

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-1
SAMPLE ID: REFERENCE
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	DRY WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**56**	**14**	**77**
BUTYL BENZYLPHTHALATE	**10**	**11**	**14**	**15**
DI-N-BUTYLPHTHALATE*	**10**	**46**	**14**	**63**
DIETHYLPHTHALATE	10	< 10	14	< 14
DIMETHYLPHTHALATE	10	< 10	14	< 14
DI-N-OCTYLPHTHALATE	10	< 10	14	< 14
TOTAL PHTHALATES	**10**	**113**	**14**	**155**

D.L. = DETECTION LIMITS
ND = NON DETECT ABOVE INDICATED DETECTION LIMIT.
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	67
2-FLUOROBIPHENYL	30-115	78
4-TERPHENYL-d14	18-137	118

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-1 (DUPLICATE)
SAMPLE ID: REFERENCE (DUPLICATE)
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	DRY WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**66**	**14**	**90**
BUTYL BENZYLPHTHALATE	**10**	**10**	**14**	**14**
DI-N-BUTYLPHTHALATE*	**10**	**37**	**14**	**51**
DIETHYLPHTHALATE	10	< 10	14	< 14
DIMETHYLPHTHALATE	10	< 10	14	< 14
DI-N-OCTYLPHTHALATE	10	< 10	14	< 14
TOTAL PHTHALATES	**10**	**113**	**14**	**155**

D.L. = DETECTION LIMITS
ND = NON DETECT ABOVE INDICATED DETECTION LIMIT.
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	65
2-FLUOROBIPHENYL	30-115	76
4-TERPHENYL-d14	18-137	116

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-2
SAMPLE ID: 1 TOP COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30-08/06/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	DRY WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**100**	**11,500 ****	**130**	**14,600 ****
BUTYL BENZYLPHTHALATE	**10**	**353**	**13**	**449**
DI-N-BUTYLPHTHALATE*	**10**	**50**	**13**	**64**
DIETHYLPHTHALATE	**10**	**18**	**13**	**23**
DIMETHYLPHTHALATE	10	< 10	13	< 13
DI-N-OCTYLPHTHALATE	**10**	**62**	**13**	**79**
TOTAL PHTHALATES	**100**	**12,000**	**130**	**15,200**

D.L. = DETECTION LIMITS
ND = NON DETECT ABOVE INDICATED DETECTION LIMIT.
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	78
2-FLUOROBIPHENYL	30-115	86
4-TERPHENYL-d14	18-137	126

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

** NOTE: THIS RESULT WAS DETERMINED AT A DIFFERENT DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-3
SAMPLE ID: 1 BOT COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30-08/06/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	DRY WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**100**	**8,800 ****	**150**	**13,200 ****
BUTYL BENZYLPHTHALATE	**10**	**118**	**15**	**177**
DI-N-BUTYLPHTHALATE*	**10**	**48**	**15**	**72**
DIETHYLPHTHALATE	10	< 10	15	< 15
DIMETHYLPHTHALATE	10	< 10	15	< 15
DI-N-OCTYLPHTHALATE	**10**	**84**	**15**	**126**
TOTAL PHTHALATES	**100**	**9,050**	**150**	**13,600**

D.L. = DETECTION LIMITS
ND = NON DETECT ABOVE INDICATED DETECTION LIMIT.
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	77
2-FLUOROBIPHENYL	30-115	84
4-TERPHENYL-d14	18-137	129

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

** NOTE: THIS RESULT WAS DETERMINED AT A DIFFERENT DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-4
SAMPLE ID: 2 TOP COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/15/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT D.L. PPB (UG/KG)	WET WEIGHT RESULTS PPB (UG/KG)	DRY WEIGHT D.L. PPB (UG/KG)	DRY WEIGHT RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**1,470**	**16**	**2,390**
BUTYL BENZYLPHTHALATE	**10**	**100**	**16**	**163**
DI-N-BUTYLPHTHALATE*	**10**	**65**	**16**	**106**
DIETHYLPHTHALATE	**10**	**14**	**16**	**23**
DIMETHYLPHTHALATE	10	< 10	16	< 16
DI-N-OCTYLPHTHALATE	**10**	**115**	**16**	**187**
TOTAL PHTHALATES	**10**	**1,760**	**16**	**2,870**

D.L. = DETECTION LIMITS
ND = NON DETECT ABOVE INDICATED DETECTION LIMIT.
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	82
2-FLUOROBIPHENYL	30-115	86
4-TERPHENYL-d14	18-137	128

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-5
SAMPLE ID: 2 BOT COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/15/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30-08/06/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	DRY WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**100**	**8,730 ****	**185**	**16,200 ****
BUTYL BENZYLPHTHALATE	**10**	**142**	**19**	**263**
DI-N-BUTYLPHTHALATE*	**10**	**52**	**19**	**96**
DIETHYLPHTHALATE	**10**	**12**	**19**	**22**
DIMETHYLPHTHALATE	**10**	**13**	**19**	**24**
DI-N-OCTYLPHTHALATE	**10**	**91**	**19**	**169**
TOTAL PHTHALATES	**100**	**9,040**	**185**	**16,800**

D.L. = DETECTION LIMITS
ND = NON DETECT ABOVE INDICATED DETECTION LIMIT.
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	78
2-FLUOROBIPHENYL	30-115	84
4-TERPHENYL-d14	18-137	116

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

** NOTE: THIS RESULT WAS DETERMINED AT A DIFFERENT DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-6
SAMPLE ID: 3 COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/19/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 07/29/98
DATE ANALYZED: 07/30/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 30 GRAMS

ANALYTE	WET WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	DRY WEIGHT D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**1,750**	**17**	**3,040**
BUTYL BENZYLPHTHALATE	**10**	**129**	**17**	**224**
DI-N-BUTYLPHTHALATE*	**10**	**179**	**17**	**311**
DIETHYLPHTHALATE	10	< 10	17	< 17
DIMETHYLPHTHALATE	10	< 10	17	< 17
DI-N-OCTYLPHTHALATE	10	< 10	17	< 17
TOTAL PHTHALATES	**10**	**2,060**	**17**	**3,580**

D.L. = DETECTION LIMITS
ND = NON DETECT ABOVE INDICATED DETECTION LIMIT.
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

SURROGATE SPIKE DATA	ACCEPTABLE RANGE	% RECOVERY
NITROBENZENE-d5	23-120	83
2-FLUOROBIPHENYL	30-115	86
4-TERPHENYL-d14	18-137	120

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

QA/QC REPORT						
METHOD: EPA 8270-SEDIMENT **DATE ANALYZED:** 07/30/98 **QA/QC SAMPLE:** PTAS 1519-98-1					**ACCEPTABLE LCS,MS/MSD CRITERIA**	**ACCEPTABLE RPD CRITERIA**
SPIKED ANALYTE	**LCS % R**	**MS % R**	**MSD % R**	**RPD**	**%**	**%**
BIS(2-ETHYLHEXYL)PHTHALATE	125	132	132	0	8-158	<30
BUTYL BENZYLPHTHALATE	115	117	118	1	D-152	<30
DI-N-BUTYLPHTHALATE	114	92	96	4	1-118	<30
DI-N-OCTYLPHTHALATE	104	136	128	6	4-146	<30
DIETHYLPHTHALATE	117	103	104	1	D-114	<30
DIMETHYLPHTHALATE	110	95	97	2	D-112	<30

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY

MS % R = MATRIX SPIKE PERCENT RECOVERY

MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY

RPD = RELATIVE PERCENT DIFFERENCE

D = DETECTION LIMIT

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: N/A
	DATE RECEIVED: N/A
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/05/98
PTAS LOG #: METHOD BLANK	DATE ANALYZED: 08/06/98
SAMPLE ID: N/A	MATRIX: SEDIMENT
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 10 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0	1.0	< 1.0

DL = DETECTION LIMIT

DF = DILUTION FACTOR

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	07/14/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/05/98
PTAS LOG #: 1519-98-1		DATE ANALYZED:	08/06/98
SAMPLE ID: REFERENCE		MATRIX:	SEDIMENT
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	10 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0	1.4	< 1.4
DIBUTYLTIN	1.0	< 1.0	1.4	< 1.4
MONOBUTYLTIN	1.0	< 1.0	1.4	< 1.4

DL = DETECTION LIMIT

DF = DILUTION FACTOR

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
PROJECT NAME/No.:	LARE/ACOE	DATE RECEIVED:	07/28/98
ANALYSIS METHOD:	SMEWW 4500 S2 D	DATE ANALYZED:	08/11/98
ANALYSIS:	DISSOLVED SULFIDE	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	0.1	< 0.1	0.1	< 0.1
1 TOP COMP	1519-98-2	0.1	< 0.1	0.1	< 0.1
1 BOT COMP	1519-98-3	0.1	< 0.1	0.1	< 0.1
2 TOP COMP	1519-98-4	0.1	< 0.1	0.2	< 0.2
2 BOT COMP	1519-98-5	0.1	< 0.1	0.2	< 0.2
3 COMP	1519-98-6	0.1	0.1	0.2	0.2

RL = REPORTING LIMIT

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/04/98
ANALYSIS METHOD:	EPA 7060	DATE ANALYZED:	08/14/98
ANALYSIS:	ARSENIC	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	0.2	0.93	0.27	1.29
1 TOP COMP	1519-98-2	0.2	0.66	0.25	0.84
1 TOP COMP (DUP.)	1519-98-2 (DUP.)	0.2	0.54	0.25	0.68
1 BOT COMP	1519-98-3	0.2	1.30	0.30	1.94
2 TOP COMP	1519-98-4	0.2	0.91	0.33	1.47
2 BOT COMP	1519-98-5	0.2	1.22	0.37	2.26
3 COMP	1519-98-6	0.2	0.58	0.35	1.01

RL = REPORTING LIMIT

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/04/98
ANALYSIS METHOD:	EPA 3050/6010	DATE ANALYZED:	08/07/98
ANALYSIS:	CHROMIUM	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	1.0	19	1.4	26
1 TOP COMP	1519-98-2	1.0	8.1	1.3	10
1 TOP COMP (DUP.)	1519-98-2 (DUP.)	1.0	8.4	1.3	11
1 BOT COMP	1519-98-3	1.0	17	1.5	26
2 TOP COMP	1519-98-4	1.0	16	1.6	26
2 BOT COMP	1519-98-5	1.0	21	1.9	40
3 COMP	1519-98-6	1.0	20	1.7	35

RL = REPORTING LIMIT

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	07/30/98
ANALYSIS METHOD:	EPA 7471	DATE ANALYZED:	07/31/98
ANALYSIS:	MERCURY	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	0.02	< 0.02	0.03	< 0.03
1 TOP COMP	1519-98-2	0.02	< 0.02	0.03	< 0.03
1 BOT COMP	1519-98-3	0.02	0.12	0.03	0.18
2 TOP COMP	1519-98-4	0.02	0.12	0.03	0.19
2 BOT COMP	1519-98-5	0.02	0.16	0.04	0.30
3 COMP	1519-98-6	0.02	0.13	0.03	0.22

RL = REPORTING LIMIT

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/04/98
ANALYSIS METHOD:	EPA 3050/6010	DATE ANALYZED:	08/07/98
ANALYSIS:	NICKEL	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	1.0	9.7	1.4	13
1 TOP COMP	1519-98-2	1.0	6.3	1.3	8.0
1 TOP COMP (DUP.)	1519-98-2 (DUP.)	1.0	7.3	1.3	9.3
1 BOT COMP	1519-98-3	1.0	13	1.5	20
2 TOP COMP	1519-98-4	1.0	12	1.6	20
2 BOT COMP	1519-98-5	1.0	17	1.9	31
3 COMP	1519-98-6	1.0	19	1.7	33

RL = REPORTING LIMIT

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/04/98
ANALYSIS METHOD:	EPA 3050/6010	DATE ANALYZED:	08/07/98
ANALYSIS:	COPPER	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	1.0	8.7	1.4	12
1 TOP COMP	1519-98-2	1.0	9.2	1.3	12
1 TOP COMP (DUP.)	1519-98-2 (DUP.)	1.0	11	1.3	14
1 BOT COMP	1519-98-3	1.0	31	1.5	47
2 TOP COMP	1519-98-4	1.0	23	1.6	37
2 BOT COMP	1519-98-5	1.0	42	1.9	78
3 COMP	1519-98-6	1.0	30	1.7	52

RL = REPORTING LIMIT

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/04/98
ANALYSIS METHOD:	EPA 3050/6010	DATE ANALYZED:	08/07/98
ANALYSIS:	ZINC	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	1.0	33	1.4	46
1 TOP COMP	1519-98-2	1.0	52	1.3	66
1 TOP COMP (DUP.)	1519-98-2 (DUP.)	1.0	56	1.3	72
1 BOT COMP	1519-98-3	1.0	150	1.5	220
2 TOP COMP	1519-98-4	1.0	120	1.6	190
2 BOT COMP	1519-98-5	1.0	190	1.9	360
3 COMP	1519-98-6	1.0	140	1.7	240

RL = REPORTING LIMIT

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/04/98
ANALYSIS METHOD:	EPA 3050/6010	DATE ANALYZED:	08/07/98
ANALYSIS:	LEAD	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	5.0	7.1	6.8	9.6
1 TOP COMP	1519-98-2	5.0	20	6.4	25
1 TOP COMP (DUP.)	1519-98-2 (DUP.)	5.0	22	6.4	28
1 BOT COMP	1519-98-3	5.0	60	7.5	90
2 TOP COMP	1519-98-4	5.0	40	8.1	65
2 BOT COMP	1519-98-5	5.0	110	9.3	200
3 COMP	1519-98-6	5.0	56	8.7	98

RL = REPORTING LIMIT

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/04/98
ANALYSIS METHOD:	EPA 7131	DATE ANALYZED:	08/17/98
ANALYSIS:	CADMIUM	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	0.10	< 0.10	0.14	< 0.14
1 TOP COMP	1519-98-2	0.10	0.26	0.13	0.34
1 TOP COMP (DUP.)	1519-98-2 (DUP.)	0.10	0.32	0.13	0.41
1 BOT COMP	1519-98-3	0.10	0.92	0.15	1.37
2 TOP COMP	1519-98-4	0.10	0.55	0.16	0.90
2 BOT COMP	1519-98-5	0.10	1.40	0.19	2.60
3 COMP	1519-98-6	0.10	0.86	0.17	1.49

RL = REPORTING LIMIT

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/04/98
ANALYSIS METHOD:	EPA 7761	DATE ANALYZED:	08/17/98
ANALYSIS:	SILVER	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	0.10	0.45	0.14	0.62
1 TOP COMP	1519-98-2	0.10	0.12	0.13	0.15
1 TOP COMP (DUP.)	1519-98-2 (DUP.)	0.10	0.14	0.13	0.18
1 BOT COMP	1519-98-3	0.10	0.38	0.15	0.57
2 TOP COMP	1519-98-4	0.10	0.25	0.16	0.40
2 BOT COMP	1519-98-5	0.10	0.63	0.19	1.16
3 COMP	1519-98-6	0.10	0.50	0.17	0.86

RL = REPORTING LIMIT

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

		DATE SAMPLED:	07/14-19/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/04/98
ANALYSIS METHOD:	EPA 7740	DATE ANALYZED:	08/14/98
ANALYSIS:	SELENIUM	MATRIX:	SEDIMENT

SAMPLE ID	PTAS LOG #	WET WEIGHT		DRY WEIGHT	
		R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)	R.L. PPM (MG/KG)	RESULTS PPM (MG/KG)
REFERENCE	1519-98-1	0.20*	< 0.20	0.27	< 0.27
1 TOP COMP	1519-98-2	0.20*	0.75	0.25	0.95
1 TOP COMP (DUP.)	1519-98-2 (DUP.)	0.20*	< 0.20	0.25	< 0.25
1 BOT COMP	1519-98-3	0.20*	< 0.20	0.30	< 0.30
2 TOP COMP	1519-98-4	0.20*	0.43	0.33	0.69
2 BOT COMP	1519-98-5	0.20*	< 0.20	0.37	< 0.37
3 COMP	1519-98-6	0.20*	< 0.20	0.35	< 0.35

RL = REPORTING LIMIT

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: SAMPLE DILUTION NECESSARY TO REDUCE INTERFERENCES FROM NON-TARGET ANALTYES.

QA/QC REPORT						
DATE ANALYZED:	07/14-08/17/98				ACCEPTABLE LCS,MS/MSD CRITERIA	ACCEPTABLE RPD CRITERIA
SPIKED ANALYTE	LCS % R	MS % R	MSD % R	RPD	%	%
DISSOLVED SULFIDE	93	86	91	5	80-120	< 20
TOTAL SULFIDE	96	91	94	3	80-120	< 20
TRPH	103	107	110	3	75-125	< 20
ARSENIC	77	40*	49*	20*	75-125	< 20
SELENIUM	96	68*	68*	0	75-125	< 20
MERCURY	108	123	122	1	75-125	< 20
CADMIUM	76	98**	74**	28**	75-125	< 20
SILVER	88	88	83	6	75-125	< 20
CHROMIUM	91	89	92	3	75-125	< 20
COPPER	93	90	93	3	75-125	< 20
LEAD	90	87	93	7	75-125	< 20
NICKEL	91	87	91	4	75-125	< 20
ZINC	92	94	96	5	75-125	< 20

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY
MS % R = MATRIX SPIKE PERCENT RECOVERY
MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY
RPD = RELATIVE PERCENT DIFFERENCE

* NOTE: POOR MATRIX SPIKE RECOVERIES ATTRIBUTABLE TO SAMPLE MATRIX EFFECTS. A DUPLICATE LCS WAS ANALYZED WITH THE SAMPLE BATCH AND THE RESULTING RECOVERY AND RPD MET OR EXCEEDED ACCEPTANCE CRITERIA.
LCSD % R FOR ARSENIC = 76%, LCSD % R FOR SELENIUM = 118%

** NOTE: POOR RECOVERY AND RPD ATTRIBUTABLE TO NON-HOMOGENEITY OF SAMPLE SPIKED. A DUPLICATE LCS WAS ANALYZED WITH THE SAMPLE BATCH AND THE RESULTING RECOVERY AND RPD MET OR EXCEEDED ACCEPTANCE CRITERIA.
LCSD % R FOR CADMIUM = 75%

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-2
SAMPLE ID: 1 TOP COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 08/05/98
DATE ANALYZED: 08/06/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 10 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0	1.3	< 1.3
DIBUTYLTIN	**1.0**	**6.3**	**1.3**	**8.0**
MONOBUTYLTIN	1.0	< 1.0	1.3	< 1.3

DL = DETECTION LIMIT
DF = DILUTION FACTOR
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-3
SAMPLE ID: 1 BOT COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/14/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 08/05/98
DATE ANALYZED: 08/06-11/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 10 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.3**	**1.5**	**1.9**
DIBUTYLTIN	10*	< 10	15 *	< 15
MONOBUTYLTIN	10*	< 10	15 *	< 15

DL = DETECTION LIMIT

DF = DILUTION FACTOR

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: SAMPLE DILUTION NECESSARY TO REDUCE INTERFERENCES FROM NON-TARGET ANALTYES.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	07/15/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/05/98
PTAS LOG #: 1519-98-4		DATE ANALYZED:	08/06-11/98
SAMPLE ID: 2 TOP COMP		MATRIX:	SEDIMENT
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	10 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0	1.6	< 1.6
DIBUTYLTIN	10*	< 10	16*	< 16
MONOBUTYLTIN	1.0	< 1.0	1.6	< 1.6

DL = DETECTION LIMIT

DF = DILUTION FACTOR

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: SAMPLE DILUTION NECESSARY TO REDUCE INTERFERENCES FROM NON-TARGET ANALTYES.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	07/15/98
		DATE RECEIVED:	07/28/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/05/98
PTAS LOG #: 1519-98-5		DATE ANALYZED:	08/06-11/98
SAMPLE ID: 2 BOT COMP		MATRIX:	SEDIMENT
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	10 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.8**	**1.9**	**3.3**
DIBUTYLTIN	10*	< 10	19*	< 19
MONOBUTYLTIN	1.0	< 1.0	1.9	< 1.9

DL = DETECTION LIMIT

DF = DILUTION FACTOR

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: SAMPLE DILUTION NECESSARY TO REDUCE INTERFERENCES FROM NON-TARGET ANALTYES.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1519-98-6
SAMPLE ID: 3 COMP
DILUTION FACTOR: 1

DATE SAMPLED: 07/19/98
DATE RECEIVED: 07/28/98
DATE EXTRACTED: 08/05/98
DATE ANALYZED: 08/06-11/98
MATRIX: SEDIMENT
SAMPLE VOL./WT.: 10 G

ANALYTE	WET WEIGHT		DRY WEIGHT	
	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)	D.L. PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.4**	**1.7**	**2.4**
DIBUTYLTIN	10*	< 10	17*	< 17
MONOBUTYLTIN	1.0	< 1.0	1.7	< 1.7

DL = DETECTION LIMIT
DF = DILUTION FACTOR
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: SAMPLE DILUTION NECESSARY TO REDUCE INTERFERENCES FROM NON-TARGET ANALTYES.

QA/QC REPORT						
METHOD:	**ORGANOTIN SPECIES BY GC-FPD-SEDIMENT**				**ACCEPTABLE LCS,MS/MSD CRITERIA**	**ACCEPTABLE RPD CRITERIA**
DATE ANALYZED:	08/06/98					
QA/QC SAMPLE:	PTAS 1519-98-1					
SPIKED ANALYTE	**LCS % R**	**MS % R**	**MSD % R**	**RPD**	**%**	**%**
TRIBUTYLTIN	113	100	109	9	35-142	< 30
DIBUTYLTIN	92	99	114	14	D-161	< 30
MONOBUTYLTIN	114	4.4	6.2	34	D-75	< 30*

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY
MS % R = MATRIX SPIKE PERCENT RECOVERY
MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY
RPD = RELATIVE PERCENT DIFFERENCE
D = DETECTION LIMIT

* NOTE: DUE TO LOW RECOVERIES THIS VALUE IS FREQUENTLY EXCEEDED.

APPENDIX D

Liquid / Suspended Phase Bioassays

96-HOUR LIQUID/SUSPENDED PHASE TEST
INTERACTIVE DATA SETUP

GENERAL

CLIENT:	ACOE
PROJECT:	L.A.
MEC JOB NUMBER:	0719-009
PROJECT MANAGER:	Dr. Paul Krause
TEST SPECIES:	*Mysidopsis bahia*
TEST PROTOCOL:	ASTM 1997
MEC LABORATORY:	Tiburon
TEST LOCATION:	20 deg. room
TEST START DATE:	29Jul98
TEMP. RECORDER#:	Temp. Scribe
DILUTION WATER BATCH:	Bodega Sea Water
FEEDING INFORMATION:	0.2 mL Artemia nauplii- day 0 & 2
WATER RENEWAL INFO:	none

SAMPLE

DATE RECEIVED AT MEC:	22Jul98
SAMPLE STORAGE:	4 Degrees Celsius - dark
SAMPLE TREATMENT:	4:1 seawater:sediment ratio
TEST CHAMBER:	1 L beakers
EXPOSURE VOLUME:	1000 L
REFERENCE TOXICANT:	copper
REF. TOX. MATERIAL:	copper sulfate

REFTOX CONC (µg/ L)
0
63
125
250
500
1000

	CLIENT SAMPLE ID	MEC SAMPLE ID	CONTROL ID	MEC CONTROL ID
1	Site 1-Top	T980722.05	Control A	.
2	Site 1-Bottom	T980722.06		
3	Site 2-Top	T980722.03		
4	Site 2- Bottom	T980722.04		
5	Site 3	T980722.07		
6	.	.	.	.
7	.	.		
8	.	.		
9	.	.		
10	.	.		
11	.	.	.	.
12	.	.		
13	.	.		
14	.	.		
15	.	.		
16	.	.	.	.
17	.	.		
18	.	.		
19	.	.		
20	.	.		
21	.	.	.	.
22	.	.		
23	.	.		
24	.	.		
25	.	.		

96 HOUR L/SP TEST DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-009	Dr. Paul Krause	Tiburon 20 deg. room	ASTM 1997

GENERAL TEST INFORMATION

SPECIES: *Mysidopsis bahia*		
SUPPLIER: AquaTox		ORGANISM BATCH NO.: MY072998
DATE RECEIVED: 29Jul98	TIME RECEIVED: 1130	ARRIVAL VIA: Fed Ex
QUANITY ORDERED: 1200	AGE: 3 Days	SPECIES CODE: MY072998
GENERAL CONDITION: Good		

SAMPLE STORAGE: 4 Degrees Celsius - dark
SEDIMENT TREATMENT: 4:1 seawater:sediment ratio
CONTROL SEDIMENT ID: N.A.
CONTROL SEDIMENT SUPPLIER: N.A.
TEST CHAMBERS: 1 L beakers

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
29Jul98	1130		22.1	28.0	8.1		X		NO	NT	NT	ARRIVAL	SLN/MJB
30Jul98	1130						X						SLN

ACCLIMATION MORTALITY: #VALUE!

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-009	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0		Bodega Sea Water	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	test	test	TECHNICIAN	FEEDING am	FEEDING pm
Control A / .	0	%	0	All	20.0	6.6	2.0	20.6	2.0	28.0	8.0	8.0	MJB	0.3			MJB		X
Control A / .	0	%	1	1	20.0	7.1	2.0	19.6	11.0	28.0	21.0	8.1	SB	<0.1			SLN/SC	X	X
Control A / .	0	%	2	2	20.0	7.2	2.0	19.8	2.0	28.0	21.0	7.8	SB	0.1			SC/SB	X	X
Control A / .	0	%	3	3	20.0	7.2	2.0	19.6	2.0	29.0	8.0	8.1	CL	0.2			MJB/CL	X	X
Control A / .	0	%	4	1	20.0	7.1	2.0	19.5	2.0	29.0	8.0	8.1	CL	0.4			MJB/CL		
				2	20.0	7.2	2.0	19.5	2.0	29.0	8.0	8.1	CL	0.4			MJB/CL		
				3	20.0	6.3	2.0	19.5	2.0	29.0	8.0	7.9	CL	0.4			MJB/CL		
				4	20.0	6.0	2.0	19.5	2.0	29.0	8.0	8.0	CL	0.4			MJB/CL		
				5	20.0	6.7	2.0	19.5	2.0	29.0	8.0	7.9	CL	0.4			MJB/CL		

MEC ANALYTICAL SYSTEMS, INC.

96 HOUR L/SP TEST DATA SHEET 2

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-009	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0		Bodega Sea Water	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION		DAY	REP	D.O.		TEMP.		SALINITY		pH		OVER. NH3		test		TECHNICIAN	FEEDING	
	value	units			meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L				am	pm
Site 1-Top / T980722.05	10	%	0	All	20.0	6.8	2.0	20.5	2.0	28.0	4.0	8.0	MJB	0.4			MJB		X
Site 1-Top / T980722.05	10	%	1	1	20.0	7.1	2.0	19.6	2.0	28.0	4.0	8.2	SB	0.6			SC/SLN	X	X
Site 1-Top / T980722.05	10	%	2	2	20.0	7.2	2.0	19.7	2.0	28.0	21.0	8.0	SB	0.5			SB/SC	X	X
Site 1-Top / T980722.05	10	%	3	3	20.0	7.0	2.0	19.5	2.0	29.0	4.0	8.0	CL	0.9			MJB/CL	X	X
Site 1-Top / T980722.05	10	%	4	1	20.0	6.7	2.0	19.6	2.0	29.0	4.0	8.0		NT			MJB/CL		
				2	20.0	6.8	2.0	19.6	2.0	29.0	4.0	8.1		NT					
				3	20.0	6.9	2.0	19.5	2.0	29.0	4.0	8.0		NT					
				4	20.0	6.7	2.0	19.5	2.0	29.0	4.0	8.0	CL	1.0					
				5	20.0	6.8	2.0	19.5	2.0	29.0	4.0	8.1		NT					
Site 1-Top / T980722.05	50	%	0	All	20.0	6.8	2.0	20.7	2.0	28.0	4.0	7.9	MJB	1.3			MJB		X
Site 1-Top / T980722.05	50	%	1	1	20.0	7.1	2.0	19.8	2.0	28.0	4.0	8.2	SB	3.2			SC/SLN	X	X
Site 1-Top / T980722.05	50	%	2	2	20.0	7.2	2.0	19.7	2.0	28.0	21.0	8.2	SB	2.7			SB/SC	X	X
Site 1-Top / T980722.05	50	%	3	3	20.0	5.2	2.0	19.6	2.0	29.0	4.0	8.2	CL	3.4			MJB/CL	X	X
Site 1-Top / T980722.05	50	%	4	1	20.0	7.0	2.0	19.5	2.0	29.0	4.0	8.3		NT			MJB/CL		
				2	20.0	7.1	2.0	19.6	2.0	29.0	4.0	8.2		NT			MJB/CL		
				3	20.0	7.0	2.0	19.6	2.0	29.0	4.0	8.1		NT			MJB/CL		
				4	20.0	6.8	2.0	19.4	2.0	29.0	4.0	8.3	CL	2.5			MJB/CL		
				5	20.0	6.8	2.0	19.6	2.0	29.0	4.0	8.2	CL	2.7			MJB/CL		
Site 1-Top / T980722.05	100	%	0	All	20.0	6.5	2.0	20.9	2.0	28.0	4.0	7.9	MJB	4.8			MJB		X
Site 1-Top / T980722.05	100	%	1	1	20.0	7.2	2.0	20.1	2.0	28.0	21.0	8.3	SB	6.8			SC/SLN	X	X
Site 1-Top / T980722.05	100	%	2	2	20.0	7.1	2.0	19.9	2.0	28.0	4.0	8.2	SB	4.8			SB/SC	X	X
Site 1-Top / T980722.05	100	%	3	3	20.0	7.0	2.0	19.6	2.0	29.0	4.0	8.3	CL	6.4			MJB/CL	X	X
Site 1-Top / T980722.05	100	%	4	1	20.0	6.7	2.0	19.7	2.0	29.0	4.0	8.3	CL	4.5			MJB/CL		
				2	20.0	6.5	2.0	19.6	2.0	29.0	4.0	8.3	CL	4.5			MJB/CL		
				3	20.0	6.6	2.0	19.6	2.0	29.0	4.0	8.4	CL	4.6			MJB/CL		
				4	20.0	6.9	2.0	19.6	2.0	29.0	4.0	8.3	CL	4.8			MJB/CL		
				5	20.0	7.4	2.0	19.5	2.0	29.0	4.0	8.5	CL	4.5			MJB/CL		

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-009	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0		Bodega Sea Water	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION		DAY	REP	D.O.		TEMP.		SALINITY		pH		OVER. NH3		test		TECHNICIAN	FEEDING	
	value	units			meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L				am	pm
Site 1-Bottom / T980722.06	10	%	0	All	20.0	6.7	2.0	20.5	2.0	28.0	4.0	8.0	MJB	4.8			MJB		X
Site 1-Bottom / T980722.06	10	%	1	1	20.0	7.1	2.0	19.6	2.0	28.0	4.0	8.2	SB	4.3			SC/SLN	X	X
Site 1-Bottom / T980722.06	10	%	2	2	20.0	7.5	2.0	19.7	2.0	28.0	21.0	8.2	SB	3.7			SB/SC	X	X
Site 1-Bottom / T980722.06	10	%	3	3	20.0	7.2	2.0	19.6	2.0	29.0	4.0	8.2	CL	2.9			MJB/CL	X	X
Site 1-Bottom / T980722.06	10	%	4	1	20.0	7.2	2.0	19.4	2.0	29.0	4.0	8.2	CL	4.7			MJB/CL		
				2	20.0	7.2	2.0	19.4	2.0	29.0	4.0	8.2	CL	4.8			MJB/CL		
				3	20.0	7.3	2.0	19.4	2.0	30.0	4.0	8.2	CL	4.8			MJB/CL		
				4	20.0	7.3	2.0	19.3	2.0	30.0	4.0	8.2	CL	4.8			MJB/CL		
				5	20.0	7.6	2.0	19.3	2.0	30.0	4.0	8.1	CL	4.9			MJB/CL		
Site 1-Bottom / T980722.06	50	%	0	All	20.0	6.8	2.0	20.6	2.0	28.0	4.0	8.0	MJB	24.2			MJB		X
Site 1-Bottom / T980722.06	50	%	1	1	20.0	7.2	2.0	19.6	2.0	29.0	4.0	8.2	SB	21.2			SC/SLN	X	X
Site 1-Bottom / T980722.06	50	%	2	2	20.0	7.2	2.0	19.9	2.0	29.0	21.0	8.4	SB	17.6			SB/SC	X	X
Site 1-Bottom / T980722.06	50	%	3	3														X	X
Site 1-Bottom / T980722.06	50	%	4	1															
				2															
				3															
				4															
				5															
Site 1-Bottom / T980722.06	100	%	0	All	20.0	6.7	2.0	20.8	2.0	29.0	4.0	8.0	MJB	45.9			MJB		X
Site 1-Bottom / T980722.06	100	%	1	1	20.0	7.1	2.0	19.8	2.0	28.0	4.0	8.3	SB	44.2				X	X
Site 1-Bottom / T980722.06	100	%	2	2															
Site 1-Bottom / T980722.06	100	%	3	3															
Site 1-Bottom / T980722.06	100	%	4	1															
				2															
				3															
				4															
				5															

MEC ANALYTICAL SYSTEMS, INC.

96 HOUR L/SP TEST DATA SHEET 2

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-009	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0		Bodega Sea Water	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION		DAY	REP	D.O.		TEMP.		SALINITY		pH		OVER. NH3		test		TECHNICIAN	FEEDING	
	value	units			meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L				am	pm
Site 2-Top / T980722.03	10	%	0	All	20.0	6.6	2.0	20.6	2.0	28.0	4.0	7.9	MJB	1.7			MJB		X
Site 2-Top / T980722.03	10	%	1	1	20.0	7.0	2.0	19.8	2.0	28.0	4.0	8.1	SB	1.5			SC/SLN	X	X
Site 2-Top / T980722.03	10	%	2	2	20.0	7.3	2.0	19.2	2.0	28.0	21.0	8.1	SB	1.3			SB/SC	X	X
Site 2-Top / T980722.03	10	%	3	3	20.0	7.2	2.0	19.6	2.0	29.0	4.0	8.2	CL	1.3			MJB/CL	X	X
Site 2-Top / T980722.03	10	%	4	1	20.0	7.3	2.0	19.8	2.0	29.0	4.0	8.1	CL	1.7			MJB/CL		
				2	20.0	7.2	2.0	19.7	2.0	29.0	4.0	8.1	CL	1.7			MJB/CL		
				3	20.0	7.3	2.0	19.6	2.0	29.0	4.0	8.2	CL	1.6			MJB/CL		
				4	20.0	7.2	2.0	19.6	2.0	29.0	4.0	8.2	CL	1.3			MJB/CL		
				5	20.0	7.2	2.0	19.6	2.0	29.0	4.0	8.2	CL	1.3			MJB/CL		
Site 2-Top / T980722.03	50	%	0	All	20.0	6.6	2.0	20.8	2.0	28.0	4.0	7.9	MJB	7.4			MJB		X
Site 2-Top / T980722.03	50	%	1	1	20.0	7.1	2.0	19.8	2.0	28.0	4.0	8.3	SLM	4.8			SC/SLN	X	X
Site 2-Top / T980722.03	50	%	2	2	20.0	7.2	2.0	20.2	2.0	28.0	21.0	8.1	SB	5.0			SB/SC	X	X
Site 2-Top / T980722.03	50	%	3	3	20.0	7.2	2.0	19.6	2.0	29.0	4.0	8.4	CL	5.2			MJB/CL	X	X
Site 2-Top / T980722.03	50	%	4	1	20.0	7.4	2.0	19.9	2.0	29.0	4.0	8.3	CL	6.6			MJB/CL		
				2	20.0	7.4	2.0	19.8	2.0	29.0	4.0	8.3	CL	6.8			MJB/CL		
				3	20.0	7.4	2.0	19.7	2.0	29.0	4.0	8.3	CL	6.9			MJB/CL		
				4	20.0	7.3	2.0	19.6	2.0	29.0	4.0	8.2	CL	6.9			MJB/CL		
				5	20.0	7.5	2.0	19.6	2.0	29.0	4.0	8.1	CL	7.0			MJB/CL		
Site 2-Top / T980722.03	100	%	0	All	20.0	6.6	2.0	20.9	2.0	28.0	4.0	7.9	MJB	14.2			MJB		X
Site 2-Top / T980722.03	100	%	1	1	20.0	7.1	2.0	19.8	2.0	28.0	4.0	8.4	SB	10.1			SC/SLN	X	X
Site 2-Top / T980722.03	100	%	2	2	20.0	7.2	2.0	20.3	2.0	29.0	21.0	8.2	SB	9.2			SB/SC	X	X
Site 2-Top / T980722.03	100	%	3	3	20.0	7.1	2.0	19.6	2.0	29.0	4.0	8.3	CL	10.6			MJB/CL	X	X
Site 2-Top / T980722.03	100	%	4	1	20.0	7.1	2.0	19.9	2.0	29.0	4.0	8.5	CL	12.2			MJB/CL		
				2	20.0	7.3	2.0	19.9	2.0	29.0	4.0	8.4	CL	13.6			MJB/CL		
				3	20.0	7.3	2.0	19.8	2.0	29.0	4.0	8.3	CL	14.0			MJB/CL		
				4	20.0	7.6	2.0	19.7	2.0	29.0	4.0	8.3	CL	13.9			MJB/CL		
				5															

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-009	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0		Bodega Sea Water	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	test		TECHNICIAN	FEEDING am	FEEDING pm
Site 2- Bottom / T980722.04	10	%	0	All	20.0	6.5	2.0	20.6	2.0	28.0	4.0	8.1	MJB	4.9			MJB		X
Site 2- Bottom / T980722.04	10	%	1	1	20.0	7.1	2.0	19.6	2.0	28.0	4.0	8.3	SB	3.5			SC/SLN	X	X
Site 2- Bottom / T980722.04	10	%	2	2	20.0	7.3	2.0	19.8	2.0	29.0	21.0	8.0	SB	2.9			SB/SC	X	X
Site 2- Bottom / T980722.04	10	%	3	3	20.0	7.1	2.0	19.6	2.0	29.0	4.0	8.2	CL	3.9			MJB/CL	X	X
Site 2- Bottom / T980722.04	10	%	4	1	20.0	7.4	2.0	19.6	2.0	30.0	4.0	8.1	CL	5.4			MJB/CL		
				2	20.0	7.4	2.0	19.6	2.0	30.0	4.0	8.2	CL	5.4			MJB/CL		
				3	20.0	7.4	2.0	19.6	2.0	30.0	4.0	8.1	CL	5.5			MJB/CL		
				4	20.0	7.4	2.0	19.6	2.0	30.0	4.0	8.1	CL	4.9			MJB/CL		
				5	20.0	7.4	2.0	19.5	2.0	30.0	4.0	8.1	CL	4.9			MJB/CL		
Site 2- Bottom / T980722.04	50	%	0	All	20.0	6.5	2.0	20.6	2.0	28.0	4.0	8.1	MJB	23.7			MJB		X
Site 2- Bottom / T980722.04	50	%	1	1	20.0	7.1	2.0	19.6	2.0	29.0	4.0	8.4	SB	16.0			SC/SLN	X	X
Site 2- Bottom / T980722.04	50	%	2	2	20.0	7.3	2.0	19.7	2.0	29.0	21.0	8.3	SB	13.0			SB/SC	X	X
Site 2- Bottom / T980722.04	50	%	3	3															
Site 2- Bottom / T980722.04	50	%	4	1															
				2															
				3															
				4															
				5															
Site 2- Bottom / T980722.04	100	%	0	All	20.0	6.5	2.0	20.6	2.0	28.0	4.0	8.1	MJB	46.6			MJB		X
Site 2- Bottom / T980722.04	100	%	1	1	20.0	7.1	2.0	19.6	2.0	27.0	4.0	8.4	SB	33.5				X	X
Site 2- Bottom / T980722.04	100	%	2	2															
Site 2- Bottom / T980722.04	100	%	3	3															
Site 2- Bottom / T980722.04	100	%	4	1															
				2															
				3															
				4															
				5															

MEC ANALYTICAL SYSTEMS, INC.

96 HOUR L/SP TEST DATA SHEET 2

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-009	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS — DO (mg/L): > 4.5 | TEMP (C): 20±2 | SALINITY (ppt): 30±2 | pH: 8.0±0.5 | NH3 (mg/L): <4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #: Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	test		TECHNICIAN	FEEDING am	FEEDING pm
Site 3 / T980722.07	10	%	0	All	20.0	6.4	2.0	20.7	2.0	28.0	4.0	8.0	MJB	1.0			MJB		X
Site 3 / T980722.07	10	%	1	1	20.0	7.1	2.0	19.8	2.0	28.0	4.0	8.3	SLN	1.4			SC/SLN	X	X
Site 3 / T980722.07	10	%	2	2	20.0	7.4	2.0	19.9	2.0	28.0	21.0	8.1	SB	1.1			SB/SC	X	X
Site 3 / T980722.07	10	%	3	3	20.0	7.3	2.0	19.8	2.0	29.0	4.0	8.2	CL	1.2			MJB/CL	X	X
Site 3 / T980722.07	10	%	4	1	20.0	7.4	2.0	19.9	2.0	30.0	4.0	8.1	CL	1.2			MJB/CL		
				2	20.0	7.6	2.0	19.9	2.0	30.0	4.0	8.1	CL	1.2			MJB/CL		
				3	20.0	7.9	2.0	19.7	2.0	30.0	4.0	8.2	CC	1.2			MJB/CL		
				4	20.0	8.0	2.0	19.7	2.0	30.0	4.0	8.2	CL	1.0			MJB/CL		
				5	20.0	8.0	2.0	19.8	2.0	30.0	4.0	8.1	CL	1.0			MJB/CL		
Site 3 / T980722.07	50	%	0	All	20.0	6.4	2.0	20.9	2.0	28.0	4.0	8.1	MJB	4.0			MJB		X
Site 3 / T980722.07	50	%	1	1	20.0	7.1	2.0	19.8	2.0	29.0	4.0	8.4	SLN	3.1			SC/SLN	X	X
Site 3 / T980722.07	50	%	2	2	20.0	7.3	2.0	19.7	2.0	29.0	21.0	8.3	SB	4.1			SB/SC	X	X
Site 3 / T980722.07	50	%	3	3	20.0	7.4	2.0	19.7	2.0	29.0	4.0	8.4	CL	4.2			MJB/CL	X	X
Site 3 / T980722.07	50	%	4	1	20.0	7.9	2.0	19.7	2.0	30.0	4.0	8.4	CL	2.7			MJB/CL		
				2	20.0	8.3	2.0	19.5	2.0	30.0	4.0	8.4	CL	2.6			MJB/CL		
				3	20.0	7.9	2.0	19.6	2.0	29.0	4.0	8.3	CL	3.3			MJB/CL		
				4	20.0	7.7	2.0	19.5	2.0	30.0	4.0	8.4	CL	2.9			MJB/CL		
				5	20.0	7.9	2.0	19.5	2.0	30.0	4.0	8.3	CL	3.1			MJB/CL		
Site 3 / T980722.07	100	%	0	All	20.0	6.5	2.0	20.9	2.0	29.0	4.0	8.0	MJB	10.4			MJB		X
Site 3 / T980722.07	100	%	1	1	20.0	7.2	2.0	20.1	2.0	29.0	4.0	8.3	SLN	5.6			SC/SLN	X	X
Site 3 / T980722.07	100	%	2	2	20.0	7.5	2.0	20.1	2.0	29.0	21.0	8.4	SB	7.7			SB/SC	X	X
Site 3 / T980722.07	100	%	3	3	20.0	7.4	2.0	19.7	2.0	29.0	4.0	8.3	CL	8.0			MJB/CL	X	X
Site 3 / T980722.07	100	%	4	1	20.0	7.8	2.0	19.9	2.0	30.0	4.0	8.5	CL	4.9			MJB/CL		
				2	20.0	7.8	2.0	19.9	2.0	30.0	4.0	8.5	CL	4.9			MJB/CL		
				3	20.0	7.8	2.0	19.8	2.0	30.0	4.0	8.4	CL	5.1			MJB/CL		
				4	20.0	7.9	2.0	19.7	2.0	30.0	4.0	8.4	CL	5.3			MJB/CL		
				5	20.0	7.9	2.0	19.7	2.0	30.0	4.0	8.5	CL	4.9			MJB/CL		

96 HOUR L/SP TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Mysidopsis bahia	#VALUE!

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-009	Dr. Paul Krause	Tiburon 20 deg. room	ASTM 1997

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; LOE= loss of equilibrium; Q = quiescent; SUR= surfacing; DC = discoloration; OB = on bottom; J = jumper; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 30Jul98 TECHNICIAN SC/SLN/SB #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 31Jul98 TECHNICIAN SB/SC #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 01Aug98 TECHNICIAN MJB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 02Aug98 TECHNICIAN CL/MJB #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Control A /	0	%	1	10	10	0	N	10	0	N	10	0	N	10	0	
			2	10	9	0	1NB	10	0	N	10	0	N	10	0	
			3	10	10	0	N	10	0	N	10	0	N	10	0	
			4	10	10	0	N	10	0	N	10	0	N	10	0	
			5	10	8	0	2NB	9	0	N	10	0	N	10	0	
Site 1-Top / T980722.05	10	%	1	11	10	0	N	8	1	1NB	8	0	N	10		
			2	10	10	0	N	9	0	1NB/N	9	0	N	9	0	
			3	10	10	0	N	9	0	1NB/N	9	0	N	9	0	
			4	10	10	0	N	10	0	N	10	0	N	9		
			5	10	9	0	1NB	9	0	N	9	0	N	10		
Site 1-Top / T980722.05	50	%	1	10	6	0	4NB	10	0	N	10	0	N	10		
			2	10	8	1	1NB	8	0	N	8	0	N	8		
			3	10	8	0	2NB	8	0	N	9	0	N	10		
			4	10	9	0	1NB	8	0	1NB	8	0	N	8		
			5	10	10	0	N	8	0	2NB	10	0	N	10		
Site 1-Top / T980722.05	100	%	1	10	8	0	2NB	9	0	N	9	0	N	9		
			2	10	9	0	1NB	9	0	N	9	0	N	9		
			3	10	9	0	1NB	10	0	N	10	0	N	10		
			4	10	9	0	1NB	9	0	N	9	0	N	8	1	
			5	10	9	0	1NB	9	0	N	9	0	1Q/N	9		
Site 1-Bottom / T980722.06	10	%	1	10	9	1	N	8	0	1NB	8	0	N	8		
			2	10	9	0	1NB	9	0	N	9	0	N	9		
			3	10	10	0	N	10	0	N	10	0	N	9	1	
			4	10	9	0	1NB	8	1	N	9	0	N	9		
			5	10	7	3	N	7	0	N	6	1	N	6		
Site 1-Bottom / T980722.06	50	%	1	10	9	1	8Q	0	9		0			0		
			2	10	3	6	I	0	3		0			0		
			3	10	5	1	4NB	0	5		0			0		
			4	10	6	4	6Q	0	6		0			0		
			5	10	7	3	7Q	0	7		0			0		
Site 1-Bottom / T980722.06	100	%	1	10	0	10		0			0			0		
			2	10	0	8	2NB	0			0			0		
			3	10	0	9	1NB	0			0			0		
			4	10	0	10		0			0			0		
			5	10	0	10		0			0			0		
Site 2-Top / T980722.03	10	%	1	10	9	0	1NB	9	0	N	9	0	N	10		
			2	10	8	0	2NB	9	0	N	9	1	N	9		
			3	10	9	1	N	9	0	N	9	0	N	9		
			4	10	9	0	1NB	9	1	N	9	0	N	9		
			5	10	9	0	1NB	9	1	N	9	0	N	9		

96 HOUR L/SP TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Mysidopsis bahia	#VALUE!

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-009	Dr. Paul Krause	Tiburon 20 deg. room	ASTM 1997

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; DC = discoloration; LOE = loss of equilibrium; OB = on bottom; Q = quiescent; J = jumper; SUR = surfacing; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 30Jul98 TECHNICIAN SC/SLN/SB #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 31Jul98 TECHNICIAN SB/SC #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 01Aug98 TECHNICIAN MJB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 02Aug98 TECHNICIAN CL/MJB #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Site 2-Top / T980722.03	50	%	1	10	TOO			10	0	N	10	0	N	9	1	
			2	10	DARK			9	0	1NB/N	10	0	N	9	1	
			3	10	TOO			10	0	N	10	0	N	10		
			4	10	SEE			10	0	N	10	0	N	10		
			5	11				11	0	N	10	0	1NB/	10		
Site 2-Top / T980722.03	100	%	1	10	TOO			5	0	5NB/5Q	5	2	Q/OB	3	2	
			2	10	DARK			8	1	1NB/8Q	7	1	Q	1	6	
			3	10	TO			7	1	2NB/5Q	1	3	Q	1	0	
			4	10	SEE			6	1	3NB/Q	7	1	Q	3	4	
			5	10				1	1	8NB/1Q	1	9				
Site 2-Bottom / T980722.04	10	%	1	10	10	0	N	9	1	N	9	0	N	8	1	
			2	10	10	0	N	10	0	N	10	0	N	10		
			3	10	10	0	N	9	1	N	9	0	N	9		
			4	10	9	1	N	9	0	N	8	1	N	8		
			5	10	10	0	N	8	2	N	8	0	N	7	1	
Site 2-Bottom / T980722.04	50	%	1	10	9	1	Q	0	9		0			0		
			2	10	7	3	Q/OB	0	4	3NB/Q	0			0		
			3	10	9	1	1LOE	0	9		0			0		
			4	10	9	1	2LOE	0	8	1NB	0			0		
			5	10	8	2	N	0	8		0			0		
Site 2-Bottom / T980722.04	100	%	1	10	0	10		0			0			0		
			2	10	0	8	2NB	0			0			0		
			3	10	0	10		0			0			0		
			4	10	0	10		0			0			0		
			5	10	0	10		0			0			0		
Site 3 / T980722.07	10	%	1	10	10	0	N	10	0	N	10	0	N	10		
			2	10	10	0	1LOE	10	0	N	10	0	N	10		
			3	10	9	1	1LOE	9	0	N	10	0	N	10		
			4	10	10	0	N	10	0	N	10	0	N	10		
			5	10	10	0	N	10	0	N	10	0	N	10		
Site 3 / T980722.07	50	%	1	10	9	1	N	8	0	1NB	8	0	N	8		
			2	10	10	0	N	9	1	N	8	1	N	8		
			3	10	8	0	2NB	8	0	N	8	0	N	8		
			4	10	10	0	N	10	0	N	10	0	N	10		
			5	10	10	0	N	10	0	N	10	0	N	10		
Site 3 / T980722.07	100	%	1	10	7	3	Q	7	0	N	7	0	Q	7		
			2	10	7	3	Q	6	1	1Q/OB/1LOE	5	1	Q	2	3	
			3	10	8	2	1LOE	8	0	N	8	0	Q	8		
			4	10	5	5	1LOE	6	2	Q/LOE/2SUR	6	0	Q	6		
			5	10	5	0	5NB	9	0	Q/LOE	8	1	Q	8		

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 96-hour liquid/suspended phase test

Mysidopsis bahia

WATER QUALITY

CLIENT SAMPLE ID	MEC SAMPLE ID	DISS. OXYGEN (mg/L)			DISS. OXYGEN (%SAT	TEMPERATURE (°C)			SALINITY (ppt)			pH			AMMONIA (mg/L)					
		Mean	Min	Max	Mean	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Ref.Tox.-copper	Ref.Tox.-copper	7.2	6.6	7.7	93.8	19.6	19.1	20.6	28.6	28.0	29.0	8.0	7.8	8.1	#DIV/0!	0.0	0.0			
Control A	.	6.8	6.0	7.2	89.0	19.7	19.5	20.6	28.7	28.0	29.0	8.0	7.8	8.1	0.3	0.1	0.4			
Site 1-Top	T980722.05	6.8	5.2	7.4	89.5	19.7	19.4	20.9	28.7	28.0	29.0	8.2	7.9	8.5	3.2	0.4	6.8			
Site 1-Bottom	T980722.06	7.2	6.7	7.6	93.6	19.8	19.3	20.8	28.9	28.0	30.0	8.2	8.0	8.4	13.8	2.9	45.9			
Site 2-Top	T980722.03	7.2	6.6	7.6	94.0	19.9	19.2	20.9	28.7	28.0	29.0	8.2	7.9	8.5	6.5	1.3	14.2			
Site 2- Bottom	T980722.04	7.1	6.5	7.4	93.1	19.8	19.5	20.6	28.9	27.0	30.0	8.2	8.0	8.4	12.4	2.9	46.6			
Site 3	T980722.07	7.5	6.4	8.3	98.8	19.9	19.5	20.9	29.4	28.0	30.0	8.3	8.0	8.5	3.6	1.0	10.4			
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MEC ANALYTICAL SYSTEMS, INC.

Data summary of 96-hour liquid/suspended phase test

Mysidopsis bahia

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	SURVIVAL		
				INITIAL	FINAL	% SURVIVAL
Ref.Control-Copper	Ref.Tox.-Copper	0 ug/L	1	10	10	100.0%
Control A		0 %	2	10	10	100.0%
Control A		0 %	3	10	10	100.0%
Control A		0 %	4	10	10	100.0%
Control A		0 %	5	10	10	100.0%
Site 1-Top	T980722.05	10 %	1	11	10	90.9%
Site 1-Top	T980722.05	10 %	2	10	9	90.0%
Site 1-Top	T980722.05	10 %	3	10	9	90.0%
Site 1-Top	T980722.05	10 %	4	10	9	90.0%
Site 1-Top	T980722.05	10 %	5	10	10	100.0%
Site 1-Top	T980722.05	50 %	1	10	10	100.0%
Site 1-Top	T980722.05	50 %	2	10	8	80.0%
Site 1-Top	T980722.05	50 %	3	10	10	100.0%
Site 1-Top	T980722.05	50 %	4	10	8	80.0%
Site 1-Top	T980722.05	50 %	5	10	10	100.0%
Site 1-Top	T980722.05	100 %	1	10	9	90.0%
Site 1-Top	T980722.05	100 %	2	10	9	90.0%
Site 1-Top	T980722.05	100 %	3	10	10	100.0%
Site 1-Top	T980722.05	100 %	4	10	8	80.0%
Site 1-Top	T980722.05	100 %	5	10	9	90.0%
Site 1-Bottom	T980722.06	10 %	1	10	8	80.0%
Site 1-Bottom	T980722.06	10 %	2	10	9	90.0%
Site 1-Bottom	T980722.06	10 %	3	10	9	90.0%
Site 1-Bottom	T980722.06	10 %	4	10	9	90.0%
Site 1-Bottom	T980722.06	10 %	5	10	6	60.0%
Site 1-Bottom	T980722.06	50 %	1	10	0	0.0%
Site 1-Bottom	T980722.06	50 %	2	10	0	0.0%
Site 1-Bottom	T980722.06	50 %	3	10	0	0.0%
Site 1-Bottom	T980722.06	50 %	4	10	0	0.0%
Site 1-Bottom	T980722.06	50 %	5	10	0	0.0%
Site 1-Bottom	T980722.06	100 %	1	10	0	0.0%
Site 1-Bottom	T980722.06	100 %	2	10	0	0.0%
Site 1-Bottom	T980722.06	100 %	3	10	0	0.0%
Site 1-Bottom	T980722.06	100 %	4	10	0	0.0%
Site 1-Bottom	T980722.06	100 %	5	10	0	0.0%
Site 2-Top	T980722.03	10 %	1	10	10	100.0%
Site 2-Top	T980722.03	10 %	2	10	9	90.0%
Site 2-Top	T980722.03	10 %	3	10	9	90.0%
Site 2-Top	T980722.03	10 %	4	10	9	90.0%
Site 2-Top	T980722.03	10 %	5	10	9	90.0%
Site 2-Top	T980722.03	50 %	1	10	9	90.0%
Site 2-Top	T980722.03	50 %	2	10	9	90.0%
Site 2-Top	T980722.03	50 %	3	10	10	100.0%
Site 2-Top	T980722.03	50 %	4	10	10	100.0%
Site 2-Top	T980722.03	50 %	5	11	10	90.9%
Site 2-Top	T980722.03	100 %	1	10	3	30.0%
Site 2-Top	T980722.03	100 %	2	10	1	10.0%
Site 2-Top	T980722.03	100 %	3	10	1	10.0%
Site 2-Top	T980722.03	100 %	4	10	3	30.0%
Site 2-Top	T980722.03	100 %	5	10		#VALUE!
Site 2- Bottom	T980722.04	10 %	1	10	8	80.0%
Site 2- Bottom	T980722.04	10 %	2	10	10	100.0%
Site 2- Bottom	T980722.04	10 %	3	10	9	90.0%
Site 2- Bottom	T980722.04	10 %	4	10	8	80.0%
Site 2- Bottom	T980722.04	10 %	5	10	7	70.0%
Site 2- Bottom	T980722.04	50 %	1	10	0	0.0%
Site 2- Bottom	T980722.04	50 %	2	10	0	0.0%
Site 2- Bottom	T980722.04	50 %	3	10	0	0.0%
Site 2- Bottom	T980722.04	50 %	4	10	0	0.0%
Site 2- Bottom	T980722.04	50 %	5	10	0	0.0%
Site 2- Bottom	T980722.04	100 %	1	10	0	0.0%
Site 2- Bottom	T980722.04	100 %	2	10	0	0.0%
Site 2- Bottom	T980722.04	100 %	3	10	0	0.0%
Site 2- Bottom	T980722.04	100 %	4	10	0	0.0%
Site 2- Bottom	T980722.04	100 %	5	10	0	0.0%
Site 3	T980722.07	10 %	1	10	10	100.0%
Site 3	T980722.07	10 %	2	10	10	100.0%
Site 3	T980722.07	10 %	3	10	10	100.0%
Site 3	T980722.07	10 %	4	10	10	100.0%
Site 3	T980722.07	10 %	5	10	10	100.0%
Site 3	T980722.07	50 %	1	10	8	80.0%
Site 3	T980722.07	50 %	2	10	8	80.0%
Site 3	T980722.07	50 %	3	10	8	80.0%
Site 3	T980722.07	50 %	4	10	10	100.0%
Site 3	T980722.07	50 %	5	10	10	100.0%
Site 3	T980722.07	100 %	1	10	7	70.0%
Site 3	T980722.07	100 %	2	10	2	20.0%
Site 3	T980722.07	100 %	3	10	8	80.0%
Site 3	T980722.07	100 %	4	10	6	60.0%
Site 3	T980722.07	100 %	5	10	8	80.0%

96 HOUR L/SP TEST DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. P.Krause	Tiburon 20 deg. room	ASTM97/USCOE91

GENERAL TEST INFORMATION

SPECIES		
Mysidopsis bahia		
SUPPLIER		ORGANISM BATCH NO,
AquaTox		MY072998
DATE RECEIVED	TIME RECEIVED	ARRIVAL VIA
29Jul98	1130	*Fed Ex*
QUANITY ORDERED	AGE	SPECIES CODE
1200	3 DAYS	MY072998
GENERAL CONDITION		
Good		

SAMPLE STORAGE
4 Degrees Celsius - dark
SEDIMENT TREATMENT
none
CONTROL SEDIMENT ID
N.A.
CONTROL SEDIMENT SUPPLIER
N.A.
TEST CHAMBERS
1 L beakers

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
29Jul98	1130		22.1	28	8.10	—	X		No	NT	NT	ARRIVAL	SCM FST3
30Jul98	1130						X						SCM

ACCLIMATION MORTALITY: <5

Loading Weight = Tare Weight − 4.20 mg
Total Fish = 10
Fish + Tare − 5.35 W
Total −
Fish wt = 1.15 W
Weight/Fish = 0.12 W

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Sea Water	

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Control A / .	0	%	0	All	20	6.6	2	20.6	2	28	4	8.02	MSB	0.29	MSB	✓	✓
Control A / .	0	%	1	1	20	7.1	11	19.6	1	29	21	8.09	SB	<0.1	SM/SC	✓	✓
Control A / .	0	%	2	2	020	7.2	002	19.8	002	28	021	7.84	SB	0.13	SB/SC	✓	—
Control A / .	0	%	3	3	20	7.2	2	19.6	2	29	4	8.11	a	0.23	MTB/a	✓	✓
Control A / .	0	%	4	1	20	7.1	2	19.5		29	4	8.06		0.43	MTB/a		
				2		7.2		19.5		29		8.05		0.42			
				3		6.3		19.5		29		7.89		0.42			
				4		6.0		19.5		29		8.00		0.39			
				5	20	6.7	2	19.5		29	4	7.91	a	0.36	MTB/a		

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SOP XXX

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS — DO (mg/L): > 5.0 | TEMP (C): 15±2 | SALINITY (ppt): 30±2 | pH: 8.0±0.5 | NH3 (mg/L): < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Site - 1 Top / T980722.05	10	%	0	All	20	6.8	2	20.5	2	28	4	7.98	MSB	0.44	MSB		✓
Site - 1 Top / T980722.05	10	%	1	1		7.1	"	19.6	"	28		8.16	SB	0.63	SC/SLN		
Site - 1 Top / T980722.05	10	%	2	2	020	7.2	002	19.7	002	28	021	7.96	SB	0.52	SB/SC	✓	✓
Site - 1 Top / T980722.05	10	%	3	3	20	7.0	2	19.5	2	29	4	8.03	CL	0.93	MSB/CL	✓	✓
Site - 1 Top / T980722.05	10	%	4	1	20	6.7	2	19.6	2	29	4	7.96		NT	MSB/a		
				2		6.8		19.6		29		8.08		NT			
				3		6.9		19.5		29		7.95		NT			
				4		6.7		19.5		29		8.03	CL	0.99			
				5	20	6.8	2	19.5	2	29	4	8.06		NT			
Site - 1 Top / T980722.05	50	%	0	All	20	6.8	2	20.7	2	28	4	7.93	MSB	1.27	MSB		✓
Site - 1 Top / T980722.05	50	%	1	1		7.1		19.8		28		8.17	SB	3.33	SC/SLN		
Site - 1 Top / T980722.05	50	%	2	2	020	7.2	002	19.7	002	28	021	8.16	SB	2.66	SB/SC	✓	✓
Site - 1 Top / T980722.05	50	%	3	3	20	5.2	2	19.6	2	29	4	8.17	CL	3.37	MSB/CL		
Site - 1 Top / T980722.05	50	%	4	1	20	7.0	2	19.5	2	29	4	8.32		NT	MTB/CL		
				2		7.1		19.6		29		8.19		NT			
				3		7.0		19.6		29		8.14		NT			
				4		6.9		19.4		29		8.33	CL	2.52			
				5	20	6.8	2	19.6	2	29	4	8.15	CL	2.70	MTB/CL		
Site - 1 Top / T980722.05	100	%	0	All	20	6.5	2	20.9	2	28	4	7.88	MSB	4.76	MSB		✓
Site - 1 Top / T980722.05	100	%	1	1		7.2		20.1		28		8.30	SB	6.81	SC/SLN		
Site - 1 Top / T980722.05	100	%	2	2	020	7.1	002	19.9	002	28	021	8.19	SB	4.79	SB/SC	✓	✓
Site - 1 Top / T980722.05	100	%	3	3	20	7.0	2	19.6	2	29	4	8.26	CL	6.41	MSB/CL	✓	✓
Site - 1 Top / T980722.05	100	%	4	1	20	6.7	2	19.7	2	29	4	8.25		4.54	MTB/CL		
				2		6.5		19.6		29		8.30		4.54			
				3		6.6		19.6		29		8.42		4.64			
				4		6.9		19.6		29		8.30		4.77			
				5	20	7.4	2	19.5	2	29	4	8.47	CL	4.52	MTB/CL		

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96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS: DO (mg/L) > 5.0 | TEMP (C) 15±2 | SALINITY (ppt) 30±2 | pH 8.0±0.5 | NH3 (mg/L) < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Site - 1 Bottom / T980722.05	10	%	0	All	20	6.7	2	20.5	2	28	4	8.03	MSB	4.80	MSB		✓
Site - 1 Bottom / T980722.05	10	%	1	1		7.1		19.6		28		8.19	SB	4.29	SC/SLN		
Site - 1 Bottom / T980722.05	10	%	2	2	020	7.5	002	19.7	002	28	024	8.16	SB	3.74	SB/SC	✓	✓
Site - 1 Bottom / T980722.05	10	%	3	3	20	7.2	2	19.6	2	29	4	8.23	a	2.89	MSB/CL	✓	✓
Site - 1 Bottom / T980722.06	10	%	4	1	20	7.2	2	19.4	2	29	4	8.17		4.74	MJB/CL		
				2	↓	7.2	↓	19.4	↓	29	↓	8.15	↓	4.78	↓		
				3		7.3		19.4		30		8.18		4.79			
				4		7.3		19.3		30		8.20		4.84			
				5	20	7.16	2	19.3	2	30	4	8.06	a	4.85	MJB/a		
Site - 1 Bottom / T980722.05	50	%	0	All	20	6.8	2	20.0	2	28	4	8.03	MSB	24.2	MSB		✓
Site - 1 Bottom / T980722.05	50	%	1	1		7.2		19.6		29		8.19	SB	21.2	SC/SLN		
Site - 1 Bottom / T980722.05	50	%	2	2	020	7.2	002	~~19.6~~ 19.4	002	~~29~~ 29	021	8.38	SB	17.6	SB/SC	✓	✓
Site - 1 Bottom / T980722.05	50	%	3	3				~~19.4~~		~~28~~						✓	✓
Site - 1 Bottom / T980722.06	50	%	4	1													
				2													
				3													
				4													
				5													
Site - 1 Bottom / T980722.05	100	%	0	All	20	6.7	2	20.8	2	29	4	8.03	MSB	45.9	MSB		✓
Site - 1 Bottom / T980722.05	100	%	1	1		7.1		19.8		28		8.29	SB	44.2			
Site - 1 Bottom / T980722.05	100	%	2	2													
Site - 1 Bottom / T980722.05	100	%	3	3													
Site - 1 Bottom / T980722.06	100	%	4	1													
				2													
				3													
				4													
				5													

131114

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS — DO (mg/L): > 5.0 | TEMP (C): 15±2 | SALINITY (ppt): 30±2 | pH: 8.0±0.5 | NH3 (mg/L): < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #:

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Site -2 Top / T980722.03	10	%	0	All	20	6.6	2	20.6	2	28	4	7.94	MSB	1.68	MSB		✓
Site -2 Top / T980722.03	10	%	1	1		7.0		19.8		28		8.10	SC	1.49	SC/SLN		
Site -2 Top / T980722.03	10	%	2	2	020	7.3	002	19.2	002	28	021	8.12	SB	1.30	SB/SC	✓	✓
Site -2 Top / T980722.03	10	%	3	3	20	7.2	2	19.6	2	29	4	8.16	CL	1.31	MSB/CL	✓	✓
Site -2 Top / T980722.03	10	%	4	1	20	7.3	2	19.8	2	29	4	8.08		1.66	MJB/CL		
				2		7.2		19.7		29		8.14		1.69			
				3		7.3		19.6		29		8.16		1.57			
				4		7.2		19.6		29		8.16		1.28			
				5	20	7.2	2	19.6	2	29	4	8.20	CL	1.30	MJB/CL		
Site -2 Top / T980722.03	50	%	0	All	20	6.6	2	20.8	2	28	4	7.94	MSB	7.42	MSB		✓
Site -2 Top / T980722.03	50	%	1	1		7.1		19.8		28		8.30	SC	4.81	SC/SLN		
Site -2 Top / T980722.03	50	%	2	2	020	7.2	002	20.2	002	28	021	8.12	SB	4.95	SB/SC	✓	✓
Site -2 Top / T980722.03	50	%	3	3	20	7.2	2	19.6	2	29	4	8.39	CL	5.15	MSB/CL	✓	✓
Site -2 Top / T980722.03	50	%	4	1	20	7.4	2	19.9	2	29	4	8.33		6.62	MJB/CL		
				2		7.4		19.8		29		8.25		6.75			
				3		7.4		19.7		29		8.32		6.88			
				4		7.3		19.6		29		8.23		6.86			
				5	20	7.5	2	19.6	2	29	4	8.12	CL	7.01	MJB/CL		
Site -2 Top / T980722.03	100	%	0	All	20	6.6	2	20.9	2	28	4	7.94	MSB	14.2	MSB		✓
Site -2 Top / T980722.03	100	%	1	1		7.1		19.8		28		8.37	SC	10.1	SC/SLN		
Site -2 Top / T980722.03	100	%	2	2	020	7.2	002	20.3	002	29	021	8.18	SB	9.16	SB/SC	✓	✓
Site -2 Top / T980722.03	100	%	3	3	20	7.1	2	19.6		29	2	8.30	CL	10.60	MSB/CL	✓	✓
Site -2 Top / T980722.03	100	%	4	1	20	7.1	2	19.9	2	29	4	8.49		12.2	MJB/CL		
				2		7.3		19.9		29		8.43		13.6			
				3		7.3		19.8		29		8.33		14.0			
				4	20	7.6		19.7		29	4	8.33	CL	13.9	MJB/CL		
				5			2		2								

131113

MEC ANALYTICAL SYSTEMS INC

96 HOUR L/SP TEST DATA SHEET 2

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS: DO (mg/L) > 5.0 | TEMP (C) 15±2 | SALINITY (ppt) 30±2 | pH 8.0±0.5 | NH3 (mg/L) < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Site -2 Bottom / T980722.04	10	%	0	All	20	6.5	2	20.0	2	28	4	8.05	MSB	4.86	MSB		✓
Site -2 Bottom / T980722.04	10	%	1	1		7.1		19.6		29		8.25	SB	3.54	SC/SLN		
Site -2 Bottom / T980722.04	10	%	2	2	020	7.3	002	19.8	002	29	021	8.01	SB	2.92	SB/SC	✓	✓
Site -2 Bottom / T980722.04	10	%	3	3	20	7.1	2	19.6	2	29	4	8.19	CL	3.86	MSB/CL	✓	✓
Site -2 Bottom / T980722.04	10	%	4	1	20	7.4	2	19.6	2	30	4	8.10		5.36	MJB/CL		
				2	↓	7.4	↓	19.6	↓	30	↓	8.20	↓	5.38	↓		
				3		7.4		19.6		30		8.13		5.54			
				4		7.4		19.6		30		8.06		4.86			
				5	20	7.4	2	19.5	2	30	4	8.09	CL	4.89	MJB/CL		
Site -2 Bottom / T980722.04	50	%	0	All	20	6.5	2	20.6	2	28	4	8.08	MSB	23.7	MSB		✓
Site -2 Bottom / T980722.04	50	%	1	1		7.1		19.6		29		8.35	SB	16.0	SC/SLN		
Site -2 Bottom / T980722.04	50	%	2	2	020	7.3	002	19.7	002	29	021	8.27	SB	13.0	SB/SC	✓	✓
Site -2 Bottom / T980722.04	50	%	3	3													
Site -2 Bottom / T980722.04	50	%	4	1													
				2													
				3													
				4													
				5													
Site -2 Bottom / T980722.04	100	%	0	All	20	6.5	2	20.6	2	28	4	8.07	MSB	46.6	MSB		✓
Site -2 Bottom / T980722.04	100	%	1	1		7.1		19.6		27		8.35	SB	33.5			
Site -2 Bottom / T980722.04	100	%	2	2													
Site -2 Bottom / T980722.04	100	%	3	3													
Site -2 Bottom / T980722.04	100	%	4	1													
				2													
				3													
				4													
				5													

131116

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS — DO (mg/L): > 5.0 | TEMP (C): 15±2 | SALINITY (ppt): 30±2 | pH: 8.0±0.5 | NH3 (mg/L): < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #:

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Site - 3 / T980722.07	10	%	0	All	20	6.4	2	20.7	2	28	4	8.01	MSB	1.01	MSB		✓
Site - 3 / T980722.07	10	%	1	1		7.1		19.8		28		8.25	SLN	1.43	SC/SLN		
Site - 3 / T980722.07	10	%	2	2	020	7.4	002	19.9	002	28	021	8.14	SB	1.10	SB/SC	✓	✓
Site - 3 / T980722.07	10	%	3	3	20	7.3	2	19.8	2	29	4	8.17	CL	1.22	MSB/CL	✓	✓
Site - 3 / T980722.07	10	%	4	1	20	7.4	2	19.9	2	30	4	8.09		1.16	MTB/CL		
				2		7.6		19.9		30		8.14		1.19			
				3		7.9		19.7		30		8.19		1.19			
				4		8.0		19.7		30		8.18		1.03			
				5	20	8.0	2	19.8	2	30	4	8.14	CL	1.02	MTB/CL		
Site - 3 / T980722.07	50	%	0	All	20	6.4	2	20.9	2	28	4	8.10	MSB	3.97	MSB		✓
Site - 3 / T980722.07	50	%	1	1		7.1		19.8		29		8.44	SLN	3.12	SC/SLN		
Site - 3 / T980722.07	50	%	2	2	020	7.3	002	19.7	002	29	021	8.28	SB	4.07	SB/SC	✓	✓
Site - 3 / T980722.07	50	%	3	3	20	7.4	2	19.7	2	29	4	8.35	CL	4.24	MSB/CL	✓	✓
Site - 3 / T980722.07	50	%	4	1	20	7.9	2	19.7	2	30	4	8.40		2.74	MTB/CL		
				2		8.3		19.5		30		8.44		2.56			
				3		7.9		19.6		29		8.34		3.15			
				4		7.7		19.5		30		8.43		2.90			
				5	20	7.9	2	19.5	2	30	4	8.32	CL	3.08	MTB/CL		
Site - 3 / T980722.07	100	%	0	All	20	6.5	2	20.9	2	29	4	7.95	MSB	10.4	MSB		✓
Site - 3 / T980722.07	100	%	1	1		7.2		20.1		29		8.33	SLN	5.59	SC/SLN		
Site - 3 / T980722.07	100	%	2	2	020	7.5	002	20.1	002	29	021	8.41	SB	7.67	SB/SC	✓	✓
Site - 3 / T980722.07	100	%	3	3	20	7.4	2	19.7	2	29	4	8.34	CL	7.96	MSB/CL	✓	✓
Site - 3 / T980722.07	100	%	4	1	20	7.8	2	19.9	2	30	4	8.46		4.94	MTB/CL		
				2		7.8		19.9		30		8.49		4.92			
				3		7.8		19.9		30		8.37		5.14			
				4		7.9		19.7		30		8.44		5.29			
				5	20	7.9	2	19.7	2	30	4	8.51	CL	4.92	MTB/CL		

131117

96 HOUR L/SP TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Mysidopsis bahia	<5 %

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. P.Krause	Tiburon 20 deg. room	ASTM97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; DC = discoloration; LOE = loss of equilibrium; OB = on bottom; Q = quiescent; J = jumper; SUR = surfacing; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 07/30/98 TECHNICIAN RE/SW/SO #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 07/31/98 TECHNICIAN JB/SC #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 08/01/98 TECHNICIAN MSB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 08/02/98 TECHNICIAN CL/MSB #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Site - 1 Top / T980722.05	10	%	1	10	10	0	N	9	0	INB/N	9			*10		
			2	10	10	0	N	9	0	INB/N	9			*09		
			3	10	10	0	N	9	0	INB/N	9			*09		
			4	10	10	0	N	10	0	N	10			*09		
			5	10	9	0	INB	9	0	N	9			*10		
Site - 1 Top / T980722.05	50	%	1	10	6	0	4NB	10	0	N	10			*10		
			2	10	8	1	INB	8	0	N	8			*08		
			3	10	8	0	2NB	8	0	N	9			*10		
			4	10	9	0	INB	8	0	INB	8			*08		
			5	10	10	0	N	8	0	2NB	10			*10		
Site - 1 Top / T980722.05	100	%	1	10	8	0	2NB	9	0	N	9			9		
			2	10	9	0	INB	9	0	N	9			9		
			3	10	9	0	INB	10	0	N	10			10		
			4	10	9	0	INB	9	0	N	9			8	1	
			5	10	9	0	INB	9	0	N	9			9		
Site - 1 Bottom / T980722.06	10	%	1	10	9	1	N	8	0	INB	8			8		
			2	10	9	0	INB	9	0	N	9			9		
			3	10	10	0	N	10	0	N	10			9	1	
			4	10	9	0	INB	8	1	N	9			9		
			5	10	7	3	N	7	0	N	6	1		6		
Site - 1 Bottom / T980722.06	50	%	1	10	9	1	8Q	0	9	—						
			2	10	3	6	1	0	3	—						
			3	10	5	1	4NB	0	5	—						
			4	10	6	4	6Q	0	6	—						
			5	10	7	3	7Q	0	7	—						
Site - 1 Bottom / T980722.06	100	%	1	10	0	10										
			2	10	0	8	2NB									
			3	10	0	9	INB									
			4	10	0	10										
			5	10	0	10										
Site - 3 / T980722.07	10	%	1	10	10	0	N	*10	X0	N	10			10		
			2	10	10	0	1LOE	*10	0	N	10			10		
			3	10	9	1	1LOE	*9	0	N	10			10		
			4	10	10	0	N	*10	0	N	10			10		
			5	10	10	0	N	*10	0	N	10			10		
Site - 3 / T980722.07	50	%	1	10	9	1	N	8	0	INB	8			8		
			2	10	10	0	N	9	1	N	8	1		8		
			3	10	8	0	2NB	8	0	N	8			8		
			4	10	9	0	1NB	10	0	N	10			10		
			5	10	10	0	N	10	0	N	10			10		
Site - 3 / T980722.07	100	%	1	10	7	3	Q	7	0	N	7			7		
			2	10	7	3	Q	6	1	1NB 1LOE	5	1		5	3	
			3	10	8	Q	1LOE	8	0	N	8			8		
			4	10	5	5	1LOE	6	2	1LOE 2NB	6			6		
			5	10	5	0	5NB	9	0	Q, LOE	8	1		8		

96 HOUR L/SP TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Mysidopsis bahia	<5 %

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. P.Krause	Tiburon 20 deg. room	ASTM97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; DC = discoloration
LOE = loss of equilibrium; OB = on bottom
Q = quiescent; J = jumper
SUR = surfacing; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 07/30/98 TECHNICIAN SLN/SC #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 07/31/98 TECHNICIAN SB/SC #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 8/1/98 TECHNICIAN MSB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 08/02/98 TECHNICIAN MSB/CL #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Control A / .	0	%	1	10	10	0	N	10	0	N	10		N	10		
			2		9	0	INB	10*	0	N	10			10		
			3		10	0	N	10	0	N	10			10		
			4		10	0	N	10	0	N	10			10		
			5		8	0	2NB	9*	0	N	10			10		
Site -2 Top / T980722.03	10	%	1		9	0	1NB	9	0	N	9			10		
			2		8	0	2NB	9	0	N	9	1		9		
			3		9	1	N	9	0	N	9			9		
			4		9	0	1NB	9	1	N	9			9		
			5		9	0	1NB	9	1	N	9			9		
Site -2 Top / T980722.03	50	%	1		TOO FRAIL			10	0	N	10			9	1	
			2					9	0	INB/1Q	10			9	1	
			3		TO SEE			10	0	N	10		N	10		
			4					10	0	N	10		N	10		
	* 8/7/98 VSA (B)		5	#11				11	0	N	10		1NB/1N	10		
Site -2 Top / T980722.03	100	%	1	10	TOO			5	0	5NB/5Q	5	2	9/0B	3	2	
			2					8	1	1NB/8Q	7	1	9	1	6	
			3		DAILY TO			7	1	2NB/5Q	1	3	9	1	0	
			4		SEE			6	1	3NB/6Q	7	1	9	3	4	
			5					1	1	8NB/1Q	1	9		0		
Site -2 Bottom / T980722.04	10	%	1	10	10	0	N	9	1	N	9		N	8	1	
			2	10	10	0	N	10	0	N	10			10		
			3	10	10	0	N	9	1	N	9			9		
			4	10	9	1	N	9	0	N	8	1		8		
			5	10	10	0	N	8	2	N	8		N	7	1	
Site -2 Bottom / T980722.04	50	%	1	10	9	1	Q	0	9							
			2	10	7	3	B,OB	0	4	3NB						
			3	10	9	1	LOE	0	9							
			4	10	9	1	2LOE	0	8	1NB						
			5	10	8	2	N	0	8							
Site -2 Bottom / T980722.04	100	%	1	10	0	10										
			2	10	0	8	2NB									
			3	10	0	10										
			4	10	0	10										
			5	10	0	10										

(B) 07/31/98 SC BODY FOUND
* 07/31/98 SSL 1BODY FOUND

Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19m1t	Sample ID:	Site 1 Top
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	Elutriate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	My-M. bahia
Comments:					

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	0.9000	0.9000	0.9000	1.0000
50	1.0000	0.8000	1.0000	0.8000	1.0000
100	0.9000	0.9000	1.0000	0.8000	0.9000

			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5				0	50
10	0.9400	0.9400	1.3142	1.2490	1.4120	6.792	5	1.419	2.230	0.1537	3	50
50	0.9200	0.9200	1.2901	1.1071	1.4120	12.944	5	1.769	2.230	0.1537	4	50
*100	0.9000	0.9000	1.2533	1.1071	1.4120	8.613	5	2.303	2.230	0.1537	5	50

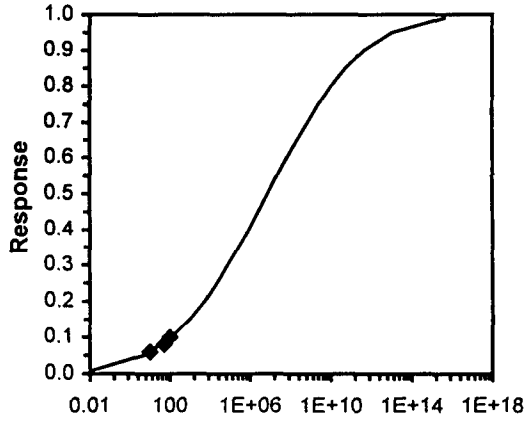
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.91753	0.868	-0.2854	-0.4834
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	50	100	70.7107	2	0.0695	0.07129	0.02304	0.01188	0.16385	3, 16

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	0.26631	0.37005	-0.459	0.9916	0	0.01659	3.84146	0.9	6.87482	3.75504	3
Intercept	3.16917	0.61712	1.95962	4.37873							
TSCR											

Point	Probits	%	95% Fiducial Limits
EC01	2.674	0.01378	
EC05	3.355	4.99264	
EC10	3.718	115.49	
EC15	3.964	961.547	
EC20	4.158	5182	
EC25	4.326	21982.7	
EC40	4.747	838471	
EC50	5.000	7495759	
EC60	5.253	6.7E+07	
EC75	5.674	2.6E+09	
EC80	5.842	1.1E+10	
EC85	6.036	5.8E+10	
EC90	6.282	4.9E+11	
EC95	6.645	1.1E+13	
EC99	7.326	4.1E+15	



Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19m1b	Sample ID:	Site 1 Bottom
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	Elutriate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	My-M. bahia

Comments:

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000
10	0.8000	0.9000	0.9000	0.9000	0.6000
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed		Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical		Mean	N-Mean
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5				1.0000	1.0000
*10	0.8200	0.8200	1.1481	0.8861	1.2490	13.834	5	15.00	17.00	0.112	0.8200	0.8200
*50	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	5	15.00	17.00	0.112	0.0000	0.0000
*100	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	5	15.00	17.00	0.112	0.0000	0.0000

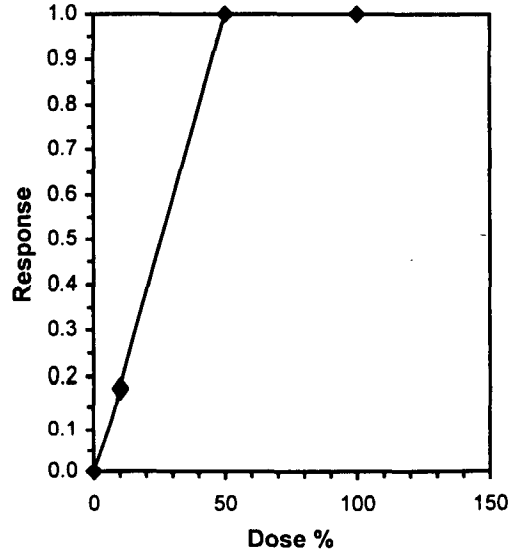
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.58661	0.868	-2.2611	9.33507
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	<10	10		

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	2.778	0.787	1.000	6.333	0.8262
IC10*	5.556	1.574	2.000	12.667	0.8262
IC15*	8.333	1.942	3.000	14.556	0.1263
IC20	10.976	2.115	4.081	16.526	-0.2487
IC25	13.415	2.258	5.285	18.618	-0.5122
IC40	20.732	1.990	12.704	24.894	-0.8088
IC50	25.610	1.658	18.920	29.079	-0.8088

* indicates IC estimate less than the lowest concentration



Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19m2t	Sample ID:	Site 2 Top
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	Elutriate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	My-M. bahia
Comments:					

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	0.9000	0.9000	0.9000	0.9000
50	0.9000	0.9000	1.0000	1.0000	0.9091
100	0.3000	0.1000	0.1000	0.3000	0.0000

			Transform: Arcsin Square Root					1-Tailed			Number	Total
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5				0	50
10	0.9200	0.9200	1.2816	1.2490	1.4120	5.687	5	1.912	2.230	0.1521	4	50
50	0.9418	0.9418	1.3173	1.2490	1.4120	6.579	5	1.389	2.230	0.1521	3	51
*100	0.1600	0.1600	0.3923	0.1588	0.5796	46.772	5	14.955	2.230	0.1521	42	50

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.90186	0.868	0.16305	0.9791
Equality of variance cannot be confirmed				

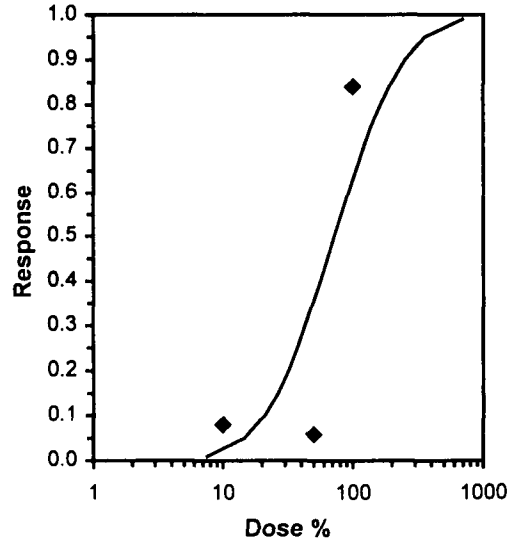
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	50	100	70.7107	2	0.06855	0.0703	1.13066	0.01162	1.7E-10	3, 16

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	2.37469	2.63034	-31.047	35.7961	0	37.315	3.84146	1.0E-09	1.85972	0.42111	4
Intercept	0.58375	4.72016	-59.391	60.5588							
TSCR											

Point	Probits	%	95% Fiducial Limits
EC01	2.674	7.58706	
EC05	3.355	14.6912	
EC10	3.718	20.8952	
EC15	3.964	26.5013	
EC20	4.158	32.0114	
EC25	4.326	37.643	
EC40	4.747	56.628	
EC50	5.000	72.3965	
EC60	5.253	92.5559	
EC75	5.674	139.236	
EC80	5.842	163.731	
EC85	6.036	197.774	
EC90	6.282	250.836	
EC95	6.645	356.762	
EC99	7.326	690.816	

Significant heterogeneity detected (p = 1.01E-09)



Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19m2b	Sample ID:	Site 2 Bottom
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	Elutriate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	My-M. bahia
Comments:					

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000
10	0.8000	1.0000	0.9000	0.8000	0.7000
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed		Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical		Mean	N-Mean
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5				1.0000	1.0000
10	0.8400	0.8400	1.1733	0.9912	1.4120	13.786	5	17.50	17.00	0.11406	0.8400	0.8400
*50	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	5	15.00	17.00	0.11406	0.0000	0.0000
*100	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	5	15.00	17.00	0.11406	0.0000	0.0000

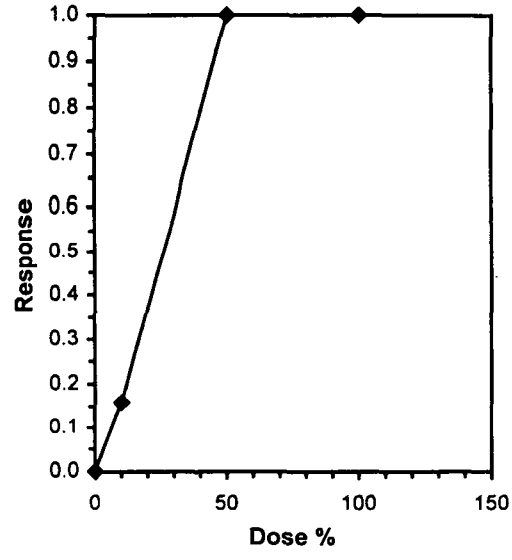
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.65476	0.868	1.06081	6.98356
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	10	50	22.3607	10

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	3.125	1.388	1.452	8.208	2.6119
IC10*	6.250	1.996	2.904	13.675	1.0598
IC15*	9.375	2.105	4.356	15.276	0.3675
IC20	11.905	2.095	6.165	17.235	0.1271
IC25	14.286	2.058	8.234	19.282	-0.0292
IC40	21.429	1.653	16.582	25.426	-0.0492
IC50	26.190	1.378	22.152	29.522	-0.0492

* indicates IC estimate less than the lowest concentration



Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19m3	Sample ID:	Site 3
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	Elutriate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	My-M. bahia
Comments:					

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	0.8000	0.8000	0.8000	1.0000	1.0000
100	0.7000	0.2000	0.8000	0.6000	0.8000

			Transform: Arcsin Square Root					Rank	1-Tailed		Number	Total
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical		Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5				0	50
10	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.22178	0	50
50	0.8800	0.8800	1.2291	1.1071	1.4120	13.586	5	20.00	17.00	0.22178	6	50
*100	0.6200	0.6200	0.9110	0.4636	1.1071	29.254	5	15.00	17.00	0.22178	19	50

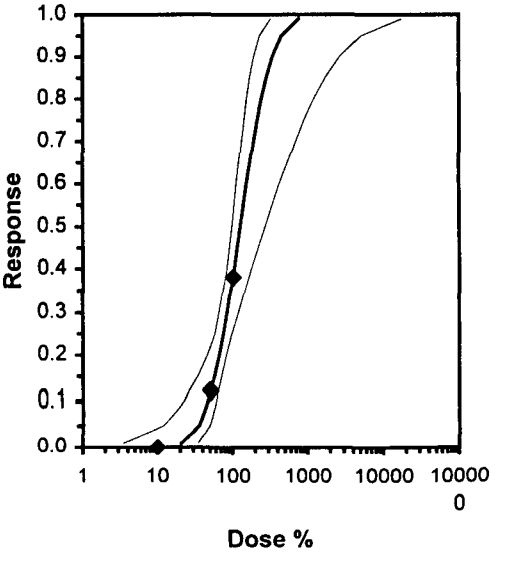
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.81038	0.868	-1.3071	4.1182
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	50	100	70.7107	2

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	2.96875	0.8711	1.26138	4.67611	0	0.03426	3.84146	0.85	2.10046	0.33684	3
Intercept	-1.2357	1.64418	-4.4583	1.98687							
TSCR											

Point	Probits	%	95% Fiducial Limits	
EC01	2.674	20.7418	3.47263	34.3515
EC05	3.355	35.1886	11.8117	49.0125
EC10	3.718	46.6421	22.3518	60.1201
EC15	3.964	56.4084	33.7454	70.285
EC20	4.158	65.6092	45.5928	81.7119
EC25	4.326	74.6899	56.911	96.433
EC40	4.747	103.543	82.9823	175.539
EC50	5.000	126.026	97.3279	269.246
EC60	5.253	153.39	112.324	419.702
EC75	5.674	212.645	140.513	890.499
EC80	5.842	242.076	153.199	1203.19
EC85	6.036	281.562	169.271	1710.47
EC90	6.282	340.518	191.706	2665.66
EC95	6.645	451.352	230.211	5152.59
EC99	7.326	765.723	323.65	17786.6



MEC ANALYTICAL SYSTEMS, INC.

96 HOUR L/SP TEST DATA SHEET 2 - REF TOX

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-009	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DIL.TN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5	<4.0	Bodega Sea Water	Temp. Scribe	copper sulfate	copper		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 preserv.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-copper	0	µg/L	0	All	20.0	6.6	2.0	20.6	2.0	28.0	4.0	8.0			MJB	X	X
				1	20.0	7.1	2.0	19.5	2.0	29.0	4.0	8.1			MJB/CL	X	X
Ref.Tox.-copper	0	µg/L	4	2	20.0	7.2	2.0	19.5	2.0	29.0	4.0	8.1			MJB/CL	X	X
				3												X	X
				4													
Ref.Tox.-copper	63	µg/L	0	All	20.0	7.0	2.0	19.1	2.0	28.0	4.0	8.0			MJB		
				1	20.0	7.7	2.0	19.9	2.0	29.0	4.0	7.8			MJB/CL		
Ref.Tox.-copper	63	µg/L	4	2	20.0	7.3	2.0	19.8	2.0	29.0	4.0	7.8			MJB/CL		
				3													
				4													
Ref.Tox.-copper	125	µg/L	0	All	20.0	7.0	2.0	19.1	2.0	28.0	4.0	8.0			MJB		
				1	20.0	7.2	2.0	19.8	2.0	29.0	4.0	7.9			MJB/CL		
Ref.Tox.-copper	125	µg/L	4	2	20.0	7.3	2.0	19.8	2.0	29.0	4.0	7.9			MJB/CL		
				3													
				4													
Ref.Tox.-copper	250	µg/L	0	All	20.0	7.1	2.0	19.1	2.0	28.0	4.0	8.0			MJB		
				1	20.0										MJB/CL		
Ref.Tox.-copper	250	µg/L	4	2	20.0	7.4	2.0	19.8	2.0	29.0	4.0	7.9			MJB/CL		
				3													
				4													
Ref.Tox.-copper	500	µg/L	0	All	20.0	7.1	2.0	19.1	2.0	28.0	4.0	8.0			MJB		
				1	20.0	7.4	2.0	19.7	2.0	29.0	4.0	7.9			MJB/CL		
Ref.Tox.-copper	500	µg/L	4	2	20.0	7.5	2.0	19.8	2.0	29.0	4.0	7.9			MJB/CL		
				3													
				4													
Ref.Tox.-copper	1000	µg/L	0	All	20.0	7.2	2.0	19.2	2.0	28.0	4.0	8.0			MJB		
				1													
				2													
Ref.Tox.-copper	1000	µg/L	4	3													
				4													

96 HOUR L/SP TEST DATA SHEET 3 - REF TOX

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Mysidopsis bahia	#VALUE!

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-009	Dr. Paul Krause	Tiburon 20 deg. room	ASTM 1997

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; LOE= loss of equilibrium; Q = quiescent; SUR= surfacing; DC = discoloration; OB = on bottom; J = jumper; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 30Jul98 TECHNICIAN SLN #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 31Jul98 TECHNICIAN SLN #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 01Aug98 TECHNICIAN MJB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 02Aug98 TECHNICIAN MJB #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.-copper	0	µg/L	1	10	10	0	N	10	0	N	10	0	N	10		
			2	10	9	0	1NB	10	0	N	10	0	N	10		
			3													
			4													
			5													
Ref.Tox.-copper	63	µg/L	1	10	10	0	N	10	0	N	10	0	N	10	0	N
			2	10	10	0	N	10	0	N	10	0	N	10	0	N
			3													
			4													
			5													
Ref.Tox.-copper	125	µg/L	1	10	10	0	N	7	3	N	7	0	N	7	0	N
			2	10	9	1	N	7	2	N	7	0	N	7	0	N
			3													
			4													
			5													
Ref.Tox.-copper	250	µg/L	1	11	7	4	N	1	6	N	0	1		0		
			2	10	7	3	N	2	5	N	1	1	N	1	0	N
			3													
			4													
			5													
Ref.Tox.-copper	500	µg/L	1	10	9	0	1NB	8	2	N	1	1	N	1	0	N
			2	10	7	1	2NB	1	8	N	1	0	N	0	1	
			3													
			4													
			5													
Ref.Tox.-copper	1000	µg/L	1	10	6	4	N	1	5	N	0	1		0		
			2	10	6	4	N	1	5	N	0	1		0		
			3													
			4													
			5													

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 96-hour liquid/suspended phase test

Mysidopsis bahia

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	SURVIVAL		
				INITIAL	FINAL	% SURVIVAL
Ref.Tox.-copper	Ref.Tox.-copper	0 mg/L	1	10	10	100.0%
Ref.Tox.-copper	Ref.Tox.-copper	0 mg/L	2	10	10	100.0%
Ref.Tox.-copper	Ref.Tox.-copper	0 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	0 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	0 mg/L	5			
Ref.Tox.-copper	Ref.Tox.-copper	63 mg/L	1	10	10	100.0%
Ref.Tox.-copper	Ref.Tox.-copper	63 mg/L	2	10	10	100.0%
Ref.Tox.-copper	Ref.Tox.-copper	63 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	63 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	63 mg/L	5			
Ref.Tox.-copper	Ref.Tox.-copper	125 mg/L	1	10	7	70.0%
Ref.Tox.-copper	Ref.Tox.-copper	125 mg/L	2	10	7	70.0%
Ref.Tox.-copper	Ref.Tox.-copper	125 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	125 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	125 mg/L	5			
Ref.Tox.-copper	Ref.Tox.-copper	250 mg/L	1	11	0	0.0%
Ref.Tox.-copper	Ref.Tox.-copper	250 mg/L	2	10	1	10.0%
Ref.Tox.-copper	Ref.Tox.-copper	250 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	250 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	250 mg/L	5			
Ref.Tox.-copper	Ref.Tox.-copper	500 mg/L	1	10	1	10.0%
Ref.Tox.-copper	Ref.Tox.-copper	500 mg/L	2	10	0	0.0%
Ref.Tox.-copper	Ref.Tox.-copper	500 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	500 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	500 mg/L	5			
Ref.Tox.-copper	Ref.Tox.-copper	1000 mg/L	1	10	0	0.0%
Ref.Tox.-copper	Ref.Tox.-copper	1000 mg/L	2	10	0	0.0%
Ref.Tox.-copper	Ref.Tox.-copper	1000 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	1000 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	1000 mg/L	5			

Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19mrf	Sample ID:	REF-Ref Toxicant
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	CUSO-Copper sulfate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	My-M. bahia
Comments:					

Conc-ug/L	1	2
D-Control	1.0000	0.9000
63	1.0000	1.0000
125	0.7000	0.7000
250	0.0000	0.1000
500	0.1000	0.0000
1000	0.0000	0.0000

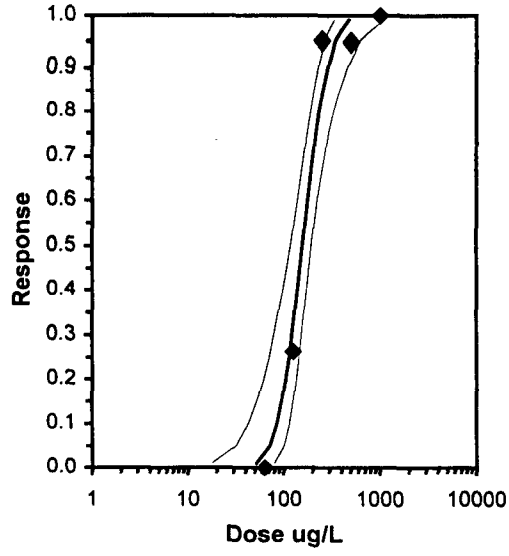
Conc-ug/L	Mean	N-Mean		Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	0.9500	1.0000	1.33053	1	19	20	2			1	20
63	1.0000	1.0526	1.41202	0	20	20	2	0.5000	0.0500	0	20
*125	0.7000	0.7368	0.99116	6	14	20	2	0.0457	0.0500	6	20
*250	0.0476	0.0501	0.23654	20	1	21	2	0.0000	0.0500	20	21
*500	0.0500	0.0526	0.24027	19	1	20	2	0.0000	0.0500	19	20
*1000	0.0000	0.0000	0.15878	20	0	20	2	0.0000	0.0500	20	20

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	63	125	88.7412	

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	4.83155	1.11215	2.65174	7.01136	0.05	7.41013	7.81472	0.06	2.19567	0.20697	8
Intercept	-5.6085	2.49423	-10.497	-0.7198							
TSCR	0.03421	0.03646	-0.0373	0.10567							

Point	Probits	ug/L	95% Fiducial Limits	
EC01	2.674	51.7825	17.727	79.5392
EC05	3.355	71.6529	31.6447	100.72
EC10	3.718	85.1976	42.9415	114.646
EC15	3.964	95.7548	52.6322	125.424
EC20	4.158	105.071	61.7412	134.992
EC25	4.326	113.782	70.6577	144.075
EC40	4.747	139.071	97.96	172.022
EC50	5.000	156.918	117.518	194.179
EC60	5.253	177.056	138.689	222.813
EC75	5.674	216.409	175.099	292.132
EC80	5.842	234.351	189.608	329.512
EC85	6.036	257.151	206.647	381.724
EC90	6.282	289.015	228.565	462.771
EC95	6.645	343.648	262.801	621.684
EC99	7.326	475.516	335.888	1099.51



Laboratory Mean (ug/L)

~~323~~

LC50=323.5 ± 166.2

LC25=199.2 ± 101.5

NOEC=203.3 ± 200

MEC ANALYTICAL SYSTEMS, INC.

96 HOUR L/SP TEST DATA SHEET 2 - REF TOX WQ

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Mysidopsis bahia	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	15±2	30±2	> 5.0	< 4.0	Bodega Sea Water		copper sulfate	copper		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 preserv.	OVER. NH3 mg/L			TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-copper	0	µg/L	0	All	20	6.6	2	20.6	2	28	4	8.00						✓	✓
Ref.Tox.-copper	0	µg/L	4	1		7.7	2	19.9	2	29	4	8.06						✓	✓
				2		7	2		2		4	8.05						✓	✓
				3														✓	✓
				4															
				5															
Ref.Tox.-copper	63	µg/L	0	All	20	7.0	2	19.1	2	28	4	7.99							
Ref.Tox.-copper	63	µg/L	4	1		7.7		19.9	2	29	4	7.79							
				2		7.3		19.8	2	29	4	7.82							
				3															
				4															
				5															
Ref.Tox.-copper	125	µg/L	0	All	20	7.0		19.1	2	28	4	7.99							
Ref.Tox.-copper	125	µg/L	4	1		7.2		19.8	2	29	4	7.85							
				2		7.3		19.8	2	29	4	7.85							
				3															
				4															
				5															
Ref.Tox.-copper	250	µg/L	0	All	20	7.1		19.1	2	28	4	7.99							
Ref.Tox.-copper	250	µg/L	4	1		~~7.4~~													
				2		7.4		19.8	2	29	4	7.85							
				3															
				4															
				5															
Ref.Tox.-copper	500	µg/L	0	All	20	7.1		19.1	2	28	4	7.98							
Ref.Tox.-copper	500	µg/L	4	1		7.4		19.7	2	29	4	7.88							
				2		7.5		19.8	2	29	4	7.88							
				3															
				4															
				5															
Ref.Tox.-copper	1000	µg/L	0	All	20	7.2	2	19.2	2	28	4	7.95							
Ref.Tox.-copper	1000	µg/L	4	1															
				2															
				3															
				4															
				5															

Day1
Day2
Day3
Day4

401127

96 HOUR L/SP TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Mysidopsis bahia	<5 %

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. P.Krause	Tiburon 20 deg. room	ASTM97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; DC = discoloration; LOE = loss of equilibrium; OB = on bottom; Q = quiescent; J = jumper; SUR = surfacing; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE: 07/30/98 TECHNICIAN: SW #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE: 07/31/98 TECHNICIAN: SW #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE: 08/01/98 TECHNICIAN: MSB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE: 08/02/98 TECHNICIAN: MSB #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Rep 1+2			1	~~10~~ ~~10~~	~~9~~ 10	0		8	1	INB	8			10		
			2	10	10			9	0		9			9		
Ref.Tox.-copper	0	µg/L	3													
			4													
			5													
	~~SW~~ 07/30/98 (A)		1	~~9~~ ~~10~~	~~9~~ 10	~~0~~ 4	N	10	0	N	10		N	10		N
			2	10	10	0	N	10	0	N	10		N	10		N
Ref.Tox.-copper	63	µg/L	3													
			4													
			5													
			1	10	10	0	N	7	3	N	7		N	7		N
			2	~~9~~ 10	9	1	N	7	2	N	7		N	7		N
Ref.Tox.-copper	125	µg/L	3													
			4													
			5													
			1	10	~~7~~	4	N	1	6	N	0	1				
			2	10	7	3	N	2	5	N	1	1	N	1		N
Ref.Tox.-copper	250	µg/L	3													
			4													
			5													
	* 07/31/98 (A)		1	10	9	0	INB	8	2	N	1	1	N	1		N
			2	10	~~7~~	1	2ND	1	8	~~N~~ INB	1	0	N	0	1	
Ref.Tox.-copper	500	µg/L	3													
			4													
			5													
			1	10	6	4	N	1	5	N	0	1				
			2	10	6	4	N	1	5	N	0	1				
Ref.Tox.-copper	1000	µg/L	3													
			4													
			5													

Checked by: 08/11/98 121100

TEST CONCENTRATION PREPARATION
(Dilutions)

Lab Form 59 (rev. 9/89)
MEC Analytical Systems
3150 Paradise Dr., Bldg 36
Tiburon, CA 94920

Study Number 0719-019
Study Director PK

Species: M.bahia
Prepared by: mjb
Test Material: Copper Sulfate--- 500 mg/L
No. of Replicates: 2

	Concentration µg Cu/L	Diluent 1 30 ‰ Seawater	mLs Diluent 2	Salt	100% Test Material	___ % Test Material
1)	Control	1000				
2)						
3)	63	1000			0.5	
4)	125	999			1.0	
5)	250	998			2.0	
6)	500	996			3.9	
7)	1000	992			7.9	
8)						
9)						
10)						
	DAY	0				
	Date/ID	02/29/98 SG, MSB				

Species: M. bahia
Prepared by: mjb
Test Material: Elutriate
No. of Replicates: 5

	Concentration %	1BOT 2BOT Diluent 1 30 ‰ Seawater	mLs Diluent 2	Salt 1BOT 2BOT	100% Test Material	___ % Test Material
1)	Control	1000				
2)						
3)	10	450 900		50	100	
4)	50	250 500		250	500	
5)	100	0 0		500	1000	
6)						
7)						
8)						
9)						
10)						
	DAY	0				
	Date/ID	02/29/98 MSB				

Checked By: _____ Checkbacked by: MSB 08/11/98

131109

96-HOUR LIQUID/SUSPENDED PHASE TEST
INTERACTIVE DATA SETUP

GENERAL

CLIENT:	ACOE
PROJECT:	L.A.
MEC JOB NUMBER:	0719-019
PROJECT MANAGER:	Dr. Paul Krause
TEST SPECIES:	*Menidia beryllina*
TEST PROTOCOL:	ASTM 1997
MEC LABORATORY:	Tiburon
TEST LOCATION:	20 deg. room
TEST START DATE:	29Jul98
TEMP. RECORDER#:	Temp. Scribe
DILUTION WATER BATCH:	Bodega Seawater
FEEDING INFORMATION:	0.2 mL Artemia nauplii- day 0 & 2
WATER RENEWAL INFO:	none

SAMPLE

DATE RECEIVED AT MEC:	22Jul98
SAMPLE STORAGE:	4 Degrees Celsius - dark
SAMPLE TREATMENT:	4:1 seawater:sediment ratio
TEST CHAMBER:	600 mL beakers
EXPOSURE VOLUME:	500 mL
REFERENCE TOXICANT:	copper
REF. TOX. MATERIAL:	copper sulfate

REFTOX CONC (µg/L)
0
25.5
51
102
204
408

	CLIENT SAMPLE ID	MEC SAMPLE ID	CONTROL ID	MEC CONTROL ID
1	Site 1-Top	T980722.05	Control A	.
2	Site 1- Bottom	T980722.06		
3	Site 2- Top	T980722.03		
4	Site 2- Bottom	T980722.04		
5	Site 3	T980722.07		
6	.	.	.	.
7	.	.		
8	.	.		
9	.	.		
10	.	.		
11	.	.	.	.
12	.	.		
13	.	.		
14	.	.		
15	.	.		
16	.	.	.	.
17	.	.		
18	.	.		
19	.	.		
20	.	.		
21	.	.	.	.
22	.	.		
23	.	.		
24	.	.		
25	.	.		

96 HOUR L/SP TEST DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. Paul Krause	Tiburon 20 deg. room	ASTM 1997

GENERAL TEST INFORMATION

SPECIES: *Menidia beryllina*		
SUPPLIER: Aquatic Indicators		ORGANISM BATCH NO.: Mb072998
DATE RECEIVED: 29Jul98	TIME RECEIVED: 1130	ARRIVAL VIA: Fed Ex
QUANITY ORDERED: 1200	AGE: 11days	SPECIES CODE: Mb
GENERAL CONDITION: Active		

SAMPLE STORAGE: 4 Degrees Celsius - dark	
SEDIMENT TREATMENT: 4:1 seawater:sediment ratio	
CONTROL SEDIMENT ID: N.A.	
CONTROL SEDIMENT SUPPLIER: N.A.	
TEST CHAMBERS: 600 mL beakers	

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
29Jul98	1130	20.0	21.4	28.0	6.8	n.a.	x		N.A.	15	1185	ARRIVAL	sln

ACCLIMATION MORTALITY: 0%

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS INC.

CLIENT	PROJECT
ACOE	L.A.
MEC JOB NUMBER	**PROJECT MANAGER**
0719-019	Dr. Paul Krause

SPECIES	MEC LABORATORY	PROTOCOL
Menidia beryllina	Tiburon 20 deg. room	ASTM 1997

TEST START DATE	TIME	TEST END DATE	TIME
29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0		Bodega Seawater	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION		DAY	REP	D.O.		TEMP.		SALINITY		pH		OVER. NH3		test		TECHNICIAN	FEEDING	
	value	units			meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L				am	pm
Control A / .	0	%	0	All	20.0	6.6	2.0	20.6	2.0	28.0	4.0	8.0	MJB	0.4			MJB		X
Control A / .	0	%	1	1	20.0	6.8	2.0	20.0	2.0	28.0	21.0	8.0	SB	0.4			SLN/SC		
Control A / .	0	%	2	2	20.0	7.0	2.0	20.1	2.0	28.0	22.0	8.1	SB	0.3			SB/SC	X	
Control A / .	0	%	3	3	20.0	7.4	2.0	19.6	2.0	29.0	4.0	8.0	CL	0.4			MJB/CL		
Control A / .	0	%	4	1	20.0	7.6	2.0	19.8	2.0	29.0	4.0	7.9		NT			MJB/CL		
				2	20.0	7.6	2.0	19.8	2.0	29.0	4.0	7.9		NT			MJB/CL		
				3	20.0	7.6	2.0	19.7	2.0	29.0	4.0	8.0		NT			MJB/CL		
				4	20.0	7.7	2.0	19.5	2.0	30.0	4.0	8.1		NT			MJB/CL		
				5	20.0	7.8	2.0	19.4	2.0	31.0	4.0	8.2		NT			MJB/CL		

MEC ANALYTICAL SYSTEMS, INC.

96 HOUR L/SP TEST DATA SHEET 2

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)			DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0			Bodega Seawater	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	test		TECHNICIAN	FEEDING am	FEEDING pm
Site 1-Top / T980722.05	10	%	0	All	20.0	6.5	2.0	20.6	2.0	28.0	4.0	8.2	MJB	0.7			MJB		X
Site 1-Top / T980722.05	10	%	1	1	20.0	6.4	2.0	20.2	2.0	28.0	4.0	8.1	SB	1.0			SC/SLN		
Site 1-Top / T980722.05	10	%	2	2	20.0	7.0	2.0	20.1	2.0	28.0	21.0	8.2	SB	0.6			SB/SC	X	
Site 1-Top / T980722.05	10	%	3	3	20.0	7.3	2.0	19.7	2.0	29.0	4.0	8.0	CL	0.8			MJB/CL		
Site 1-Top / T980722.05	10	%	4	1	20.0	7.7	2.0	19.4	2.0	30.0	4.0	8.2	CL	0.6			MJB/CL		
				2	20.0	7.9	2.0	19.6	2.0	29.0	4.0	8.2	CL	0.7			MJB/CL		
				3	20.0	7.8	2.0	19.7	2.0	29.0	4.0	8.1	CL	0.8			MJB/CL		
				4	20.0	7.8	2.0	19.7	2.0	29.0	4.0	8.2	CL	0.9			MJB/CL		
				5	20.0	7.7	2.0	19.7	2.0	30.0	4.0	8.2	CL	0.9			MJB/CL		
Site 1-Top / T980722.05	50	%	0	All	20.0	6.6	2.0	20.9	2.0	28.0	4.0	8.0	MJB	4.0			MJB		X
Site 1-Top / T980722.05	50	%	1	1	20.0	6.4	2.0	19.9	2.0	28.0	4.0	8.3	SB	5.1			SC/SLN		
Site 1-Top / T980722.05	50	%	2	2	20.0	7.0	2.0	20.2	2.0	29.0	21.0	8.2	SB	1.7			SB/SC	X	
Site 1-Top / T980722.05	50	%	3	3	20.0	7.3	2.0	19.7	2.0	29.0	4.0	8.3	CL	3.1			MJB/CL		
Site 1-Top / T980722.05	50	%	4	1	20.0	7.8	2.0	19.9	2.0	30.0	4.0	8.3	CL	2.4			MJB/CL		
				2	20.0	7.8	2.0	19.9	2.0	29.0	4.0	8.3	CL	2.7			MJB/CL		
				3	20.0	7.8	2.0	19.9	2.0	30.0	4.0	8.3	CL	2.8			MJB/CL		
				4	20.0	7.8	2.0	19.9	2.0	29.0	4.0	8.3	CL	2.7			MJB/CL		
				5	20.0	7.8	2.0	19.9	2.0	29.0	4.0	8.3	CL	2.7			MJB/CL		
Site 1-Top / T980722.05	100	%	0	All	20.0	6.5	2.0	20.9	2.0	28.0	4.0	8.2	MJB	8.2			MJB/CL		X
Site 1-Top / T980722.05	100	%	1	1	20.0	6.6	2.0	20.1	2.0	29.0	4.0	8.4	SB	9.3			SC/SLN		
Site 1-Top / T980722.05	100	%	2	2	20.0	7.0	2.0	20.2	2.0	29.0	21.0	8.3	SB	3.2			SB/SC	X	
Site 1-Top / T980722.05	100	%	3	3	20.0	7.5	2.0	19.9	2.0	29.0	4.0	8.3	CL	6.1			MJB/CL		
Site 1-Top / T980722.05	100	%	4	1															
				2															
				3	20.0	7.7	2.0	19.9	2.0	29.0	4.0	8.4	CL	4.3			MJB/CL		
				4	20.0	7.8	2.0	19.9	2.0	29.0	4.0	8.4	CL	4.3			MJB/CL		
				5															

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0		Bodega Seawater	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	test		TECHNICIAN	FEEDING am	FEEDING pm
Site 1- Bottom / T980722.06	10	%	0	All	20.0	6.7	2.0	20.9	2.0	28.0	4.0	8.0	MJB	5.1			MJB		X
Site 1- Bottom / T980722.06	10	%	1	1	20.0	6.8	2.0	19.9	2.0	28.0	4.0	8.1	SB	5.4			SC/SLN		
Site 1- Bottom / T980722.06	10	%	2	2	20.0	7.1	2.0	20.3	2.0	29.0	21.0	8.1	SB	2.3			SB/SC	X	
Site 1- Bottom / T980722.06	10	%	3	3	20.0	7.5	2.0	19.9	2.0	29.0	4.0	8.1	CL	3.1			MJB/CL		
Site 1- Bottom / T980722.06	10	%	4	1	20.0	7.6	2.0	20.1	2.0	29.0	4.0	8.1	CL	3.4			MJB/CL		
				2	20.0	7.7	2.0	20.0	2.0	29.0	4.0	8.1	CL	3.0			MJB/CL		
				3	20.0	7.8	2.0	19.9	2.0	30.0	4.0	8.2	CL	3.0			MJB/CL		
				4	20.0	7.7	2.0	19.7	2.0	29.0	4.0	8.2	CL	2.4			MJB/CL		
				5	20.0	8.0	2.0	19.7	2.0	29.0	4.0	8.2	CL	2.8			MJB/CL		
Site 1- Bottom / T980722.06	50	%	0	All	20.0	6.6	2.0	20.9	2.0	28.0	4.0	8.0	MJB	20.7			MJB		X
Site 1- Bottom / T980722.06	50	%	1	1	20.0	6.8	2.0	20.0	2.0	29.0	4.0	8.2	SB	26.1			SC/SLN		
Site 1- Bottom / T980722.06	50	%	2	2	20.0	7.0	2.0	20.3	2.0	29.0	21.0	8.3	SB	11.2			SB/SC	X	
Site 1- Bottom / T980722.06	50	%	3	3															
Site 1- Bottom / T980722.06	50	%	4	1															
				2															
				3															
				4															
				5															
Site 1- Bottom / T980722.06	100	%	0	All	20.0	6.6	2.0	21.1	2.0	29.0	4.0	8.1	MJB	45.9			MJB		X
Site 1- Bottom / T980722.06	100	%	1	1	20.0	6.8	2.0	20.0	2.0	29.0	4.0	8.3	SB	56.9					
Site 1- Bottom / T980722.06	100	%	2	2															
Site 1- Bottom / T980722.06	100	%	3	3															
Site 1- Bottom / T980722.06	100	%	4	1															
				2															
				3															
				4															
				5															

MEC ANALYTICAL SYSTEMS, INC.

96 HOUR L/SP TEST DATA SHEET 2

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0		Bodega Seawater	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION		DAY	REP	D.O.		TEMP.		SALINITY		pH		OVER. NH3		test		TECHNICIAN	FEEDING	
	value	units			meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L				am	pm
Site 2- Top / T980722.03	10	%	0	All	20.0	7.3	2.0	20.9	2.0	28.0	4.0	8.0	MJB	1.6			MJB		X
Site 2- Top / T980722.03	10	%	1	1	20.0	6.7	2.0	20.0	2.0	28.0	4.0	8.1	SB	1.9			SC/SLN		
Site 2- Top / T980722.03	10	%	2	2	20.0	7.3	2.0	20.1	2.0	29.0	21.0	8.0	SB	1.1			SB/SC	X	
Site 2- Top / T980722.03	10	%	3	3	20.0	7.8	2.0	19.8	2.0	29.0	4.0	8.1	CL	1.2			MJB/CL		
Site 2- Top / T980722.03	10	%	4	1	20.0	7.8	2.0	20.0	2.0	29.0	4.0	8.2	CL	1.3			MJB/CL		
				2	20.0	7.8	2.0	19.7	2.0	30.0	4.0	8.2	CL	1.3			MJB/CL		
				3	20.0	7.9	2.0	19.7	2.0	29.0	4.0	8.2	CL	1.3			MJB/CL		
				4	20.0	7.9	2.0	19.8	2.0	29.0	4.0	8.1	CL	1.3			MJB/CL		
				5	20.0	8.0	2.0	19.9	2.0	29.0	4.0	8.1	CL	1.3			MJB/CL		
Site 2- Top / T980722.03	50	%	0	All	20.0	7.4	2.0	20.9	2.0	28.0	4.0	8.0	MJB	7.1			MJB		X
Site 2- Top / T980722.03	50	%	1	1	20.0	6.7	2.0	20.0	2.0	28.0	4.0	8.3	SB	7.0			SC/SLN		
Site 2- Top / T980722.03	50	%	2	2	20.0	6.7	2.0	20.2	2.0	29.0	21.0	8.2	SB	3.2			SB/SC	X	
Site 2- Top / T980722.03	50	%	3	3	20.0	7.8	2.0	19.7	2.0	29.0	4.0	8.5	CL	3.9			MJB/CL		
Site 2- Top / T980722.03	50	%	4	1	20.0	8.2	2.0	20.0	2.0	29.0	4.0	8.4	CL	3.6			MJB/CL		
				2	20.0	8.1	2.0	19.9	2.0	29.0	4.0	8.3	CL	4.0			MJB/CL		
				3	20.0	8.1	2.0	19.9	2.0	30.0	4.0	8.4	CL	3.4			MJB/CL		
				4	20.0	8.0	2.0	19.8	2.0	29.0	4.0	8.4	CL	3.8			MJB/CL		
				5	20.0	8.1	2.0	19.8	2.0	29.0	4.0	8.4	CL	3.9			MJB/CL		
Site 2- Top / T980722.03	100	%	0	All	20.0	7.4	2.0	21.0	2.0	28.0	4.0	8.2	MJB	13.7			MJB		X
Site 2- Top / T980722.03	100	%	1	1	20.0	6.8	2.0	19.9	2.0	29.0	4.0	8.6	SB	14.6			SC/SLN		
Site 2- Top / T980722.03	100	%	2	2	20.0	6.6	2.0	20.2	2.0	29.0	21.0	8.3	SB	7.6			SB/SC	X	
Site 2- Top / T980722.03	100	%	3	3															
Site 2- Top / T980722.03	100	%	4	1															
				2															
				3															
				4															
				5															

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0		Bodega Seawater	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION		DAY	REP	D.O.		TEMP.		SALINITY		pH		OVER. NH3		test		TECHNICIAN	FEEDING	
	value	units			meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L				am	pm
Site 2- Bottom / T980722.04	10	%	0	All	20.0	7.1	2.0	20.9	2.0	28.0	4.0	8.1	MJB	4.8			MJB		
Site 2- Bottom / T980722.04	10	%	1	1	20.0	7.0	2.0	19.8	2.0	28.0	4.0	8.3	SB	4.0			SC/SLN		X
Site 2- Bottom / T980722.04	10	%	2	2	20.0	7.0	2.0	20.2	2.0	28.0	21.0	8.1	SB	2.8			SB/SC		
Site 2- Bottom / T980722.04	10	%	3	3	20.0	7.9	2.0	19.7	2.0	29.0	4.0	8.2	CL	3.6			MJB/CL	X	
Site 2- Bottom / T980722.04	10	%	4	1	20.0	7.8	2.0	19.9	2.0	30.0	4.0	8.3	CL	2.7			MJB/CL		
				2	20.0	7.9	2.0	19.9	2.0	29.0	4.0	8.3	CL	3.1			MJB/CL		
				3	20.0	7.9	2.0	19.9	2.0	29.0	4.0	8.2	CL	3.1			MJB/CL		
				4	20.0	7.9	2.0	19.8	2.0	29.0	4.0	8.2	CL	3.1			MJB/CL		
				5	20.0	8.0	2.0	19.9	2.0	30.0	4.0	8.2	CL	3.1			MJB/CL		
Site 2- Bottom / T980722.04	50	%	0	All	20.0	7.2	2.0	20.9	2.0	28.0	4.0	8.1	MJB	24.1			MJB		X
Site 2- Bottom / T980722.04	50	%	1	1	20.0	7.0	2.0	19.9	2.0	29.0	4.0	8.3	SB	22.5			SC/SLN		
Site 2- Bottom / T980722.04	50	%	2	1	20.0	7.0	2.0	20.3	2.0	29.0	21.0	8.3	CL	12.5			SB/SC	X	
Site 2- Bottom / T980722.04	50	%	3	3															
Site 2- Bottom / T980722.04	50	%	4	1															
				2															
				3															
				4															
				5															
Site 2- Bottom / T980722.04	100	%	0	All	20.0	7.3	2.0	20.5	2.0	29.0	4.0	8.3	MJB	46.6			MJB		X
Site 2- Bottom / T980722.04	100	%	1	1	20.0	7.1	2.0	19.9	2.0	29.0	4.0	8.5	SB	45.6			SC/SLN		
Site 2- Bottom / T980722.04	100	%	2	2													SB/SC	X	
Site 2- Bottom / T980722.04	100	%	3	3															
Site 2- Bottom / T980722.04	100	%	4	1															
				2															
				3															
				4															
				5															

MEC ANALYTICAL SYSTEMS, INC.

96 HOUR L/SP TEST DATA SHEET 2

CLIENT	PROJECT
ACOE	L.A.

MEC JOB NUMBER	PROJECT MANAGER
0719-019	Dr. Paul Krause

SPECIES	MEC LABORATORY	PROTOCOL
Menidia beryllina	Tiburon 20 deg. room	ASTM 1997

TEST START DATE	TIME	TEST END DATE	TIME
29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 4.5	20±2	30±2	8.0±0.5	<4.0		Bodega Seawater	Temp. Scribe

CLIENT/ MEC ID	CONCENTRATION		DAY	REP	D.O.		TEMP.		SALINITY		pH		OVER. NH3		test		TECHNICIAN	FEEDING	
	value	units			meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L				am	pm
Site 3 / T980722.07	10	%	0	All	20.0	6.9	2.0	20.8	2.0	28.0	4.0	8.0	MJB	1.3			MJB		X
Site 3 / T980722.07	10	%	1	1	20.0	7.0	2.0	19.9	2.0	28.0	4.0	8.2	SB	1.4			SC/SLN		
Site 3 / T980722.07	10	%	2	2	20.0	7.0	2.0	20.2	2.0	29.0	21.0	8.2	SB	0.9			SB/SC	X	
Site 3 / T980722.07	10	%	3	3	20.0	8.0	2.0	19.9	2.0	29.0	4.0	8.2	CL	0.8			MJB/CL		
Site 3 / T980722.07	10	%	4	1	20.0	7.9	2.0	19.9	2.0	29.0	4.0	8.2	CL	1.1			MJB/CL		
				2	20.0	7.9	2.0	19.9	2.0	29.0	4.0	8.2	CL	1.1			MJB/CL		
				3	20.0	8.0	2.0	19.9	2.0	29.0	4.0	8.2	CL	1.0			MJB/CL		
				4	20.0	8.1	2.0	19.8	2.0	30.0	4.0	8.2	CL	1.0			MJB/CL		
				5	20.0	8.3	2.0	19.8	2.0	30.0	4.0	8.1	CL	1.0			MJB/CL		
Site 3 / T980722.07	50	%	0	All	20.0	7.3	2.0	20.9	2.0	28.0	4.0	7.9	MJB	4.3			MJB		X
Site 3 / T980722.07	50	%	1	1	20.0	7.0	2.0	19.9	2.0	28.0	4.0	8.1	SB	4.1			SC/SLN		
Site 3 / T980722.07	50	%	2	2	20.0	7.1	2.0	19.6	2.0	29.0	21.0	8.4	SB	2.4			SB/SC	X	
Site 3 / T980722.07	50	%	3	3	20.0	7.2	2.0	19.8	2.0	29.0	4.0	8.2	CL	3.1			MJB/CL		
Site 3 / T980722.07	50	%	4	1	20.0	8.0	2.0	19.9	2.0	30.0	4.0	8.2	CL	3.1			MJB/CL		
				2	20.0	7.9	2.0	19.9	2.0	30.0	4.0	8.3	CL	2.4			MJB/CL		
				3	20.0	7.9	2.0	19.7	2.0	29.0	4.0	8.4	CL	2.7			MJB/CL		
				4	20.0	8.2	2.0	19.7	2.0	30.0	4.0	8.4	CL	2.5			MJB/CL		
				5	20.0	8.2	2.0	19.7	2.0	29.0	4.0	8.3	CL	2.6			MJB/CL		
Site 3 / T980722.07	100	%	0	All	20.0	7.4	2.0	21.0	2.0	29.0	4.0	8.2	MJB	10.7			MJB		X
Site 3 / T980722.07	100	%	1	1	20.0	6.9	2.0	19.9	2.0	29.0	4.0	8.4	SB	8.1			SC/SLN		
Site 3 / T980722.07	100	%	2	2	20.0	7.1	2.0	19.9	2.0	29.0	21.0	8.5	SB	5.4			SB/SC	X	
Site 3 / T980722.07	100	%	3	3	20.0	7.3	2.0	19.8	2.0	29.0	4.0	8.5	CL	5.4			MJB/CL		
Site 3 / T980722.07	100	%	4	1															
				2															
				3															
				4															
				5															

96 HOUR L/SP TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Menidia beryllina	< 5%

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. Paul Krause	Tiburon 20 deg. room	ASTM 1997

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; DC = discoloration
LOE = loss of equilibrium; OB = on bottom
Q = quiescent; J = jumper
SUR = surfacing; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 30Jul98 TECHNICIAN SC #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 31Jul98 TECHNICIAN SC #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 01Aug98 TECHNICIAN MJB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 02Aug98 TECHNICIAN CL #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Control A / .	0	%	1	10	10	0	N	10	0	N	10	0	N	10	0	N
			2	10	9	1	N	9	0	N	9	0	1Q/N	8	1	N
			3	10	10	0	N	10	0	N	10	0	N	10	0	N
			4	10	10	0	N	10	0	N	10	0	N	10	0	N
			5	10	10	0	N	10	0	N	10	0	N	10	0	N
Site 1-Top / T980722.05	10	%	1	10	10	0	N	10	0	N	10	0	N	9	1	N
			2	10	9	0	N	10	0	N	10	0	N	10	0	N
			3	10	10	0	N	10	0	N	10	0	N	10	0	N
			4	9	9	0	1NB	9	0	N	9	0	N	9	0	N
			5	10	10	0	N	10	0	N	10	0	N	10	0	N
Site 1-Top / T980722.05	50	%	1	10	9	1	N	9	5	N	9	0	N	9	0	N
			2	10	10	0	N	8	2	2LOE	8	0	N	8	0	N
			3	10	10	0	N	10	0	N	10	0	N	10	0	N
			4	10	10	0	N	8	2	3SUR	8	0	N	8	0	N
			5	10	10	0	N	10	0	1LOE/SUR	10	0	N	10	0	N
Site 1-Top / T980722.05	100	%	1	10	5	5	3LOE/SUR	0	5		0			0		
			2	10	10	0	4LOE	3	7	LOE/Q/OB	0	3		0		
			3	10	10	0	Q,OB	10	0	LOE/Q	8	1	1INB/OB	5	3	N
			4	10	10	0	1LOE	10	0	LOE/SUR	8	2	8OB	4	4	3Q
			5	10	7	3	Q,OB,2LOE	0	7		0			0		
Site 1-Bottom / T980722.06	10	%	1	11	10	1	N/1EXTRA	10	0	N	10	0	N	10	0	N
			2	10	10	0	N	10	0	N	10	0	N	10	0	N
			3	10	10	0	N	10	0	1LOE/SUR	10	0	N	10	0	N
			4	10	9	1	N	9	0	N	8	1	N	7	1	N
			5	10	10	0	N	10	0	3Q/N	10	0	N	9	1	N
Site 1-Bottom / T980722.06	50	%	1	10	1	9	SUR	0	1		0			0		
			2	10	2	8	LOE/SUR	0	2		0			0		
			3	10	0	10		0			0			0		
			4	10	0	10		0			0			0		
			5	10	0	10		0			0			0		
Site 1-Bottom / T980722.06	100	%	1	10	0	10		0			0			0		
			2	10	0	10		0			0			0		
			3	10	0	10		0			0			0		
			4	10	0	10		0			0			0		
			5	10	0	10		0			0			0		

96 HOUR L/SP TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Menidia beryllina	< 5%

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. Paul Krause	Tiburon 20 deg. room	ASTM 1997

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; LOE = loss of equilibrium; Q = quiescent; SUR = surfacing; DC = discoloration; OB = on bottom; J = jumper; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 30Jul98 TECHNICIAN SC #ALIVE	#DEAD	OBS	DAY 2 DATE 31Jul98 TECHNICIAN SC #ALIVE	#DEAD	OBS	DAY 3 DATE 01Aug98 TECHNICIAN MJB #ALIVE	#DEAD	OBS	DAY 4 DATE 02Aug98 TECHNICIAN CL #ALIVE	#DEAD	OBS
Site 2- Top / T980722.03	10 %		1	10	10	0	1NB	10	0	N	10	0	N	10	0	N
			2	10	10	0	1LOE/SUR	10	0	N	10	0	N	10	0	N
			3	10	10	0	N	10	0	1LOE	10	0	N	10	0	N
			4	10	9	0	1NB	9	0	N	9	0	N	9	0	1LOE
			5	10	9	0	1NB	9	0	N	9	0	N	9	0	N
Site 2- Top / T980722.03	50 %		1	10	10	0	4SUR/1LOE	6	4	6Q, LOE	3	3	Q	3	0	2LOE, Q
			2	6	6	0	4NB	6	0	Q/OB	6	0	N	6	0	N
			3	10	10	0	1LOE/2SUR	1	9	LOE/OB	1	0	N	1	0	OB/Q
			4	10	10	0	9SUR	10	0	LOE, OB/4S	9	1	N/1Q	8	1	1OB, LOE
			5	10	10	0	1LOE/SUR	9	1	2LOE/Q	8	1	Q	8	0	Q
Site 2- Top / T980722.03	100 %		1	10	0	10		0			0			0		
			2	10	0	10		0			0			0		
			3	10	7	3	LOE/Q/OB	0	7		0			0		
			4	10	0	10		0			0			0		
			5	10	9	1	LOE/Q/OB	0	9		0			0		
Site 2- Bottom / T980722.04	10 %		1	10	10	0	N	10	0	N	10	0	N	10	0	N
			2	10	10	0	N	10	0	2LOE	10	0	N	10	0	N
			3	10	10	0	2LOE/1Q, OB	10	0	N	10	0	N	9	1	N
			4	10	10	0	N	9	1	Q	9	0	1Q/N	9	0	1OB, Q
			5	10	10	0	N	10	0	N	10	0	N	9	1	N
Site 2- Bottom / T980722.04	50 %		1	10	2	8	LOE/SUR	0	2		0			0		
			2	10	0	10		0			0			0		
			3	10	0	10		0			0			0		
			4	10	0	10		0			0			0		
			5	10	0	10		0			0			0		
Site 2- Bottom / T980722.04	100 %		1	10	0	10		0			0			0		
			2	10	0	10		0			0			0		
			3	10	0	10		0			0			0		
			4	10	0	10		0			0			0		
			5	10	0	10		0			0			0		
Site 3 / T980722.07	10 %		1	10	10	0	N	10	0	N	10	0	N	10	0	N
			2	10	10	0	1LOE, SUR	10	0	N	10	0	N	10	0	N
			3	10	10	0	N	10	0	N	10	0	N	10	0	N
			4	12	11	1	LOE/2EXTR	11	0	N	11	0	N	11	0	N
			5	10	10	0	N	10	0	N	10	0	N	9	1	N
Site 3 / T980722.07	50 %		1	10	10	0	N	10	0	2LOE/N	10	0	N	10	0	N
			2	10	10	0	N	6	4	LOE/Q/2SU	5	1	1Q/N	5	0	N
			3	10	10	0	N	9	1	N	9	0	N	9	0	N
			4	10	10	0	1LOE/N	7	3	5LOE/3Q/0	6	1	N	6	0	2Q
			5	10	10	0	N	9	1	2LOE	9	0	N	9	0	N
Site 3 / T980722.07	100 %		1	10	9	1	LOE/Q/OB	0	9		0			0		
			2	10	6	0	4NB/Q	0	6		0			0		
			3	10	3	7	LOE/Q/OB	0	3		0			0		
			4	10	10	0	4Q/OB	3	7	Q/LOE/OB	0	3		0		
			5	10	2	8	LOE/Q/OB	0	2		0			0		

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 96-hour liquid/suspended phase test

Menidia beryllina

WATER QUALITY

CLIENT SAMPLE ID	MEC SAMPLE ID	DISS. OXYGEN (mg/L)			DISS. OXYGEN (%SAT	TEMPERATURE (°C)			SALINITY (ppt)			pH			AMMONIA (mg/L)					
		Mean	Min	Max	Mean	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Ref.Tox.-copper	Ref.Tox.-copper	6.6	5.8	7.5	86.2	19.7	19.5	20.6	28.6	28.0	29.0	7.9	7.8	8.0	#DIV/0!	0.0	0.0			
Control A	.	7.3	6.6	7.8	96.3	19.8	19.4	20.6	29.0	28.0	31.0	8.0	7.9	8.2	0.3	0.3	0.4			
Site 1-Top	T980722.05	7.3	6.4	7.9	96.1	20.0	19.4	20.9	28.9	28.0	30.0	8.2	8.0	8.4	2.9	0.6	9.3			
Site 1- Bottom	T980722.06	7.2	6.6	8.0	94.9	20.2	19.7	21.1	28.9	28.0	30.0	8.1	8.0	8.3	13.7	2.3	56.9			
Site 2- Top	T980722.03	7.5	6.6	8.2	99.2	20.1	19.7	21.0	28.9	28.0	30.0	8.2	8.0	8.6	4.2	1.1	14.6			
Site 2- Bottom	T980722.04	7.4	7.0	8.0	97.9	20.1	19.7	20.9	28.9	28.0	30.0	8.2	8.1	8.5	13.0	2.7	46.6			
Site 3	T980722.07	7.6	6.9	8.3	99.6	20.0	19.6	21.0	29.0	28.0	30.0	8.2	7.9	8.5	3.0	0.8	10.7			
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MEC ANALYTICAL SYSTEMS, INC.

Data summary of 96-hour liquid/suspended phase test

Menidia beryllina

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	SURVIVAL		
				INITIAL	FINAL	% SURVIVAL
Reference Toxicant	Ref.Tox.-Copper	0 ug/L	1	10	10	100.0%
Control A	.	0 %	2	10	8	80.0%
Control A	.	0 %	3	10	10	100.0%
Control A	.	0 %	4	10	10	100.0%
Control A	.	0 %	5	10	10	100.0%
Site 1-Top	T980722.05	10 %	1	10	9	90.0%
Site 1-Top	T980722.05	10 %	2	10	10	100.0%
Site 1-Top	T980722.05	10 %	3	10	10	100.0%
Site 1-Top	T980722.05	10 %	4	9	9	100.0%
Site 1-Top	T980722.05	10 %	5	10	10	100.0%
Site 1-Top	T980722.05	50 %	1	10	9	90.0%
Site 1-Top	T980722.05	50 %	2	10	8	80.0%
Site 1-Top	T980722.05	50 %	3	10	10	100.0%
Site 1-Top	T980722.05	50 %	4	10	8	80.0%
Site 1-Top	T980722.05	50 %	5	10	10	100.0%
Site 1-Top	T980722.05	100 %	1	10	0	0.0%
Site 1-Top	T980722.05	100 %	2	10	0	0.0%
Site 1-Top	T980722.05	100 %	3	10	5	50.0%
Site 1-Top	T980722.05	100 %	4	10	4	40.0%
Site 1-Top	T980722.05	100 %	5	10	0	0.0%
Site 1- Bottom	T980722.06	10 %	1	11	10	90.9%
Site 1- Bottom	T980722.06	10 %	2	10	10	100.0%
Site 1- Bottom	T980722.06	10 %	3	10	10	100.0%
Site 1- Bottom	T980722.06	10 %	4	10	7	70.0%
Site 1- Bottom	T980722.06	10 %	5	10	9	90.0%
Site 1- Bottom	T980722.06	50 %	1	10	0	0.0%
Site 1- Bottom	T980722.06	50 %	2	10	0	0.0%
Site 1- Bottom	T980722.06	50 %	3	10	0	0.0%
Site 1- Bottom	T980722.06	50 %	4	10	0	0.0%
Site 1- Bottom	T980722.06	50 %	5	10	0	0.0%
Site 1- Bottom	T980722.06	100 %	1	10	0	0.0%
Site 1- Bottom	T980722.06	100 %	2	10	0	0.0%
Site 1- Bottom	T980722.06	100 %	3	10	0	0.0%
Site 1- Bottom	T980722.06	100 %	4	10	0	0.0%
Site 1- Bottom	T980722.06	100 %	5	10	0	0.0%
Site 2- Top	T980722.03	10 %	1	10	10	100.0%
Site 2- Top	T980722.03	10 %	2	10	10	100.0%
Site 2- Top	T980722.03	10 %	3	10	10	100.0%
Site 2- Top	T980722.03	10 %	4	10	9	90.0%
Site 2- Top	T980722.03	10 %	5	10	9	90.0%
Site 2- Top	T980722.03	50 %	1	10	3	30.0%
Site 2- Top	T980722.03	50 %	2	6	6	100.0%
Site 2- Top	T980722.03	50 %	3	10	1	10.0%
Site 2- Top	T980722.03	50 %	4	10	8	80.0%
Site 2- Top	T980722.03	50 %	5	10	8	80.0%
Site 2- Top	T980722.03	100 %	1	10	0	0.0%
Site 2- Top	T980722.03	100 %	2	10	0	0.0%
Site 2- Top	T980722.03	100 %	3	10	0	0.0%
Site 2- Top	T980722.03	100 %	4	10	0	0.0%
Site 2- Top	T980722.03	100 %	5	10	0	0.0%
Site 2- Bottom	T980722.04	10 %	1	10	10	100.0%
Site 2- Bottom	T980722.04	10 %	2	10	10	100.0%
Site 2- Bottom	T980722.04	10 %	3	10	9	90.0%
Site 2- Bottom	T980722.04	10 %	4	10	9	90.0%
Site 2- Bottom	T980722.04	10 %	5	10	9	90.0%
Site 2- Bottom	T980722.04	50 %	1	10	0	0.0%
Site 2- Bottom	T980722.04	50 %	2	10	0	0.0%
Site 2- Bottom	T980722.04	50 %	3	10	0	0.0%
Site 2- Bottom	T980722.04	50 %	4	10	0	0.0%
Site 2- Bottom	T980722.04	50 %	5	10	0	0.0%
Site 2- Bottom	T980722.04	100 %	1	10	0	0.0%
Site 2- Bottom	T980722.04	100 %	2	10	0	0.0%
Site 2- Bottom	T980722.04	100 %	3	10	0	0.0%
Site 2- Bottom	T980722.04	100 %	4	10	0	0.0%
Site 2- Bottom	T980722.04	100 %	5	10	0	0.0%
Site 3	T980722.07	10 %	1	10	10	100.0%
Site 3	T980722.07	10 %	2	10	10	100.0%
Site 3	T980722.07	10 %	3	10	10	100.0%
Site 3	T980722.07	10 %	4	12	11	91.7%
Site 3	T980722.07	10 %	5	10	9	90.0%
Site 3	T980722.07	50 %	1	10	10	100.0%
Site 3	T980722.07	50 %	2	10	5	50.0%
Site 3	T980722.07	50 %	3	10	9	90.0%
Site 3	T980722.07	50 %	4	10	6	60.0%
Site 3	T980722.07	50 %	5	10	9	90.0%
Site 3	T980722.07	100 %	1	10	0	0.0%
Site 3	T980722.07	100 %	2	10	0	0.0%
Site 3	T980722.07	100 %	3	10	0	0.0%
Site 3	T980722.07	100 %	4	10	0	0.0%
Site 3	T980722.07	100 %	5	10	0	0.0%

96 HOUR LISP TEST DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. P.Krause	Tiburon 20 deg. room	ASTM97/USCOE91

GENERAL TEST INFORMATION

SPECIES		
Menidia beryllina		
SUPPLIER: ~~AquaTox~~ AQUATIC INDICATORS		ORGANISM BATCH NO: MB072998
DATE RECEIVED: 29Jul98	TIME RECEIVED: 1130	ARRIVAL VIA: Fed Ex
QUANITY ORDERED: 1200	AGE: 11 DAYS	SPECIES CODE: MB
GENERAL CONDITION: GOOD		

SAMPLE STORAGE
4 Degrees Celsius - dark
SEDIMENT TREATMENT: none
CONTROL SEDIMENT ID: N.A.
CONTROL SEDIMENT SUPPLIER: N.A.
TEST CHAMBERS: 600 mL beakers

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
29Jul98	1130	20+	21.4	28	6.77	—	X		—	15	1100+	ARRIVAL	SW
~~31Jul98~~	~~0430~~						~~X~~						

ACCLIMATION MORTALITY: <5

*07/31/98SC (A)

Loading Weight - Tare Weight - 6.45 mg
Total Fish=10 - Fish+ Tare - 21.77 mg
- Total = 15.32 mg
- Fish = 1.53 mg

Checked by MSR 081198 131124

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS — DO (mg/L) > ~~5.0~~ 4.5; TEMP (°C) ~~20~~ 19±2; SALINITY (ppt) 30±2; pH 8.0±0.5; NH3 (mg/L) < 4.0; DILUTION WATER BATCH: Bodega Sea Water; TEMP. RECORDER (HOBO) #

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Control A / .	0	%	0	All	20	6.6	2	20.6	2	28	4	8.00		0.37	MSB		✓
Control A / .	0	%	1	1	20	6.8	002	20.0	002	28	4	7.97	SB	0.35	SC/SC	✓	
Control A / .	0	%	2	2	020	7.0	002	20.1	002	28	004	8.13	SB	0.30	SB/SC	✓	
Control A / .	0	%	3	3	20	7.4	2	19.6	2	29	4	7.95	CL	0.35	MSB/CL		
Control A / .	0	%	4	1	20	7.6	2	19.8	2	29	4	7.93		NT	MTB/CL		
				2	↓	7.6	↓	19.8	↓	29	↓	7.91		↓	↓		
				3		7.6		19.7		29		8.00					
				4		7.7		19.5		30		8.13					
				5	20	7.8	2	19.4	2	31	4	8.15			MTB/CL		

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS: DO (mg/L) 4.6 > 5.0 | TEMP (C) 20±2 ~~15±2~~ | SALINITY (ppt) 30±2 | pH 8.0±0.5 | NH3 (mg/L) < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Site - 1 Top / T980722.05	10	%	0	All	20	6.5	2	20.4	2	28		8.18	MSB	0.67	MSB		✓
Site - 1 Top / T980722.05	10	%	1	1		6.4	2	20.2	2	28		8.12	SB	0.95	SC/SLN		
Site - 1 Top / T980722.05	10	%	2	2	020	7.0	002	20.1	002	28	021	8.16	SB	0.57	SB/SC	✓	
Site - 1 Top / T980722.05	10	%	3	3	20	7.3	2	19.7	2	29	4	7.96	CL	0.81	MSB/CL		
Site - 1 Top / T980722.05	10	%	4	1	20	7.7	2	19.4	2	30	4	8.19		0.63	MJB/CL		
				2		7.9		19.6		29		8.20		0.73			
				3		7.8		19.7		29		8.07		0.80			
				4		7.8		19.7		29		8.15		0.88			
				5	20	7.7	2	19.7	2	30	4	8.18	CL	0.89	MJB/CL		
Site - 1 Top / T980722.05	50	%	0	All	20	6.6	2	20.9	2	28		8.00	MSB	3.96	MSB		✓
Site - 1 Top / T980722.05	50	%	1	1		6.4	11	19.9	1	28		8.33	SB	5.14	SC/SLN		
Site - 1 Top / T980722.05	50	%	2	2	020	7.0	002	20.2	002	29	021	8.22	SB	1.66	SB/SC	✓	
Site - 1 Top / T980722.05	50	%	3	3	20	7.3	2	19.7	2	29	4	8.30	CL	3.10	MSB/CL		
Site - 1 Top / T980722.05	50	%	4	1	20	7.8	2	19.9	2	30	4	8.31		2.43	MJB/CL		
				2		7.8		19.9		29		8.30		2.71			
				3		7.8		19.9		30		8.30		2.76			
				4		7.8		19.9		29		8.30		2.74			
				5	20	7.8	2	19.9	2	29	4	8.25	CL	2.73	MJB/CL		
Site - 1 Top / T980722.05	100	%	0	All	20	6.5	2	20.9	2	28		8.19	MSB	8.15	MSB		✓
Site - 1 Top / T980722.05	100	%	1	1		6.6	11	20.1	11	27		8.43	SB	9.25	SC/SLN		
Site - 1 Top / T980722.05	100	%	2	2	020	7.0	002	20.2	002	29	021	8.25	SB	3.24	SB/SC	✓	
Site - 1 Top / T980722.05	100	%	3	3	20	7.5	2	19.9	2	29	4	8.26	CL	6.12	MSB/CL		
Site - 1 Top / T980722.05	100	%	4	1			N		N			8					
				2													
				3	20	7.7	2	19.9	2	29	4	8.35	CL	4.25	MJB/CL		
				4	20	7.8	2	19.9	2	29	4	8.37	CL	4.34	MJB/CL		
				5													

1311126

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS INC

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM97/USCOB91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	

WATER QUALITY DATA

TEST CONDITIONS — DO (mg/L) ~~4.6~~ > ~~3.0~~ | TEMP (C) ~~20~~ 12 ~~15±2~~ | SALINITY (ppt) 30±2 | pH 8.0±0.5 | NH3 (mg/L) < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Site - 1 Bottom / T980722.06	10	%	0	All	20	6.7	2	20.9	2	28	4	8.03	MSB	5.12	MSB		✓
Site - 1 Bottom / T980722.06	10	%	1	1		6.8	11	19.9	11	28		8.10	SB	5.37	SC/SLN		
Site - 1 Bottom / T980722.06	10	%	2	2	020	7.1	002	20.3	002	29	021	8.08	SB	2.30	SB/SC	✓	
Site - 1 Bottom / T980722.06	10	%	3	3	20	7.5	2	19.9	2	29	4	8.14	CL	3.05	MSB/CL		
Site - 1 Bottom / T980722.06	10	%	4	1	20	7.6	2	20.1	2	29	4	8.12		3.40	MJB/CL		
				2		7.7		20.0		29		8.12		2.89			
				3		7.8		19.9		30		8.15		3.02			
				4		7.7		19.7		29		8.20		2.41			
				5	20	8.0	2	19.7	2	29	4	8.19	CL	2.78	MJB/CL		
Site - 1 Bottom / T980722.06	50	%	0	All	20	6.6	2	20.9	2	28	4	8.03	MSB	20.7	MSB		✓
Site - 1 Bottom / T980722.06	50	%	1	1		6.8	11	20.0	11	29		8.20	SB	26.1	SC/SLN		
Site - 1 Bottom / T980722.06	50	%	2	2	020	7.0	002	20.3	002	29	021	8.33	SB	11.2	SB/SC	✓	
Site - 1 Bottom / T980722.06	50	%	3	3											M		
Site - 1 Bottom / T980722.06	50	%	4	1													
				2													
				3													
				4													
				5													
Site - 1 Bottom / T980722.06	100	%	0	All	20	6.6	2	21.1	2	29	4	8.06	MSB	45.9	MSB		✓
Site - 1 Bottom / T980722.06	100	%	1	1		6.8		20.0		29		8.30	SB	56.9			
Site - 1 Bottom / T980722.06	100	%	2	2												✓	
Site - 1 Bottom / T980722.06	100	%	3	3													
Site - 1 Bottom / T980722.06	100	%	4	1													
				2													
				3													
				4													
				5													

1311127

SOP XXX

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS — DO (mg/L) ~~4.5~~ ~~5.0~~ | TEMP (C) ~~20±2~~ 15±2 | SALINITY (ppt) 30±2 | pH 8.0±0.5 | NH3 (mg/L) < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Site -2 Top / T980722.03	10	%	0	All	20	7.3	2	20.9	2	28	4	7.98	MSB	1.55	MSB		✓
Site -2 Top / T980722.03	10	%	1	1		6.7	"	20.0	"	28		8.07	SB	1.87	SC/SLN		
Site -2 Top / T980722.03	10	%	2	2	020	7.3	002	20.1	002	29	021	7.99	SB	1.07	SB/SC	✓	
Site -2 Top / T980722.03	10	%	3	3	20	7.8	2	19.8	2	29	4	8.09	"	1.19	MSB/CL		
Site -2 Top / T980722.03	10	%	4	1	20	7.8	2	20.0	2	29	4	8.21		1.26	MJB/"		
				2		7.8		19.7		30		8.21		1.25			
				3		7.9		19.7		29		8.18		1.27			
				4		7.9		19.8		29		8.12		1.34			
				5	20	8.0	2	19.9	2	29	4	8.12	"	1.27	MJB/CL		
Site -2 Top / T980722.03	50	%	0	All	20	7.4	2	20.9	2	28	4	8.01	MSB	7.05	MSB		✓
Site -2 Top / T980722.03	50	%	1	1		6.7	"	20.0	"	28		8.33	SB	6.96	SC/SLN		
Site -2 Top / T980722.03	50	%	2	2	020	6.7	002	20.2	002	29	021	8.21	SB	3.21	SB/SC	✓	
Site -2 Top / T980722.03	50	%	3	3	20	7.8	2	19.7	2	29	4	8.48	"	3.92	MSB/CL		
Site -2 Top / T980722.03	50	%	4	1	20	8.2	2	20.0	2	29	4	8.36		3.60			
				2		8.1		19.9		29		8.32		3.95			
				3		8.1		19.9		30		8.41		3.40			
				4		8.0		19.8		29		8.42		3.83			
				5	20	8.1	2	19.8	2	29	4	8.37	"	3.90	MJB/"		
Site -2 Top / T980722.03	100	%	0	All	20	7.4	2	21.0	2	28	4	8.22	MSB	13.7	MSB		✓
Site -2 Top / T980722.03	100	%	1	1		6.8	"	19.9	"	29		8.59	SB	14.6	SC/SLN		
Site -2 Top / T980722.03	100	%	2	~~3~~	020	6.6	002	20.2	002	29	021	8.34	SB	7.58	SB/SC	✓	
Site -2 Top / T980722.03	100	%	3	3													
Site -2 Top / T980722.03	100	%	4	1													
				2													
				3													
				4													
				5													

121108

MEC ANALYTICAL SYSTEMS, INC.

96 HOUR L/SP TEST DATA SHEET 2

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS — DO (mg/L) 4.5 ~~> 5.0~~ | TEMP (C) ~~15±2~~ 20±2 | SALINITY (ppt) 30±2 | pH 8.0±0.5 | NH3 (mg/L) < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #:

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Site -2 Bottom / T980722.04	10	%	0	All	20	7.1	2	20.9	2	28	4	8.05	MSB	4.82	MSB		✓
Site -2 Bottom / T980722.04	10	%	1	1		7.0	"	19.8	"	28		8.29	SB	3.99	SC/SLN		
Site -2 Bottom / T980722.04	10	%	2	2	020	7.0	002	20.2	002	28	021	8.14	SB	~~3.80~~	SB/SC	✓	
Site -2 Bottom / T980722.04	10	%	3	3	20	7.9	2	19.7	2	29	4	8.19	CL	3.62	MSB/CL		
Site -2 Bottom / T980722.04	10	%	4	1	20	7.8	2	19.9	2	30	4	8.27		2.74	MTB/CL		
				2		7.9		19.9		29		8.27		3.05			
				3		7.9		19.9		29		8.21		3.10			
				4		7.9		19.8		29		8.24		3.11			
				5	20	8.0	2	19.9	2	30	4	8.16	CL	3.10	MTB/CL		
Site -2 Bottom / T980722.04	50	%	0	All	20	7.2	2	20.9	2	28	4	8.10	MSB	24.1	MSB		✓
Site -2 Bottom / T980722.04	50	%	1	1		7.0		19.9		29		8.26	SB	22.5	SC/SLN		
Site -2 Bottom / T980722.04	50	%	2	2	020	7.0	002	20.3	002	29	021	8.27	CL	12.5	SB/SC	✓	
Site -2 Bottom / T980722.04	50	%	3	3													
Site -2 Bottom / T980722.04	50	%	4	1													
				2													
				3													
				4													
				5													
Site -2 Bottom / T980722.04	100	%	0	All	20	7.3	2	20.5	2	29	4	8.32	MSB	466	MSB		✓
Site -2 Bottom / T980722.04	100	%	1	1		7.1	"	19.9	"	29		8.50	SB	45.6	SC/SLN		
Site -2 Bottom / T980722.04	100	%	2	2											SB/SC	✓	
Site -2 Bottom / T980722.04	100	%	3	3													
Site -2 Bottom / T980722.04	100	%	4	1													
				2													
				3													
				4													
				5													

131129

96 HOUR L/SP TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS — DO (mg/L) ~~24.5~~ ~~5.0~~ | TEMP (C) ~~20 12~~ ~~15±2~~ | SALINITY (ppt) 30±2 | pH 8.0±0.5 | NH3 (mg/L) < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP. RECORDER (HOBO) #

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 Techn.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Site - 3 / T980722.07	10	%	0	All	20	6.9	2	20.8	2	28	4	8.01	MSB	1.26	MSB		✓
Site - 3 / T980722.07	10	%	1	1		7.0		19.9		28		8.21	SB	1.44	SC/SLN		
Site - 3 / T980722.07	10	%	2	2	020	7.0	002	20.2	002	29	021	8.17	SB	092	SB/SC	✓	
Site - 3 / T980722.07	10	%	3	3	20	8.0	2	19.9	2	29	4	8.16	CL	0.77	MSB/CL		
Site - 3 / T980722.07	10	%	4	1	20	7.9	2	19.9	2	29	4	8.18		1.09	MTB/CL		
				2		7.9		19.9		29		8.21		1.12			
				3		8.0		19.9		29		8.21		0.99			
				4		8.1		19.8		30		8.19		0.99			
				5	20	8.3	2	19.8	2	30	4	8.14	CL	0.99	MTB/CL		
Site - 3 / T980722.07	50	%	0	All	20	7.3	2	20.9	2	28	4	7.94	MSB	4.31	MSB		✓
Site - 3 / T980722.07	50	%	1	1		7.0		19.9		28		8.13	SB	4.10	SC/SLN		
Site - 3 / T980722.07	50	%	2	2	020	7.1	002	19.6	002	29	021	8.41	SB	2.40	SB/SC	✓	
Site - 3 / T980722.07	50	%	3	3	20	7.2		19.8*		29	4	8.16	CL	3.12	MSB/CL		
Site - 3 / T980722.07	50	%	4	1	20	8.0	2	19.9	2	30	4	8.20		3.06	MTB/CL		
				2		7.9		19.9		30		8.27		2.44			
				3		7.9		19.7		29		8.37		2.70			
				4		8.2		19.7		30		8.41		2.49			
				5	20	8.2	2	19.7	2	29	4	8.33	CL	2.61	MTB/CL		
Site - 3 / T980722.07	100	%	0	All	20	7.4	2	21.0	2	29	4	8.15	MSB	16.7	MSB		✓
Site - 3 / T980722.07	100	%	1	1		6.9		19.9		29		8.35	SB	8.40	SC/SLN		
Site - 3 / T980722.07	100	%	2	2	020	7.1	002	19.9	002	29	021	8.45	SB	5.36	SB/SC	✓	
Site - 3 / T980722.07	100	%	3	3	20	7.3	2	19.8	2	29	4	8.46	CL	5.41	MSB/CL		
Site - 3 / T980722.07	100	%	4	1													
				2													
				3													
				4													
				5													

1311.30

96 HOUR L/SP TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Menidia beryllina	<5 %

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. P.Krause	Tiburon 20 deg. room	ASTM97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; DC = discoloration
LOE= loss of equilibrium; OB = on bottom
Q = quiescent; J = jumper
SUR= surfacing; NB = no body

					DAY 1			DAY 2			DAY 3			DAY 4		
					DATE 07/30/98			DATE 07/31/98			DATE 08/01/98			DATE 08/02/98		
					TECHNICIAN SC			TECHNICIAN SC			TECHNICIAN MSB			TECHNICIAN CL		
CLIENT/ MEC ID	CONC. value	units	REP	INITIAL NUMBER	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS
Site - 1 Top / T980722.05	10	%	1	10	10	0	N	10	0	N	10		N	9	1	N
			2	10	10 *~~10~~ 9	0	1NB	*~~9~~ 10	0	N	10			10		
			3	10	10	0	N	10	0	N	10			10		
			4	~~10~~ 9	*~~10~~ 9	0	*1NB ~~1NB~~	*~~10~~ 9	0	N	9			9		
			5	10	10	0	N	10	0	N	10			10		
Site - 1 Top / T980722.05	50	%	1	10	*~~8~~ 9	1	*~~1NB~~ N	*~~10~~ 9	0	N	9			9		
			2	10	10	0	N	8	2	2LOE	8			8		
			3	10	10	0	N	10	0	N	10			10		
			4	10	10	0	N	8	2	3SUR	8			8		
			5	10	10	0	N	10	0	1LOE/SUR	10		N	10		N
Site - 1 Top / T980722.05	100	%	1	10	5	5	3LOE/SUR	0	5							
			2	10	10	0	4LOE	3	7	LOE,Q, OB)	0	3				
			3	10	10	0	Q,OB	10	0	LOE,Q	8	1	1NB/OB	5	3	N
			4	10	10	0	1LOE	10	0	LOE,Q	8	2	all OB	4	4	3Q
			5	10	7	3	Q,OB 2LOE	0	7							
Site - 1 Bottom / T980722.06	10	%	1	~~10~~ 11	10	1	N (Found 11)	10	0	N	10		N	10		N
			2	10	*~~9~~ 10	0	N	10	0	N	10			10		
			3	10	10	0	N	10	0	1LOE	10			10		
			4	10	*~~10~~ 9	*~~0~~ 1	N	9	0	N	8	1		7	1	
			5	10	10	0	N	10	0	3Q/N	10		N	9	1	N
Site - 1 Bottom / T980722.06	50	%	1	10	1	9	SUR	0	1							
			2	10	2	8	LOE,SUR	0	2							
			3	10	0	10										
			4	10	0	10										
			5	10	0	10										
Site - 1 Bottom / T980722.06	100	%	1	10	0	10										
			2	10	0	10										
			3	10	0	10										
			4	10	0	10										
			5	10	0	10										
Site - 3 / T980722.07	10	%	1	10	10	0	N	10	0	N	10		N	10		N
			2	10	10	0	1LOE,SUR	10	0	N	10			10		
			3	10	10	0	N	10	0	N	10			10		
			4	12 ~~10~~	11	1	1LOE (2 EXTRA)	11	0	N	11			11		
			5	10	10	0	N	10	0	N	10		N	9	1	N
Site - 3 / T980722.07	50	%	1	10	10	0	N	10	0	2LOE/N	10		N	10		N
			2	10	10	0	N	6	4	3LOE,Q 2SUR,Q	5	1	1Q/N	5		N
			3	10	10	0	N	9	1	N	9		N	9		N
			4	10	10	0	1LOE/N	7	3	3LOE, 2Q,OB	6	1	N	6		2Q
			5	10	10	0	N	9	1	2LOE	9		N	9		N
Site - 3 / T980722.07	100	%	1	10	*~~2~~ 9	*~~8~~ 1	LOE, Q	0	9							
			2	10	6	0	4NB/Q	0	6							
			3	10	3	7	LOE,Q	0	3							
			4	10	10	0	4Q,OB	3	7	Q,LOE, OB	0	3				
			5	10	2	8	LOE,Q	0	2							

Margin notes: 08/01/98 MSB (beside Site - 1 Top 10% and Site - 1 Top 100% / Site - 1 Bottom 10%)

*07/30/98 SC (B)   *07/31/98 SC (D)

Checked h... 08/11/98 MCR

96 HOUR L/SP TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Menidia beryllina	<5 %

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. P.Krause	Tiburon 20 deg. room	ASTM97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; DC = discoloration; LOE = loss of equilibrium; OB = on bottom; Q = quiescent; J = jumper; SUR = surfacing; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 07/30/98 TECHNICIAN SC #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 07/31/98 TECHNICIAN SC #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 08/01/98 TECHNICIAN MSB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 08/02/98 TECHNICIAN ? #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Control A / .	0	%	1	10	10	0	N	10	0	N	10		N	10		N
			2	10	9	1	N	9	0	N	9		N/Q	8	1	N
			3	10	10	0	N	10	0	N	10		N	10		N
			4	10	10	0	N	10	0	N	10		N	10		N
			5	10	10	0	N	10	0	N	10		N	10		N
Site -2 Top / T980722.03	10	%	1	10	10	0	N	10	0	N	10		N	9	1	N
			2	10	10	0	1LOE,SUR	10	0	N	10		N	10		N
			3	10	10	0	N	10	0	1LOE	10		N	10		N
			4	10	9	0	1NB	9	0	N	9		N	9		1LOE
			5	10	9	0	1NB	9	0	N	9		N	9		N
Site -2 Top / T980722.03	50	%	1	10	10	0	4SUR	6	4	all LOE, B, S	3	3	Q	3		2LOE,Q
			2	10	10	0	9SUR, 1NB	6	0	B, OB	6		N	6		N
			3	10	10	0	1LOE, 2SUR	1	9	LOE, OB	1		N	1		OB, Q
			4	10	10	0	9SUR	10	0	3LOE, OB, 4SUR	9	1	N/Q	8	1	1OB, LOE
			5	10	10	0	1LOE, SUR	9	1	2LOE, all OB	8	1	Q	8		Q
Site -2 Top / T980722.03	100	%	1	10	0	10										
			2	10	0	10										
			3	10	7	3	LOE	0	7							
			4	10	0	10										
			5	10	9	1	LOE, Q, OB	0	9							
Site -2 Bottom / T980722.04	10	%	1	10	10	0	N	10	0	N	10		N	10		N
			2	10	10	0	N	10	0	2LOE	10		N	10		N
			3	10	10	0	2LOE, 1Q, OB	10	0	N	10		N	9	1	N
			4	10	10	0	N	9	1	Q	7		N/Q	9		1OB,Q
			5	10	10	0	N	10	0	N	10		N	9	1	N
Site -2 Bottom / T980722.04	50	%	1	10	2	8	LOE, SUR	0	2							
			2	10	0	10										
			3	10	0	10										
			4	10	0	10										
			5	10	0	10										
Site -2 Bottom / T980722.04	100	%	1	10	0	10										
			2	10	0	10										
			3	10	0	10										
			4	10	0	10										
			5	10	0	10										

*07/30/98 SC

Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19mbt	Sample ID:	Site 1- Top
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	Elutriate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
D-Control	1.0000	0.8000	1.0000	1.0000	1.0000
10	0.9000	1.0000	1.0000	1.0000	1.0000
50	0.9000	0.8000	1.0000	0.8000	1.0000
100	0.0000	0.0000	0.5000	0.4000	0.0000

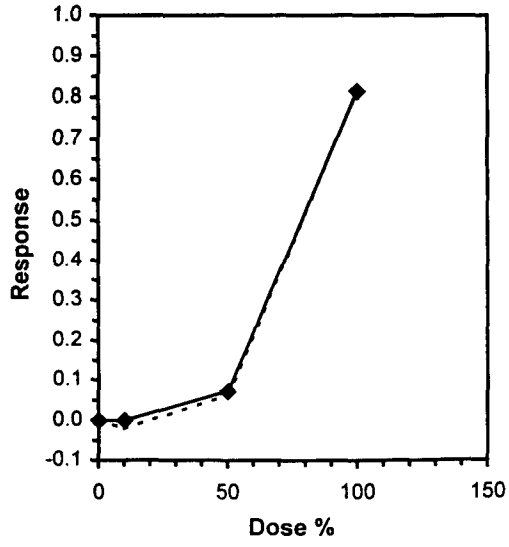
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.9600	1.0000	1.3510	1.1071	1.4120	10.092	5				0.9698	1.0000
10	0.9800	1.0208	1.3777	1.2490	1.4120	5.227	5	-0.219	2.230	0.2712	0.9698	1.0000
50	0.9000	0.9375	1.2575	1.1071	1.4120	12.128	5	0.769	2.230	0.2712	0.9000	0.9280
*100	0.1800	0.1875	0.3893	0.1588	0.7854	81.595	5	7.907	2.230	0.2712	0.1800	0.1856

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.92351	0.868	0.38502	-0.0579
Bartlett's Test indicates equal variances (p = 0.05)	7.65299	11.3449		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	50	100	70.7107	2	0.17478	0.1835	1.11648	0.03698	8.0E-07	3, 16

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	37.789	12.392	0.000	62.417	-0.0835
IC10	51.888	6.891	21.439	59.050	-1.0022
IC15	55.255	3.309	42.276	62.171	-0.2262
IC20	58.622	3.055	50.148	65.607	0.3177
IC25	61.990	3.148	53.698	69.395	0.5591
IC40	72.092	4.025	63.376	90.540	1.3076
IC50	78.827	4.920	69.599	101.653	1.6164



Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19mbb	Sample ID:	Site 1- Bottom
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	Elutriate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	MB-Menidia beryllina

Comments:

Conc-%	1	2	3	4	5
D-Control	1.0000	0.8000	1.0000	1.0000	1.0000
10	0.9091	1.0000	1.0000	0.7000	0.9000
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed		Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical		Mean	N-Mean
D-Control	0.9600	1.0000	1.3510	1.1071	1.4120	10.092	5				0.9600	1.0000
10	0.9018	0.9394	1.2658	0.9912	1.4120	13.596	5	23.00	17.00	0.15483	0.9020	0.9395
*50	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	5	15.00	17.00	0.15483	0.0000	0.0000
*100	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	5	15.00	17.00	0.15483	0.0000	0.0000

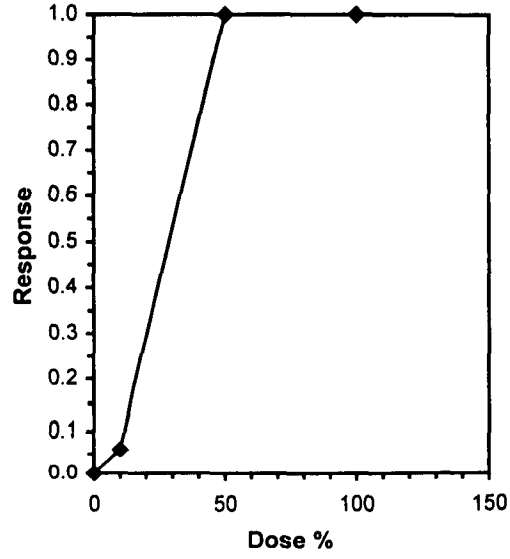
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.73249	0.868	-1.6046	3.61107
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	10	50	22.3607	10

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	8.270	3.191	0.000	14.238	-0.4050
IC10	11.683	2.404	2.574	15.390	-1.0583
IC15	13.812	2.111	6.089	17.313	-1.1023
IC20	15.941	1.990	8.974	19.235	-1.1617
IC25	18.070	1.886	11.538	21.158	-1.2427
IC40	24.456	1.508	19.230	26.927	-1.2427
IC50	28.713	1.257	24.359	30.772	-1.2427

* indicates IC estimate less than the lowest concentration



Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19mb2t	Sample ID:	Site 2- Top
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	Elutriate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
D-Control	1.0000	0.8000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	0.9000	0.9000
50	0.3000	1.0000	0.1000	0.8000	0.8000
100	0.0000	0.0000	0.0000	0.0000	0.0000

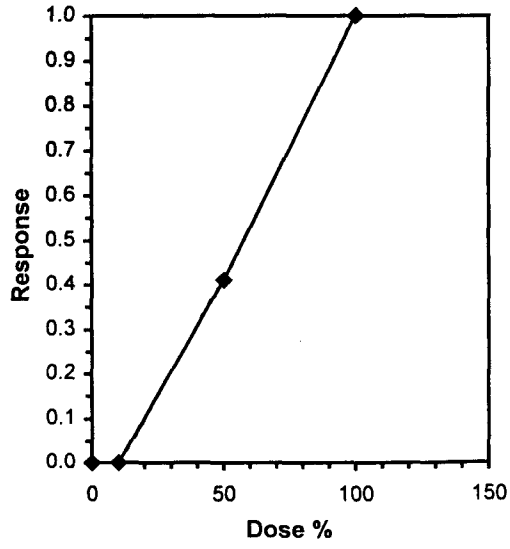
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.9600	1.0000	1.3510	1.1071	1.4120	10.092	5				0.9600	1.0000
10	0.9600	1.0000	1.3468	1.2490	1.4120	6.628	5	0.029	2.230	0.3242	0.9600	1.0000
*50	0.6000	0.6250	0.8962	0.3218	1.3652	47.968	5	3.129	2.230	0.3242	0.5652	0.5888
*100	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	5	8.201	2.230	0.3242	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution ($p > 0.01$)	0.88325	0.868	-0.7099	2.85028
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	10	50	22.3607	10	0.22031	0.2313	1.57779	0.05284	8.6E-07	3, 16

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	14.863	7.519	4.332	57.579	3.0739
IC10	19.727	8.646	9.970	71.299	2.2589
IC15	24.590	9.436	14.277	72.651	1.4642
IC20	29.454	9.998	17.261	74.004	0.9015
IC25	34.317	10.208	19.401	75.356	0.4579
IC40	48.907	9.489	26.347	79.412	-0.2203
IC50	57.538	8.983	31.091	82.774	-0.4846



Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19mbb	Sample ID:	Site 2- Bottom
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	Elutriate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	MB-Menidia beryllina

Comments:

Conc-%	1	2	3	4	5
D-Control	1.0000	0.8000	1.0000	1.0000	1.0000
10	1.0000	1.0000	0.9000	0.9000	0.9000
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

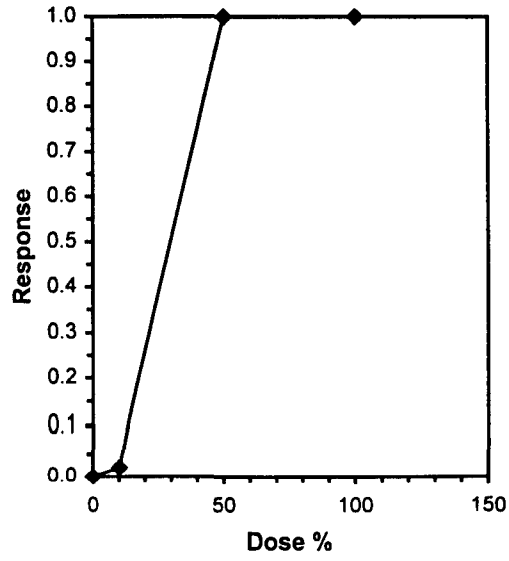
			Transform: Arcsin Square Root					Rank	1-Tailed		Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical		Mean	N-Mean
D-Control	0.9600	1.0000	1.3510	1.1071	1.4120	10.092	5				0.9600	1.0000
10	0.9400	0.9792	1.3142	1.2490	1.4120	6.792	5	24.00	17.00	0.11492	0.9400	0.9792
*50	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	5	15.00	17.00	0.11492	0.0000	0.0000
*100	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	5	15.00	17.00	0.11492	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.79804	0.868	-1.7573	5.3138
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	10	50	22.3607	10

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	11.191	2.060	1.285	12.485	-1.1190
IC10	13.234	1.166	8.060	14.460	-0.6981
IC15	15.277	1.102	10.390	16.434	-0.6981
IC20	17.319	1.037	12.720	18.409	-0.6981
IC25	19.362	0.972	15.050	20.383	-0.6981
IC40	25.489	0.778	22.040	26.306	-0.6981
IC50	29.574	0.648	26.700	30.255	-0.6981



Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19mb	Sample ID:	Site 3
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	Elutriate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
D-Control	1.0000	0.8000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	0.9167	0.9000
50	1.0000	0.5000	0.9000	0.6000	0.9000
100	0.0000	0.0000	0.0000	0.0000	0.0000

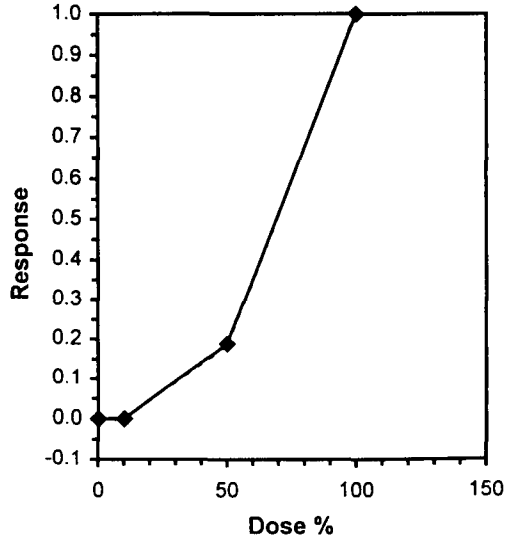
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.9600	1.0000	1.3510	1.1071	1.4120	10.092	5				0.9608	1.0000
10	0.9633	1.0035	1.3526	1.2490	1.4120	6.061	5	-0.016	2.230	0.2192	0.9608	1.0000
*50	0.7800	0.8125	1.1163	0.7854	1.4120	23.919	5	2.388	2.230	0.2192	0.7800	0.8118
*100	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	5	12.130	2.230	0.2192	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.89996	0.868	-0.6534	1.14895
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	10	50	22.3607	10	0.13309	0.13973	1.61439	0.02415	2.9E-09	3, 16

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	20.630	11.909	0.922	71.622	1.5562
IC10	31.260	11.946	8.506	69.244	0.7529
IC15	41.889	10.660	14.142	66.866	0.0470
IC20	50.730	9.094	17.882	65.562	-0.3882
IC25	53.809	7.365	25.104	67.714	-0.5945
IC40	63.047	4.739	45.372	74.172	-0.3258
IC50	69.206	3.949	54.476	78.476	-0.3258



MEC ANALYTICAL SYSTEMS, INC.

96 HOUR L/SP TEST DATA SHEET 2 - REF TOX

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	29Jul98	1700	02Aug98	1600

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5	<4.0	Bodega Seawater	Temp. Scribe	copper sulfate	copper		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 preserv.	OVER. NH3 mg/L			TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-copper	0	µg/L	0	All	20.0	6.6	2.0	20.6	2.0	28.0	4.0	8.0					MJB		
Ref.Tox.-copper	0	µg/L	4	1	20.0	7.1	2.0	19.7	2.0	29.0	4.0	7.9					MJB/CL		
				2	20.0	7.2	2.0	19.7	2.0	29.0	4.0	7.9					MJB/CL		
				3															
Ref.Tox.-copper	25.5	µg/L	0	All	20.0	7.5	2.0	19.6	2.0	28.0	4.0	7.9					MJB		
Ref.Tox.-copper	25.5	µg/L	4	1	20.0	5.8	2.0	19.7	2.0	29.0	4.0	7.8					MJB/CL		
				2	20.0	5.9	2.0	19.6	2.0	29.0	4.0	7.8					MJB/CL		
				3															
Ref.Tox.-copper	51	µg/L	0	All	20.0	7.4	2.0	19.5	2.0	28.0	4.0	8.0					MJB		
Ref.Tox.-copper	51	µg/L	4	1	20.0	5.9	2.0	19.6	2.0	29.0	4.0	7.8					MJB/CL		
				2	20.0	5.9	2.0	19.6	2.0	29.0	4.0	7.8					MJB/CL		
				3															
Ref.Tox.-copper	102	µg/L	0	All	20.0	7.3	2.0	19.5	2.0	28.0	4.0	8.0					MJB		
Ref.Tox.-copper	102	µg/L	4	1	20.0	6.0	2.0	19.6	2.0	29.0	4.0	7.8					MJB/CL		
				2	20.0	6.1	2.0	19.6	2.0	29.0	4.0	7.8					MJB/CL		
				3															
Ref.Tox.-copper	204	µg/L	0	All	20.0	7.2	2.0	19.5	2.0	28.0	4.0	8.0					MJB		
Ref.Tox.-copper	204	µg/L	4	1	20.0	6.1	2.0	19.5	2.0	29.0	4.0	7.8					MJB/CL		
				2															
				3															
Ref.Tox.-copper	408	µg/L	0	All	20.0	7.2	2.0	19.5	2.0	28.0	4.0	8.0					MJB		
Ref.Tox.-copper	408	µg/L	4	1															
				2															
				3															

96 HOUR L/SP TEST DATA SHEET 3 - REF TOX

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Menidia beryllina	< 5%

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A.	0719-019	Dr. Paul Krause	Tiburon 20 deg. room	ASTM 1997

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; LOE= loss of equilibrium; Q = quiescent; SUR= surfacing; DC = discoloration; OB = on bottom; J = jumper; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 30Jul98 TECHNICIAN sc/sln #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 31Jul98 TECHNICIAN sc #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 01Aug98 TECHNICIAN mjb #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 02Aug98 TECHNICIAN cl #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.-copper	0	µg/L	1	10	10	0	N	10	0	N	10	0	N	10	0	N
			2	10	9	1	N	9	0	N	9	0	N	8	1	N
			3													
			4													
			5													
Ref.Tox.-copper	25.5	µg/L	1	10	10	0	N	10	0	N	10	0	N	10	0	N
			2	10	10	0	N	10	0	N	10	0	N	10	0	N
			3													
			4													
			5													
Ref.Tox.-copper	51	µg/L	1	10	10	0	N	10	0	N	10	0	N	10	0	N
			2	10	9	1	N	9	0	N	9	0	N	9	0	N
			3													
			4													
			5													
Ref.Tox.-copper	102	µg/L	1	10	10	0	N	10	0	N	10	0	N	10	0	N
			2	9	9	0	N	9	0	N	8	1	N	8	0	N
			3													
			4													
			5													
Ref.Tox.-copper	204	µg/L	1	11	9	2	N	2	7	Q	2	0	N	2	0	N
			2	10	5	5	N	1	4	LOE,OB,Q	0	1		0		
			3													
			4													
			5													
Ref.Tox.-copper	408	µg/L	1	10	6	4	3OB	0	6		0			0		
			2	10	6	4	1LOE	0	6		0			0		
			3													
			4													
			5													

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 96-hour liquid/suspended phase test

Menidia beryllina

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	SURVIVAL INITIAL	SURVIVAL FINAL	SURVIVAL % SURVIVAL
Ref.Tox.-copper	Ref.Tox.-copper	0 mg/L	1	10	10	100.0%
Ref.Tox.-copper	Ref.Tox.-copper	0 mg/L	2	10	8	80.0%
Ref.Tox.-copper	Ref.Tox.-copper	0 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	0 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	0 mg/L	5			
Ref.Tox.-copper	Ref.Tox.-copper	25.5 mg/L	1	10	10	100.0%
Ref.Tox.-copper	Ref.Tox.-copper	25.5 mg/L	2	10	10	100.0%
Ref.Tox.-copper	Ref.Tox.-copper	25.5 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	25.5 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	25.5 mg/L	5			
Ref.Tox.-copper	Ref.Tox.-copper	51 mg/L	1	10	10	100.0%
Ref.Tox.-copper	Ref.Tox.-copper	51 mg/L	2	10	9	90.0%
Ref.Tox.-copper	Ref.Tox.-copper	51 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	51 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	51 mg/L	5			
Ref.Tox.-copper	Ref.Tox.-copper	102 mg/L	1	10	10	100.0%
Ref.Tox.-copper	Ref.Tox.-copper	102 mg/L	2	9	8	88.9%
Ref.Tox.-copper	Ref.Tox.-copper	102 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	102 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	102 mg/L	5			
Ref.Tox.-copper	Ref.Tox.-copper	204 mg/L	1	11	2	18.2%
Ref.Tox.-copper	Ref.Tox.-copper	204 mg/L	2	10	0	0.0%
Ref.Tox.-copper	Ref.Tox.-copper	204 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	204 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	204 mg/L	5			
Ref.Tox.-copper	Ref.Tox.-copper	408 mg/L	1	10	0	0.0%
Ref.Tox.-copper	Ref.Tox.-copper	408 mg/L	2	10	0	0.0%
Ref.Tox.-copper	Ref.Tox.-copper	408 mg/L	3			
Ref.Tox.-copper	Ref.Tox.-copper	408 mg/L	4			
Ref.Tox.-copper	Ref.Tox.-copper	408 mg/L	5			

Acute Fish Test-96 Hr Survival

Start Date:	7/29/98	Test ID:	719-19mbrf	Sample ID:	REF-Ref Toxicant
End Date:	8/2/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	CUSO-Copper sulfate
Sample Date:	7/22/98	Protocol:	ASTM 87	Test Species:	MB-Menidia beryllina
Comments:					

Conc-ug/L	1	2
D-Control	1.0000	0.8000
25.5	1.0000	1.0000
51	1.0000	0.9000
102	1.0000	0.8889
204	0.1818	0.0000
408	0.0000	0.0000

Conc-ug/L	Mean	N-Mean		Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	Isotonic N-Mean
D-Control	0.9000	1.0000	1.25958	2	18	20	2			0.9500	1.0000
25.5	1.0000	1.1111	1.41202	0	20	20	2	0.2436	0.0500	0.9500	1.0000
51	0.9500	1.0556	1.33053	1	19	20	2	0.5000	0.0500	0.9500	1.0000
102	0.9474	1.0526	1.32149	1	18	19	2	0.5198	0.0500	0.9474	0.9972
*204	0.0952	0.1058	0.29965	19	2	21	2	0.0000	0.0500	0.0952	0.1003
*408	0.0000	0.0000	0.15878	20	0	20	2	0.0000	0.0500	0.0000	0.0000

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	102	204	144.25	

Linear Interpolation (80 Resamples)

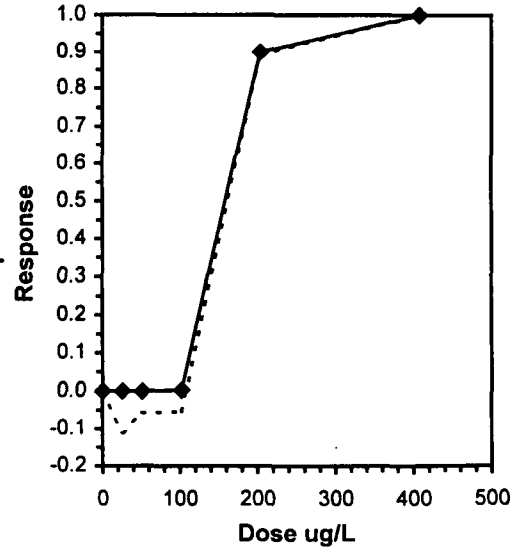
Point	ug/L	SD	95% CL(Exp)		Skew
IC05	107.37	22.77	0.00	111.29	-1.5616
IC10	113.06	10.14	27.57	119.64	-4.9417
IC15	118.74	3.45	71.66	127.98	-0.9887
IC20	124.43	3.44	80.16	136.33	-0.7534
IC25	130.11	3.49	88.67	144.67	-0.5095
IC40	147.17	3.90	112.86	169.71	0.0531
IC50	158.54	4.37	122.35	186.40	0.2307

Laboratory Mean (ug/l) 20 Tests

LC50 = 229.8 ± 36.1

LC25 = 166.8 ± 34.4

NOEC = 121.4 ± 41.0



96 HOUR L/SP TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A.	Menidia beryllina	Tiburon 20 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. P.Krause	29Jul98		02Aug98	

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C) ~~25±2~~ 20±2	SAL (ppt) 30±2	DO (mg/L) ~~> 5.0~~ 4.5	NH3 (mg/L) < 4.0	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
					Bodega Sea Water		copper sulfate	copper		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 preserv.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-copper	0	µg/L	0	All	20	6.6	2	20.6	2	28	4	8.00					
				1	20	7.1	2	19.7	2	29		7.93					
Ref.Tox.-copper	0	µg/L	4	2	20	7.2	2	19.7		29		7.91					
				3													
				4													
Ref.Tox.-copper	25.5	µg/L	0	All	20	7.5	2	19.6	2	28	4	7.94					
				1	20	5.8	2	19.7	2	29		7.82					
Ref.Tox.-copper	25.5	µg/L	4	2	20	5.9	2	19.6		29		7.83					
				3													
				4													
Ref.Tox.-copper	51	µg/L	0	All	20	7.4	2	19.5	2	28	4	7.95					
				1	20	5.9	2	19.6	2	29	4	7.81					
Ref.Tox.-copper	51	µg/L	4	2	20	5.9	2	19.6		29		7.81					
				3													
				4													
Ref.Tox.-copper	102	µg/L	0	All	20	7.3	2	19.5	2	28	4	7.96					
				1	20	6.0	2	19.6	2	29	4	7.81					
Ref.Tox.-copper	102	µg/L	4	2	20	6.1	2	19.6		29		7.84					
				3													
				4													
Ref.Tox.-copper	204	µg/L	0	All	20	7.2	2	19.5	2	28	4	7.96					
				1	20	6.1	2	19.5	2	29	4	7.84					
				~~2~~	~~20~~			~~19.7~~		~~29~~							
Ref.Tox.-copper	204	µg/L	4	3													
				4													
Ref.Tox.-copper	408	µg/L	0	All	20	7.2	2	19.5	2	28	4	7.97					
				1	20							7.81					
Ref.Tox.-copper	408	µg/L	4	2	20							7.88					
				3													
				4													

131120

96 HOUR L/SP TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	SPECIES	PROJECT MANAGER	MEC LABORATORY	ACCLM.MORT.	PROTOCOL
ACOE	L.A.	0719-019	Menidia beryllina	Dr. P.Krause	Tiburon 20 deg. room	<5 %	ASTM97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal DC = discoloration
LOE= loss of equilibrium = on bottom
Q = quiescent J = jumper
SUR= surfacing NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 07/30/98 TECHNICIAN SC/SLN #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 07/31/98 TECHNICIAN SC #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 08/01/98 TECHNICIAN MSB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 08/02/98 TECHNICIAN CL #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.-copper	REPS		1	10	10	0	N	10	0	N	10		N	9 10	0	N
	1 1/2 L		2	10	~~9~~ 8	~~1~~ 2	N	9	0	N	~~10~~ 9		N	~~8~~ 9	1	N
	0 µg/L		3													
	* TOX 07/15/98 CL		4													
			5													
Ref.Tox.-copper	25.5 µg/L		1	10	10	0	N	10	0	N	10		N	10		N
			2	10	10	0	N	10	0	N	10		N	10		N
			3													
			4													
			5													
Ref.Tox.-copper	51 µg/L		1	10	10	0	N	10	0	N	10		N	10		N
			2	10	7	1	N	9	0	N	9		N	9		N
			3													
			4													
			5													
Ref.Tox.-copper	102 µg/L		1	10	10	0	N	10	0	N	10		N	10		N
			2	~~10~~ 9	9	0	INJS	9	0	N	8	1	N	8		N
			3	* CL LOST MSB												
			4													
			5													
Ref.Tox.-copper	204 µg/L		1	~~10~~ 11 *	9	2	N	2	7	Q	2	0	N	2		N
			2	10	5	5	N	1	4	LOE, OB, Q	0	1				
			3													
			4													
			5													
Ref.Tox.-copper	408 µg/L		1	10	6	4	JOR	0	6							
			2	10	6	4	MDE	0	6							
			3													
			4													
			5													

TEST CONCENTRATION PREPARATION
(Dilutions)

Lab Form 59 (rev. 9/89)
MEC Analytical Systems
3150 Paradise Dr., Bldg 36
Tiburon, CA 94920

Study Number 0719-019
Study Director PK

Species: M. beryllina
Prepared by: mjb

Test Material: Copper Sulfate--- 500 mg/L
No. of Replicates: 2

Concentration µg Cu/L	Diluent 1 30 ‰ Seawater (mLs)	Diluent 2 (mLs)	Salt (mLs)	100% Test Material (mLs)	___ % Test Material (mLs)
1) Control	1000				
2)					
3) 25.5	1000			0.2	
4) 51	1000			0.4	
5) 102	999			0.8	
6) 204	998			1.6	
7) 408	997			3.2	
8)					
9)					
10)					

DAY 0
Date/ID ~~SW 07~~ ~~[illegible]~~ SD, MSB 07/29/98

Species: M. beryllina
Prepared by: mjb

Test Material: Elutriate
No. of Replicates: 2

Concentration %	Diluent 1 30 ‰ Seawater (mLs)	Diluent 2 (mLs)	Salt (mLs)	100% Test Material (mLs)	___ % Test Material (mLs)
1) Control	500				
2)					
3) 10	~~400~~ 450			~~100~~ 50	
4) 50	250			250	
5) 100	0			500	
6)					
7)					
8)					
9)					
10)					

DAY 0
Date/ID 07/29/98 MSB

Checked By: ________________

BIVALVE LARVAE 48 HOUR TEST
INTERACTIVE DATA SETUP

GENERAL

CLIENT:	LA ACOE
PROJECT:	LA River Estuary
MEC JOB NUMBER:	0719-019
PROJECT MANAGER:	*Krause/ Green*
TEST SPECIES:	Mytilus edulis (mussel)
TEST PROTOCOL:	ASTM 1997
LABORATORY SITE:	Carlsbad
TEST LOCATION:	Room 2
TEST START DATE:	29Jul98
TEMP. RECORDER#:	8378
DILUTION WATER BATCH:	62998
FEEDING INFORMATION:	
WATER RENEWAL INFO:	

FIELD SAMPLE

DATE RECEIVED AT MEC:	Jul16-Jul20, 1998
SAMPLE STORAGE:	
SAMPLE TREATMENT:	
TEST CHAMBER:	
EXPOSURE VOLUME:	mL elutriate/seawater
REFERENCE TOXICANT:	copper
REF. TOX. MATERIAL:	*copper sulfate*

REFTOX CONC (µg/ L)

0
2.5
5
10
20
40

	CLIENT SAMPLE ID	MEC SAMPLE ID	CONTROL ID	MEC CONTROL ID
1	Control Sed	C980716.0242	Control Sed.	C980716.02
2	1 Top Comp	.		
3	2 Top Comp	.		
4	1 Bottom Comp	.		
5	2 Bottom Comp	.		
6	3 Comp	.	.	.
7	.	.		
8	.	.		
9	.	.		
10	.	.		
11	.	.	.	.
12	.	.		
13	.	.		
14	.	.		
15	.	.		
16	.	.	.	.
17	.	.		
18	.	.		
19	.	.		
20	.	.		
21	.	.	.	.
22	.	.		
23	.	.		
24	.	.		
25	.	.		

BIVALVE LARVAE TEST DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 2	ASTM 1997

TEST ORGANISM SPAWNING DATA

SPECIES			
Mytilus edulis (mussel)			
SUPPLIER			ORGANISM BATCH NO.
DATE RECEIVED	TIME RECEIVED		DATE USED
SPAWNING METHOD	INITIAL SPAWNING TIME		FINAL SPAWNING TIME
MALES / FEMALES	SPERM VIABILITY		EGG CONDITION
BEGIN FERTILIZATION	END FERTILIZATION		CONDITION OF EMBRYOS

SAMPLE STORAGE
SEDIMENT TREATMENT
TEST CHAMBERS
EXPOSURE VOLUME
mL elutriate/seawater

SOURCE OF DILUENT	TEMP (C)	DO (mg/L)	pH
SUBSAMPLE DILUTION FACTOR	SUBSAMPLE VOLUME (mL)		

COUNT 1.	COUNT 2.	COUNT 3.	MEAN OF COUNTS
EXPOSURE VOLUME (mL)	TARGET VIAL DENSITY(#/mL)		TARGET INNOC. VOL. (mL)
	30		

STOCK DENSITY (#/mL)
MEAN OF COUNTS / SUBSAMPLE DILUTION FACTOR / SUBSAMPLE VOLUME

DILUTION FACTOR FOR ADJUSTMENT OF STOCK DENSITY
(EXP. VOLUME * TARGET VIAL DENSITY / TARGET INNOC.VOLUME) / (STOCK DENSITY)

INNOCULATION VOLUME (mL)
(TARGET VIAL DENSITY * EXPOSURE VOLUME) / ADJUSTED STOCK DENSITY

ESTIMATED VIAL DENSITY (#/mL)
(ADJUSTED STOCK DENSITY * INNOC.VOLUME) / (EXPOSURE VOLUME + INNOC. VOLUME)

DATE/TIME INNOC.	COUNTS BY	CALCULATIONS BY	QA BY

MEC ANALYTICAL SYSTEMS, INC.

BIVALVE LARVAE TEST DATA SHEET 2

CLIENT	PROJECT
LA ACOE	LA River Estuary
MEC JOB NUMBER	**PROJECT MANAGER**
0719-019	Krause/ Green

SPECIES		MEC LABORATORY	PROTOCOL
Mytilus edulis (mussel)		Carlsbad Room 2	ASTM 1997
TEST START DATE	**TIME**	**TEST END DATE**	**TIME**
29Jul98	1730	31Jul98	1815

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 5.0	16±2	30±2	8.0±0.5			62998	8378

CLIENT/ MEC ID	CONCENTRATION		DAY	DISS. OXYGEN		TEMPERATURE		SALINITY		pH		AMMONIA		TECHNICIAN
	value	units		meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	
Control Sed. / C980716.02	0	%	0		7.0		17.4		32.2		8.3			
			1											
			2		8.0		16.3		32.6		8.2			

MEC ANALYTICAL SYSTEMS, INC.

BIVALVE LARVAE TEST DATA SHEET 2

CLIENT	PROJECT
LA ACOE	LA River Estuary
MEC JOB NUMBER	**PROJECT MANAGER**
0719-019	Krause/ Green

SPECIES		MEC LABORATORY	PROTOCOL
Mytilus edulis (mussel)		Carlsbad Room 2	ASTM 1997
TEST START DATE	**TIME**	**TEST END DATE**	**TIME**
29Jul98	1730	31Jul98	1815

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 5.0	16±2	30±2	8.0±0.5			62998	8378

CLIENT/ MEC ID	CONCENTRATION		DAY	DISS. OXYGEN		TEMPERATURE		SALINITY		pH		AMMONIA		TECHNICIAN
	value	units		meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	
1 Top Comp / .	1 %		0		7.7		17.2		32.3		8.3			
			1											
			2		7.9		17.3		32.3		8.1			
1 Top Comp / .	10 %		0		7.0		16.5		32.9		8.2			
			1											
			2		8.0		17.2		32.8		8.1			
1 Top Comp / .	50 %		0		7.0		17.3		32.7		8.1			
			1											
			2		7.9		17.0		32.8		8.2			
1 Top Comp / .	100 %		0		6.1		17.5		32.5		7.9			
			1											
			2		7.8		16.5		32.8		8.1			

MEC ANALYTICAL SYSTEMS, INC.

BIVALVE LARVAE TEST DATA SHEET 2

CLIENT	PROJECT
LA ACOE	LA River Estuary
MEC JOB NUMBER	PROJECT MANAGER
0719-019	Krause/ Green

SPECIES		MEC LABORATORY	PROTOCOL
Mytilus edulis (mussel)		Carlsbad Room 2	ASTM 1997
TEST START DATE	TIME	TEST END DATE	TIME
29Jul98	1730	31Jul98	1815

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 5.0	16±2	30±2	8.0±0.5			62998	8378

CLIENT/ MEC ID	CONCENTRATION		DAY	DISS. OXYGEN		TEMPERATURE		SALINITY		pH		AMMONIA		TECHNICIAN
	value	units		meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	
2 Top Comp / .	1	%	0		6.9		16.6		32.1		8.3			
			1											
			2		7.7		18.9		32.2		8.1			
2 Top Comp / .	10	%	0		7.2		16.8		32.6		8.3			
			1											
			2		7.8		18.7		32.8		8.1			
2 Top Comp / .	50	%	0		7.0		16.4		32.5		8.1			
			1											
			2		7.8		18.4		32.5		8.2			
2 Top Comp / .	100	%	0		6.2		17.7		32.7		7.9			
			1											
			2		7.7		17.3		32.7		8.1			

MEC ANALYTICAL SYSTEMS, INC.

BIVALVE LARVAE TEST DATA SHEET 2

CLIENT	PROJECT	SPECIES		MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	Mytilus edulis (mussel)		Carlsbad Room 2	ASTM 1997
MEC JOB NUMBER	**PROJECT MANAGER**	**TEST START DATE**	**TIME**	**TEST END DATE**	**TIME**
0719-019	Krause/ Green	29Jul98	1730	31Jul98	1815

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 5.0	16±2	30±2	8.0±0.5			62998	8378

CLIENT/ MEC ID	CONCENTRATION		DAY	DISS. OXYGEN		TEMPERATURE		SALINITY		pH		AMMONIA		TECHNICIAN
	value	units		meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	
1 Bottom Comp / .	1 %		0		7.1		16.7		32.1		8.3			
			1											
			2		7.9		17.0		32.3		8.1			
1 Bottom Comp / .	10 %		0		7.2		17.0		32.7		8.2			
			1											
			2		7.9		17.0		32.9		8.2			
1 Bottom Comp / .	50 %		0		6.9		16.9		32.8		8.1			
			1											
			2		8.0		16.5		32.8		8.3			
1 Bottom Comp / .	100 %		0		5.6		18.0		32.7		8.0			
			1											
			2		7.8		16.2		33.0		8.3			

MEC ANALYTICAL SYSTEMS, INC.

BIVALVE LARVAE TEST DATA SHEET 2

CLIENT	PROJECT	SPECIES		MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	Mytilus edulis (mussel)		Carlsbad Room 2	ASTM 1997
MEC JOB NUMBER	**PROJECT MANAGER**	**TEST START DATE**	**TIME**	**TEST END DATE**	**TIME**
0719-019	Krause/ Green	29Jul98	1730	31Jul98	1815

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 5.0	16±2	30±2	8.0±0.5			62998	8378

CLIENT/ MEC ID	CONCENTRATION		DAY	DISS. OXYGEN		TEMPERATURE		SALINITY		pH		AMMONIA		TECHNICIAN
	value	units		meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	
2 Bottom Comp / .	1 %		0		7.1		17.1		32.0		8.2			
			1											
			2		7.8		18.8		32.2		8.1			
2 Bottom Comp / .	10 %		0		7.0		16.5		32.7		8.2			
			1											
			2		7.9		18.6		32.9		8.1			
2 Bottom Comp / .	50 %		0		7.0		16.3		33.1		8.1			
			1											
			2		7.9		18.6		32.8		8.4			
2 Bottom Comp / .	100 %		0		5.4		17.7		32.8		8.0			
			1											
			2		7.7		17.6		33.0		8.3			

MEC ANALYTICAL SYSTEMS, INC.

BIVALVE LARVAE TEST DATA SHEET 2

CLIENT	PROJECT
LA ACOE	LA River Estuary
MEC JOB NUMBER	**PROJECT MANAGER**
0719-019	Krause/ Green

SPECIES		MEC LABORATORY	PROTOCOL
Mytilus edulis (mussel)		Carlsbad Room 2	ASTM 1997
TEST START DATE	**TIME**	**TEST END DATE**	**TIME**
29Jul98	1730	31Jul98	1815

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP. RECORDER (HOBO) #
	> 5.0	16±2	30±2	8.0±0.5			62998	8378

CLIENT/ MEC ID	CONCENTRATION		DAY	DISS. OXYGEN		TEMPERATURE		SALINITY		pH		AMMONIA		TECHNICIAN
	value	units		meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	
3 Comp / .	1 %		0		7.0		16.1		32.4		8.3			
			1											
			2		7.8		16.3		32.2		8.1			
3 Comp / .	10 %		0		7.0		16.6		32.8		8.3			
			1											
			2		8.0		16.2		33.0		8.1			
3 Comp / .	50 %		0		7.2		17.1		33.1		8.1			
			1											
			2		7.8		17.4		33.0		8.3			
3 Comp / .	100 %		0		6.3		18.0		33.0		8.0			
			1											
			2		7.8		16.4		32.9		8.3			

BIVALVE LARVAE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES					
Mytilus edulis (mussel)					
CLIENT	**PROJECT**	**MEC JOB NUMBER**	**PROJECT MANAGER**	**MEC LABORATORY**	**PROTOCOL**
LA ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 2	ASTM 1997

LARVAL OBSERVATION DATA

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
ZERO-TIME (PRE)	0	%		1	233				
				2	196				
				3	220				
				4	269				
				5					
Control Sed. / C980716.02	0	%		1	244	25			
				2	209	13			
				3	216	18			
				4	235	13			
				5	213	20			

BIVALVE LARVAE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES					
Mytilus edulis (mussel)					
CLIENT	**PROJECT**	**MEC JOB NUMBER**	**PROJECT MANAGER**	**MEC LABORATORY**	**PROTOCOL**
LA ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 2	ASTM 1997

LARVAL OBSERVATION DATA

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
1 Top Comp / .	1	%		1	244	26			
				2	237	18			
				3	221	27			
				4	225	23			
				5	216	23			
1 Top Comp / .	10	%		1	238	23			
				2	238	26			
				3	240	30			
				4	216	22			
				5	243	24			
1 Top Comp / .	50	%		1	7	272			
				2	0	213			
				3	0	288			
				4	0	256			
				5	0	243			
1 Top Comp / .	100	%		1	0	200			
				2	0	277			
				3	0	208			
				4	0	215			
				5	0	147			

BIVALVE LARVAE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES					
Mytilus edulis (mussel)					
CLIENT	**PROJECT**	**MEC JOB NUMBER**	**PROJECT MANAGER**	**MEC LABORATORY**	**PROTOCOL**
LA ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 2	ASTM 1997

LARVAL OBSERVATION DATA

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
2 Top Comp / .	1	%		1	200	29			
				2	194	25			
				3	197	27			
				4	209	21			
				5	197	26			
2 Top Comp / .	10	%		1	214	30			
				2	190	31			
				3	197	25			
				4	200	26			
				5	203	29			
2 Top Comp / .	50	%		1	0	229			
				2	0	226			
				3	0	232			
				4	0	205			
				5	0	223			
2 Top Comp / .	100	%		1	0	0			
				2	0	0			
				3	0	0			
				4	0	0			
				5	0	0			

BIVALVE LARVAE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES					
Mytilus edulis (mussel)					
CLIENT	**PROJECT**	**MEC JOB NUMBER**	**PROJECT MANAGER**	**MEC LABORATORY**	**PROTOCOL**
LA ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 2	ASTM 1997

LARVAL OBSERVATION DATA

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
1 Bottom Comp /	1 %			1	192	18			
				2	191	18			
				3	243	28			
				4	196	16			
				5	222	33			
1 Bottom Comp /	10 %			1	0	296			
				2	0	219			
				3	0	233			
				4	0	244			
				5	0	284			
1 Bottom Comp /	50 %			1	0	0			
				2	0	0			
				3	0	0			
				4	0	0			
				5	0	0			
1 Bottom Comp /	100 %			1	0	0			
				2	0	0			
				3	0	0			
				4	0	0			
				5	0	0			

BIVALVE LARVAE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES					
Mytilus edulis (mussel)					
CLIENT	**PROJECT**	**MEC JOB NUMBER**	**PROJECT MANAGER**	**MEC LABORATORY**	**PROTOCOL**
LA ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 2	ASTM 1997

LARVAL OBSERVATION DATA

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
2 Bottom Comp / .	1 %			1	244	16			
				2	193	40			
				3	203	42			
				4	205	44			
				5	209	32			
2 Bottom Comp / .	10 %			1	0	265			
				2	0	213			
				3	0	215			
				4	0	208			
				5	0	231			
2 Bottom Comp / .	50 %			1	0	0			
				2	0	0			
				3	0	0			
				4	0	0			
				5	0	0			
2 Bottom Comp / .	100 %			1	0	0			
				2	0	0			
				3	0	0			
				4	0	0			
				5	0	0			

BIVALVE LARVAE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES					
Mytilus edulis (mussel)					
CLIENT	**PROJECT**	**MEC JOB NUMBER**	**PROJECT MANAGER**	**MEC LABORATORY**	**PROTOCOL**
LA ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 2	ASTM 1997

LARVAL OBSERVATION DATA

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
3 Comp / .	1	%		1	198	41			
				2	205	36			
				3	170	48			
				4	186	40			
				5	199	35			
3 Comp / .	10	%		1	199	32			
				2	174	26			
				3	205	40			
				4	205	45			
				5	158	26			
3 Comp / .	50	%		1	0	237			
				2	0	232			
				3	0	225			
				4	0	243			
				5	0	220			
3 Comp / .	100	%		1	0	180			
				2	0	184			
				3	0	177			
				4	0	180			
				5	0	171			

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 48-hour bivalve test

LA ACOE LA River Estuary

WATER QUALITY

CLIENT SAMPLE ID	MEC SAMPLE ID	DISS.OXYGEN (mg/L)			DISS.OXYGEN (%SAT)	TEMPERATURE (°C)			SALINITY (ppt)			pH		
		Mean	Min	Max	Mean	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Reference Toxicant	copper	**7.1**	6.6	7.3	**87.8**	**15.7**	15.5	16.1	**32.8**	32.3	33.1	**8.3**	8.2	8.3
Control	C980716.02	**7.5**	7.0	8.0	**94.8**	**16.9**	16.3	17.4	**32.4**	32.2	32.6	**8.3**	8.2	8.3
1 Top Comp	.	**7.4**	6.1	8.0	**94.3**	**17.1**	16.5	17.5	**32.6**	32.3	32.9	**8.1**	7.9	8.3
2 Top Comp	.	**7.3**	6.2	7.8	**93.5**	**17.6**	16.4	18.9	**32.5**	32.1	32.8	**8.1**	7.9	8.3
1 Bottom Comp	.	**7.3**	5.6	8.0	**92.5**	**16.9**	16.2	18.0	**32.7**	32.1	33.0	**8.2**	8.0	8.3
2 Bottom Comp	.	**7.2**	5.4	7.9	**92.9**	**17.7**	16.3	18.8	**32.7**	32.0	33.1	**8.2**	8.0	8.4
3 Comp	.	**7.4**	6.3	8.0	**93.1**	**16.8**	16.1	18.0	**32.8**	32.2	33.1	**8.2**	8.0	8.3

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 48-hour bivalve test

Mytilus edulis (mussel) **LA ACOE LA River Estuary**

SURVIVAL

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL	% SURVIVAL	MEAN SURVIVAL	NORMAL	ABNORMAL	% NORMAL (SURVIVORS)	% NORMAL (INITIAL)
Reference Toxicant	copper	0 mg/L	1	229.5	177	77.1		141	36	79.7	61.4
Reference Toxicant	copper	0 mg/L	2	229.5	198	86.3		168	30	84.8	73.2
Reference Toxicant	copper	0 mg/L	3	229.5	174	75.8	78.1	161	13	92.5	70.2
Reference Toxicant	copper	0 mg/L	4	229.5	168	73.2		156	12	92.9	68.0
Reference Toxicant	copper	0 mg/L	5	229.5							
Reference Toxicant	copper	2.5 mg/L	1	229.5	162	70.6		141	21	87.0	61.4
Reference Toxicant	copper	2.5 mg/L	2	229.5	186	81.0		166	20	89.2	72.3
Reference Toxicant	copper	2.5 mg/L	3	229.5	175	76.3	79.7	158	17	90.3	68.8
Reference Toxicant	copper	2.5 mg/L	4	229.5	209	91.1		189	20	90.4	82.4
Reference Toxicant	copper	2.5 mg/L	5	229.5							
Reference Toxicant	copper	5 mg/L	1	229.5	193	84.1		166	27	86.0	72.3
Reference Toxicant	copper	5 mg/L	2	229.5	186	81.0		163	23	87.6	71.0
Reference Toxicant	copper	5 mg/L	3	229.5	203	88.5	84.6	178	25	87.7	77.6
Reference Toxicant	copper	5 mg/L	4	229.5	195	85.0		168	27	86.2	73.2
Reference Toxicant	copper	5 mg/L	5	229.5							
Reference Toxicant	copper	10 mg/L	1	229.5	73	31.8		4	69	5.5	1.7
Reference Toxicant	copper	10 mg/L	2	229.5	33	14.4		9	24	27.3	3.9
Reference Toxicant	copper	10 mg/L	3	229.5	72	31.4	26.1	16	56	22.2	7.0
Reference Toxicant	copper	10 mg/L	4	229.5	62	27.0		16	46	25.8	7.0
Reference Toxicant	copper	10 mg/L	5	229.5							
Reference Toxicant	copper	20 mg/L	1	229.5	4	1.7		1	3	25.0	0.4
Reference Toxicant	copper	20 mg/L	2	229.5	5	2.2		0	5	0.0	0.0
Reference Toxicant	copper	20 mg/L	3	229.5	9	3.9	2.6	2	7	22.2	0.9
Reference Toxicant	copper	20 mg/L	4	229.5	6	2.6		2	4	33.3	0.9
Reference Toxicant	copper	20 mg/L	5	229.5							
Reference Toxicant	copper	40 mg/L	1	229.5	4	1.7		0	4	0.0	0.0
Reference Toxicant	copper	40 mg/L	2	229.5	0	0.0		0	0	0.0	0.0
Reference Toxicant	copper	40 mg/L	3	229.5	5	2.2	1.4	0	5	0.0	0.0
Reference Toxicant	copper	40 mg/L	4	229.5	4	1.7		4	0	100.0	1.7
Reference Toxicant	copper	40 mg/L	5	229.5							

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 48-hour bivalve test

Mytilus edulis (mussel) **LA ACOE LA River Estuary**

SURVIVAL

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL	% SURVIVAL	MEAN SURVIVAL	NORMAL	ABNORMAL	% NORMAL (SURVIVORS)	% NORMAL (INITIAL)
Control	C980716.02	0 %	1	229.5	269	117.2		244	25	90.7	106.3
Control	C980716.02	0 %	2	229.5	222	96.7		209	13	94.1	91.1
Control	C980716.02	0 %	3	229.5	234	102.0	105.1	216	18	92.3	94.1
Control	C980716.02	0 %	4	229.5	248	108.1		235	13	94.8	102.4
Control	C980716.02	0 %	5	229.5	233	101.5		213	20	91.4	92.8
1 Top Comp	.	1 %	1	229.5	270	117.6		244	26	90.4	106.3
1 Top Comp	.	1 %	2	229.5	255	111.1		237	18	92.9	103.3
1 Top Comp	.	1 %	3	229.5	248	108.1	109.8	221	27	89.1	96.3
1 Top Comp	.	1 %	4	229.5	248	108.1		225	23	90.7	98.0
1 Top Comp	.	1 %	5	229.5	239	104.1		216	23	90.4	94.1
1 Top Comp	.	10 %	1	229.5	261	113.7		238	23	91.2	103.7
1 Top Comp	.	10 %	2	229.5	264	115.0		238	26	90.2	103.7
1 Top Comp	.	10 %	3	229.5	270	117.6	113.3	240	30	88.9	104.6
1 Top Comp	.	10 %	4	229.5	238	103.7		216	22	90.8	94.1
1 Top Comp	.	10 %	5	229.5	267	116.3		243	24	91.0	105.9
1 Top Comp	.	50 %	1	229.5	279	121.6		7	272	2.5	3.1
1 Top Comp	.	50 %	2	229.5	213	92.8		0	213	0.0	0.0
1 Top Comp	.	50 %	3	229.5	288	125.5	111.5	0	288	0.0	0.0
1 Top Comp	.	50 %	4	229.5	256	111.5		0	256	0.0	0.0
1 Top Comp	.	50 %	5	229.5	243	105.9		0	243	0.0	0.0
1 Top Comp	.	100 %	1	229.5	200	87.1		0	200	0.0	0.0
1 Top Comp	.	100 %	2	229.5	277	120.7		0	277	0.0	0.0
1 Top Comp	.	100 %	3	229.5	208	90.6	91.2	0	208	0.0	0.0
1 Top Comp	.	100 %	4	229.5	215	93.7		0	215	0.0	0.0
1 Top Comp	.	100 %	5	229.5	147	64.1		0	147	0.0	0.0
2 Top Comp	.	1 %	1	229.5	229	99.8		200	29	87.3	87.1
2 Top Comp	.	1 %	2	229.5	219	95.4		194	25	88.6	84.5
2 Top Comp	.	1 %	3	229.5	224	97.6	98.0	197	27	87.9	85.8
2 Top Comp	.	1 %	4	229.5	230	100.2		209	21	90.9	91.1
2 Top Comp	.	1 %	5	229.5	223	97.2		197	26	88.3	85.8

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 48-hour bivalve test

Mytilus edulis (mussel) **LA ACOE LA River Estuary**

SURVIVAL

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL	% SURVIVAL	MEAN SURVIVAL	NORMAL	ABNORMAL	% NORMAL (SURVIVORS)	% NORMAL (INITIAL)
2 Top Comp	.	10 %	1	229.5	244	106.3		214	30	87.7	93.2
2 Top Comp	.	10 %	2	229.5	221	96.3		190	31	86.0	82.8
2 Top Comp	.	10 %	3	229.5	222	96.7	99.8	197	25	88.7	85.8
2 Top Comp	.	10 %	4	229.5	226	98.5		200	26	88.5	87.1
2 Top Comp	.	10 %	5	229.5	232	101.1		203	29	87.5	88.5
2 Top Comp	.	50 %	1	229.5	229	99.8		0	229	0.0	0.0
2 Top Comp	.	50 %	2	229.5	226	98.5		0	226	0.0	0.0
2 Top Comp	.	50 %	3	229.5	232	101.1	97.2	0	232	0.0	0.0
2 Top Comp	.	50 %	4	229.5	205	89.3		0	205	0.0	0.0
2 Top Comp	.	50 %	5	229.5	223	97.2		0	223	0.0	0.0
2 Top Comp	.	100 %	1	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Top Comp	.	100 %	2	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Top Comp	.	100 %	3	229.5	0	0.0	0.0	0	0	#DIV/0!	0.0
2 Top Comp	.	100 %	4	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Top Comp	.	100 %	5	229.5	0	0.0		0	0	#DIV/0!	0.0
1 Bottom Comp	.	1 %	1	229.5	210	91.5		192	18	91.4	83.7
1 Bottom Comp	.	1 %	2	229.5	209	91.1		191	18	91.4	83.2
1 Bottom Comp	.	1 %	3	229.5	271	118.1	100.8	243	28	89.7	105.9
1 Bottom Comp	.	1 %	4	229.5	212	92.4		196	16	92.5	85.4
1 Bottom Comp	.	1 %	5	229.5	255	111.1		222	33	87.1	96.7
1 Bottom Comp	.	10 %	1	229.5	296	129.0		0	296	0.0	0.0
1 Bottom Comp	.	10 %	2	229.5	219	95.4		0	219	0.0	0.0
1 Bottom Comp	.	10 %	3	229.5	233	101.5	111.2	0	233	0.0	0.0
1 Bottom Comp	.	10 %	4	229.5	244	106.3		0	244	0.0	0.0
1 Bottom Comp	.	10 %	5	229.5	284	123.7		0	284	0.0	0.0
1 Bottom Comp	.	50 %	1	229.5	0	0.0		0	0	#DIV/0!	0.0
1 Bottom Comp	.	50 %	2	229.5	0	0.0		0	0	#DIV/0!	0.0
1 Bottom Comp	.	50 %	3	229.5	0	0.0	0.0	0	0	#DIV/0!	0.0
1 Bottom Comp	.	50 %	4	229.5	0	0.0		0	0	#DIV/0!	0.0
1 Bottom Comp	.	50 %	5	229.5	0	0.0		0	0	#DIV/0!	0.0

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 48-hour bivalve test

Mytilus edulis (mussel) **LA ACOE LA River Estuary**

SURVIVAL

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL	% SURVIVAL	MEAN SURVIVAL	NORMAL	ABNORMAL	% NORMAL (SURVIVORS)	% NORMAL (INITIAL)
1 Bottom Comp	.	100 %	1	229.5	0	0.0		0	0	#DIV/0!	0.0
1 Bottom Comp	.	100 %	2	229.5	0	0.0		0	0	#DIV/0!	0.0
1 Bottom Comp	.	100 %	3	229.5	0	0.0	0.0	0	0	#DIV/0!	0.0
1 Bottom Comp	.	100 %	4	229.5	0	0.0		0	0	#DIV/0!	0.0
1 Bottom Comp	.	100 %	5	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Bottom Comp	.	1 %	1	229.5	260	113.3		244	16	93.8	106.3
2 Bottom Comp	.	1 %	2	229.5	233	101.5		193	40	82.8	84.1
2 Bottom Comp	.	1 %	3	229.5	245	106.8	107.0	203	42	82.9	88.5
2 Bottom Comp	.	1 %	4	229.5	249	108.5		205	44	82.3	89.3
2 Bottom Comp	.	1 %	5	229.5	241	105.0		209	32	86.7	91.1
2 Bottom Comp	.	10 %	1	229.5	265	115.5		0	265	0.0	0.0
2 Bottom Comp	.	10 %	2	229.5	213	92.8		0	213	0.0	0.0
2 Bottom Comp	.	10 %	3	229.5	215	93.7	98.6	0	215	0.0	0.0
2 Bottom Comp	.	10 %	4	229.5	208	90.6		0	208	0.0	0.0
2 Bottom Comp	.	10 %	5	229.5	231	100.7		0	231	0.0	0.0
2 Bottom Comp	.	50 %	1	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Bottom Comp	.	50 %	2	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Bottom Comp	.	50 %	3	229.5	0	0.0	0.0	0	0	#DIV/0!	0.0
2 Bottom Comp	.	50 %	4	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Bottom Comp	.	50 %	5	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Bottom Comp	.	100 %	1	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Bottom Comp	.	100 %	2	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Bottom Comp	.	100 %	3	229.5	0	0.0	0.0	0	0	#DIV/0!	0.0
2 Bottom Comp	.	100 %	4	229.5	0	0.0		0	0	#DIV/0!	0.0
2 Bottom Comp	.	100 %	5	229.5	0	0.0		0	0	#DIV/0!	0.0
3 Comp	.	1 %	1	229.5	239	104.1		198	41	82.8	86.3
3 Comp	.	1 %	2	229.5	241	105.0		205	36	85.1	89.3
3 Comp	.	1 %	3	229.5	218	95.0	100.9	170	48	78.0	74.1
3 Comp	.	1 %	4	229.5	226	98.5		186	40	82.3	81.0
3 Comp	.	1 %	5	229.5	234	102.0		199	35	85.0	86.7

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 48-hour bivalve test

Mytilus edulis (mussel) **LA ACOE LA River Estuary**

SURVIVAL

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL	% SURVIVAL	MEAN SURVIVAL	NORMAL	ABNORMAL	% NORMAL (SURVIVORS)	% NORMAL (INITIAL)
3 Comp	.	10 %	1	229.5	231	100.7		199	32	86.1	86.7
3 Comp	.	10 %	2	229.5	200	87.1		174	26	87.0	75.8
3 Comp	.	10 %	3	229.5	245	106.8	96.7	205	40	83.7	89.3
3 Comp	.	10 %	4	229.5	250	108.9		205	45	82.0	89.3
3 Comp	.	10 %	5	229.5	184	80.2		158	26	85.9	68.8
3 Comp	.	50 %	1	229.5	237	103.3		0	237	0.0	0.0
3 Comp	.	50 %	2	229.5	232	101.1		0	232	0.0	0.0
3 Comp	.	50 %	3	229.5	225	98.0	100.8	0	225	0.0	0.0
3 Comp	.	50 %	4	229.5	243	105.9		0	243	0.0	0.0
3 Comp	.	50 %	5	229.5	220	95.9		0	220	0.0	0.0
3 Comp	.	100 %	1	229.5	180	78.4		0	180	0.0	0.0
3 Comp	.	100 %	2	229.5	184	80.2		0	184	0.0	0.0
3 Comp	.	100 %	3	229.5	177	77.1	77.7	0	177	0.0	0.0
3 Comp	.	100 %	4	229.5	180	78.4		0	180	0.0	0.0
3 Comp	.	100 %	5	229.5	171	74.5		0	171	0.0	0.0

MEC ANALYTICAL SYSTEMS, INC.

48-HOUR CHRONIC TOXICITY DATA SHEET FOR BIVALVES

BIO042

CLIENT: ACOE	DATE RECEIVED: 7/16-7/20/98
PROJECT: LARE	DATE TEST STARTED: 7/29/98
CLIENT SAMPLE ID: 1 Top Comp	DATE TEST ENDED: 7/31/98
MEC SAMPLE ID:	MEC SOP NO.: B10042A.01
STUDY DIRECTOR: P. Krause	SPECIES: M. edulis

	Concentration	DO ~~(ppm)~~ mg/L	Temp (°C)	Salinity (ppt)	pH
Day 0 (0 Hours)	CONTROL	7.0	17.4	32.2	8.3
Date: 7/29/98	~~BRINE CONTROL~~ %	7.7	17.2	32.3	8.3
Time: 16:15	10 %	7.0	16.5	32.9	8.2
Technician: AM	50 %	7.0	17.3	32.7	8.1
	100 %	6.1	17.5	32.5	7.9
48 Hours	CONTROL	8.0	16.3	32.6	8.2
	~~BRINE CONTROL~~ %	7.7	17.3	32.3	8.1
Date: 7/31/98	10%	8.0	17.2	32.8	8.1
Time: 17:30	50%	7.9	17.0	32.8	8.2
Technician: D.M	100%	7.8	16.5	32.8	8.1

SPAWNING DATA

Initial Spawning Time:	Final Spawning Time:	Fertilization Time:	No. of Females:	No. of Males:
Count/mL of Egg Dilution:	1.	2.	3.	Mean:
Dilution Factor:				

LARVAL COUNT DATA

Conc.	Rep 1		Rep 2		Rep 3		Rep 4		Rep 5		X 229.5 Initials
	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	
0-Time	233		196		220		269				
Control	244	25	209	13	216	18	235	13	213	20	AM/MG
Brine											
1%	244	26	237	18	221	27	225	23	216	23	AM
10	238	23	238	26	240	30	216	22	243	24	AM
50	7	272	0	213	0	288	0	256	0	243	AM
100	0	200	0	277	0	208	0	215	0	147	AM

START TIME: ~~16:30~~ 17:30 0 AM	
END TIME: 17:30	
ORGANISM BATCH:	JD072498
HOBO TEMP. NO.:	8378
TEST LOCATION:	Rm 2

0 IE 7/29/98 AM

DILUTION WATER BATCH:		
pH: 8.3	DO: 7.0	TEMP.: 17.4
REF. TOX.:	LOT NO.:	
48-HR LC50:	TEST DATE:	

TEST ACCEPTABILITY:

- ☐ 70% SURVIVAL IN CONTROL (oysters) or 50% SURVIVAL FOR MUSSELS
- ☐ 90% NORMAL SHELL DEVELOPMENT IN SURVIVING CONTROLS
- ☐ MSD < 25%

MEC ANALYTICAL SYSTEMS, INC.

48-HOUR CHRONIC TOXICITY DATA SHEET FOR BIVALVES

BIO042

CLIENT: ACOE	DATE RECEIVED: 7/16-7/20/98
PROJECT: LARE	DATE TEST STARTED: 7/29/98
CLIENT SAMPLE ID: 1 Bottom Comp	DATE TEST ENDED: 7/31/98
MEC SAMPLE ID:	MEC SOP NO.: BIO042A.01
STUDY DIRECTOR: P. Krause	SPECIES: M. edulis

	Concentration	DO (%)	Temp (°C)	Salinity (ppt)	pH
Day 0 (0 Hours)	CONTROL	7.0	17.4	32.2	8.3
Date: 7/29/98	~~BRINE CONTROL~~ 1%	7.1	16.7	32.1	8.3
Time: 16:25	10%	7.2	17.0	32.7	8.2
Technician: AM	50%	6.9	16.9	32.8	8.1
	100%	5.6	18.0	32.7	8.0
48 Hours	CONTROL	8.0	16.3	32.6	8.2
Date: 7/31/98	~~BRINE CONTROL~~ 1%	7.9	17.0	32.3	8.1
Time: 17:30	10%	7.9	17.0	32.9	8.2
Technician: DM.	50%	8.0	16.5	32.8	8.3
	100%	7.8	16.2	33.0	8.3

SPAWNING DATA

Initial Spawning Time:	Final Spawning Time:	Fertilization Time:	No. of Females:	No. of Males:
Count/mL of Egg Dilution:	1.	2.	3.	Mean:
Dilution Factor:				

LARVAL COUNT DATA

Conc.	Rep 1		Rep 2		Rep 3		Rep 4		Rep 5		Initials
	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	
0-Time	233		196		220		269				
Control	244	25	209	13	216	18	235	13	213	20	
Brine											
1 %	192	18	191	18	243	28	196	16	222	33	MN
10	0	296	0	219	~~233~~	233	0	244	0	284	MN
50	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	MN
100	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	MN

START TIME: ~~16:30~~ 17:30 (D AM	DILUTION WATER BATCH:
END TIME: 17:30	pH: 8.3 DO: 7.0 TEMP.: 17.4
ORGANISM BATCH: JD072498	REF. TOX.: LOT NO.:
HOBO TEMP. NO.: 8378	48-HR LC50: TEST DATE:
TEST LOCATION: Rm 2	

TEST ACCEPTABILITY:
- ☐ 70% SURVIVAL IN CONTROL (oysters) or 50% SURVIVAL FOR MUSSELS
- ☐ 90% NORMAL SHELL DEVELOPMENT IN SURVIVING CONTROLS
- ☐ MSD < 25%

(D IE AM 7/29/98
@ WC MN 8/26/98

MEC ANALYTICAL SYSTEMS, INC.

48-HOUR CHRONIC TOXICITY DATA SHEET FOR BIVALVES

BIO042

CLIENT: LARE / ACOE	DATE RECEIVED: 7/16-7/20/98
PROJECT: LARE	DATE TEST STARTED: 7/29/98
CLIENT SAMPLE ID:	DATE TEST ENDED: 7/31/98
MEC SAMPLE ID: 2 Top Comp	MEC SOP NO.: BIO042A.01
STUDY DIRECTOR: P. Krause	SPECIES: M. edulis

	Concentration	DO (%)	Temp (°C)	Salinity (ppt)	pH
Day 0 (0 Hours)	CONTROL	7.0	17.4	32.2	8.3
Date: 7/29/98	~~BRINE CONTROL~~ %	6.9	16.6	32.1	8.3
Time: 16:25	10 %	7.2	16.8	32.6	8.3
Technician: AM	50 %	7.0	16.4	32.5	8.1
	100 %	6.2	17.7	32.7	7.9
48 Hours	CONTROL	8.0	16.3	32.6	8.2
Date: 7/31/98	~~BRINE CONTROL~~ 1%	7.7 ~~8.0~~	18.9	32.2	8.1
Time: 17:30	10 %	7.8	18.7	32.8	8.1
Technician: D.M.	50 %	7.8	18.4	32.5	8.2
	100 %	7.7	17.3	32.7	8.1

SPAWNING DATA

Initial Spawning Time:	Final Spawning Time:	Fertilization Time:	No. of Females:	No. of Males:
Count/mL of Egg Dilution:	1.	2.	3.	Mean:
Dilution Factor:				-

LARVAL COUNT DATA

Conc.	Rep 1		Rep 2		Rep 3		Rep 4		Rep 5		Initials
	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	
0-Time	233		196		220		269				
Control	244	25	209	13	216	18	235	13	213	20	
Brine											
1%	200	29	194	25	197	27	209	21	197	26	MW
10	219	30	190	31	197	25	200	26	203	29	MW
50	0	229	0	226	0	232	0	205	0	223	MW
~~100~~	ø	ø	ø	ø	ø	ø	ø	ø	ø	ø	MW

START TIME: ~~16:30~~ 17:30 (0 AM	DILUTION WATER BATCH:
END TIME: 17:30	pH: 8.3 DO: 7.0 TEMP.: 17.4
ORGANISM BATCH: JD072998	REF. TOX.: LOT NO.:
HOBO TEMP. NO.: 8378	48-HR LC50: TEST DATE:
TEST LOCATION: Rm 2	

TEST ACCEPTABILITY:
- ☐ 70% SURVIVAL IN CONTROL (oysters) or 50% SURVIVAL FOR MUSSELS
- ☐ 90% NORMAL SHELL DEVELOPMENT IN SURVIVING CONTROLS
- ☐ MSD < 25%

OIE AM 7/29/98

MEC ANALYTICAL SYSTEMS, INC.

48-HOUR CHRONIC TOXICITY DATA SHEET FOR BIVALVES

BIO042

CLIENT: ACOE	DATE RECEIVED: 7/16 - 7/20/98
PROJECT: LARE	DATE TEST STARTED: 7/24/98
CLIENT SAMPLE ID: 2 Bottom Comp	DATE TEST ENDED: 7/31/98
MEC SAMPLE ID: 2 Bottom Comp	MEC SOP NO.: BIO042A-01
STUDY DIRECTOR: P. Krause	SPECIES: M. edulis

	Concentration	DO (%)	Temp (°C)	Salinity (ppt)	pH
Day 0 (0 Hours)	CONTROL	7.0	17.4	32.2	8.3
Date: 7/24/98	~~BRINE CONTROL~~ 1%	7.1	17.1	32.0	8.2
Time: 16:30	10 %	7.0	16.5	32.7	8.2
Technician: AM	50 %	7.0	16.3	33.1	8.1
	100 %	5.4	17.7	32.8	8.0
48 Hours	CONTROL	8.0	16.3	32.6	8.2
Date: 7/31/98	~~BRINE CONTROL~~ 1%	7.8	18.8	32.3	8.1
Time: 17:30	10%	7.9	18.6	32.9	8.1
Technician: D.M.	50%	7.9	18.6	32.8	8.4
	100%	7.7	17.6	33.0	8.3

SPAWNING DATA

Initial Spawning Time:	Final Spawning Time:	Fertilization Time:	No. of Females:	No. of Males:
Count/mL of Egg Dilution:	1.	2.	3.	Mean:
Dilution Factor:				

LARVAL COUNT DATA

Conc.	Rep 1		Rep 2		Rep 3		Rep 4		Rep 5		Initials
	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	
0-Time	233		196		220		269				
Control	244	25	209	13	216	218	235	13	213	20	
Brine											
1%	244	16	193	40	203	42	205	44	209	32	MW
10	0	265	0	213	0	215	0	208	0	231	MW
50	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	MW
100	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	MW

START TIME: ~~16:30~~ D AM 17:30	
END TIME:	
ORGANISM BATCH:	JD 072498
HOBO TEMP. NO.:	8378
TEST LOCATION:	Rm 2

DIE AM 7/24/98

DILUTION WATER BATCH:		
pH:	DO:	TEMP.:
REF. TOX.:		LOT NO.:
48-HR LC50:		TEST DATE:

TEST ACCEPTABILITY:

- ☐ 70% SURVIVAL IN CONTROL (oysters) or 50% SURVIVAL FOR MUSSELS
- ☐ 90% NORMAL SHELL DEVELOPMENT IN SURVIVING CONTROLS
- ☐ MSD < 25%

MEC ANALYTICAL SYSTEMS, INC.

48-HOUR CHRONIC TOXICITY DATA SHEET FOR BIVALVES

BIO042

CLIENT:	ACOE
PROJECT:	LARE
CLIENT SAMPLE ID:	3 Comp
MEC SAMPLE ID:	
STUDY DIRECTOR:	P. Krause

DATE RECEIVED:	7/16 - 7/20/98
DATE TEST STARTED:	7/29/98
DATE TEST ENDED:	7/31/98
MEC SOP NO.:	B10042A.01
SPECIES:	M. edulis

	Concentration	DO (~~%~~ mg/L)	Temp (°C)	Salinity (ppt)	pH
Day 0 (0 Hours)	CONTROL	7.0	17.4	32.2	8.3
Date: 7/29/98	~~BRINE CONTROL~~ %	7.0	16.1	32.4	8.3
Time: 16:30	10	7.0	16.6	32.8	8.3
Technician: AM	50	7.2	17.1	33.1	8.1
	100	6.3	18.0	33.0	8.0
48 Hours	CONTROL	8.0	16.3	32.6	8.2
Date: 7/31/98	~~BRINE CONTROL~~ %	7.8	16.3	32.2	8.1
Time: 16:15	10	8.0	16.2	33.0	8.1
Technician: D.M.	50	7.8	17.4	33.0	8.3
	100	7.8	16.4	32.9	8.3

SPAWNING DATA

Initial Spawning Time:	Final Spawning Time:	Fertilization Time:	No. of Females:	No. of Males:
Count/mL of Egg Dilution:	1.	2.	3.	Mean:
Dilution Factor:				-

LARVAL COUNT DATA

	Rep 1		Rep 2		Rep 3		Rep 4		Rep 5		
Conc.	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Initials
0-Time	233		196		220		269				
Control	244	25	209	13	216	18	235	13	213	20	AM
Brine											
100	198	41	205	36	170	48	186	40	199	35	MW
10	199	32	174	26	205	40	205	45	158	26	MW
50	0	237	0	232	0	225	0	243	0	220	MW
100	0	180	0	184	0	177	0	180	0	171	MW

START TIME:	~~16:30~~ 17:30 (0 TIME)
END TIME:	17:30
ORGANISM BATCH:	JD672998
HOBO TEMP. NO.:	8378
TEST LOCATION:	Rm 2

(0 TIME AM 7/29/98)

DILUTION WATER BATCH:			
pH:	8.3	DO: 7.0	TEMP.: 17.4
REF. TOX.:		LOT NO.:	
48-HR LC50:		TEST DATE:	

TEST ACCEPTABILITY:

- ☐ 70% SURVIVAL IN CONTROL (oysters) or 50% SURVIVAL FOR MUSSELS
- ☐ 90% NORMAL SHELL DEVELOPMENT IN SURVIVING CONTROLS
- ☐ MSD < 25%

Bivalve Larval Survival and Development Test-Proportion Alive

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	1 top comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9673	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	0.9281	1.0000	1.0000	1.0000
100	0.8715	1.0000	0.9063	0.9368	0.6405

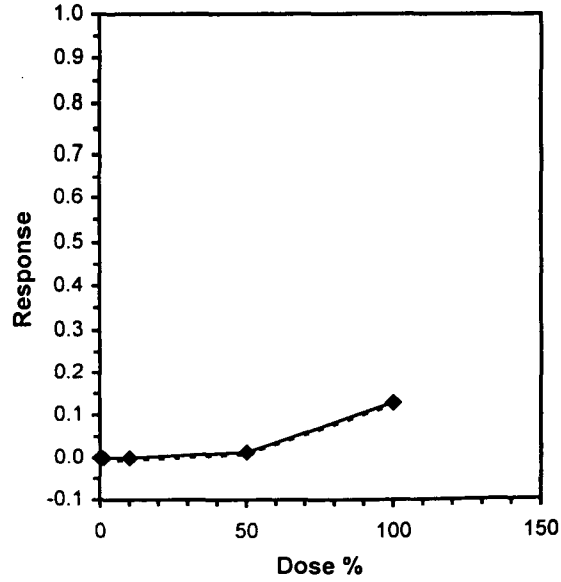
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9935	1.0000	1.5080	1.3890	1.5378	4.412	5			0.9999	1.0000
1	1.0000	1.0066	1.5378	1.5378	1.5378	0.000	5	30.00	17.00	0.9999	1.0000
10	1.0000	1.0066	1.5378	1.5378	1.5378	0.000	5	30.00	17.00	0.9999	1.0000
50	0.9856	0.9921	1.4901	1.2993	1.5378	7.156	5	27.00	17.00	0.9865	0.9866
100	0.8710	0.8768	1.2492	0.9278	1.5378	17.595	5	18.00	17.00	0.8715	0.8716

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75717	0.888	-0.6989	5.57449
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	65.922			
IC10	87.652			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	1topComp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9107	0.9412	1.0000	0.9281
1	1.0000	1.0000	0.9630	0.9804	0.9412
10	1.0000	1.0000	1.0000	0.9412	1.0000
50	0.0305	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

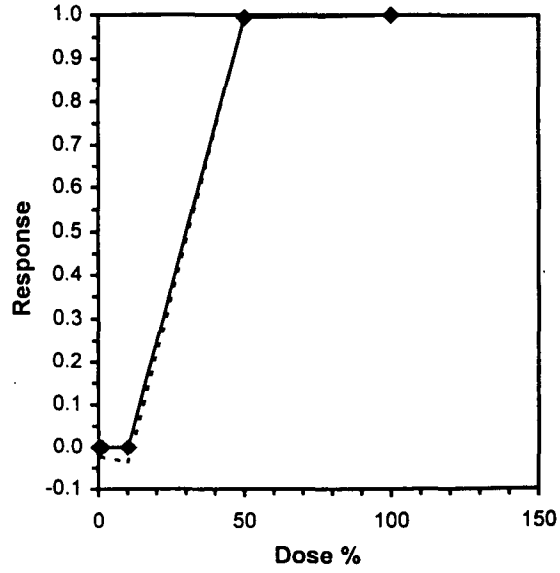
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9560	1.0000	1.3936	1.2673	1.5378	9.561	5			0.9746	1.0000
1	0.9769	1.0219	1.4418	1.3258	1.5378	6.597	5	31.50	17.00	0.9746	1.0000
10	0.9882	1.0337	1.4954	1.3258	1.5378	6.339	5	33.50	17.00	0.9746	1.0000
*50	0.0061	0.0064	0.0615	0.0330	0.1755	103.618	5	15.00	17.00	0.0061	0.0063
*100	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.96823	0.888	-0.0344	-0.2619
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	10	50	22.3607	10

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	12.013	0.138	11.354	12.051	-5.1485
IC10	14.025	0.130	13.402	14.103	-4.9477
IC15	16.038	0.124	15.450	16.154	-4.5768
IC20	18.050	0.119	17.497	18.205	-4.0187
IC25	20.063	0.116	19.545	20.257	-3.2905
IC40	26.101	0.117	25.683	26.411	-0.8181
IC50	30.126	0.126	29.720	30.514	0.2740



Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	1topComp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	*Protocol:*	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
Control	0.9071	0.9414	0.9231	0.9476	0.9142
1	0.9037	0.9294	0.8911	0.9073	0.9038
10	0.9119	0.9015	0.8889	0.9076	0.9101
50	0.0251	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

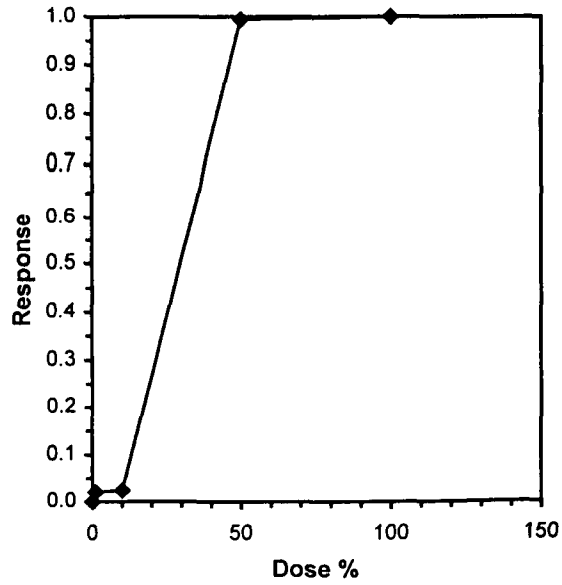
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9267	1.0000	1.2981	1.2610	1.3398	2.610	5			0.9262	1.0000
1	0.9071	0.9788	1.2617	1.2345	1.3019	1.955	5	19.00	17.00	0.9071	0.9794
10	0.9040	0.9755	1.2560	1.2310	1.2694	1.238	5	18.00	17.00	0.9038	0.9759
*50	0.0050	0.0054	0.0572	0.0295	0.1591	99.527	5	15.00	17.00	0.0055	0.0059
*100	0.0000	0.0000	0.0351	0.0300	0.0413	11.454	5	15.00	17.00	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.83774	0.888	1.83397	4.86639
Bartlett's Test indicates unequal variances (p = 1.18E-03)	18.1081	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	10	50	22.3607	10

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	11.067	0.653	9.939	11.861	-5.3612
IC10	13.129	0.352	12.059	13.863	-0.0825
IC15	15.190	0.332	14.180	15.864	-0.0436
IC20	17.252	0.312	16.327	17.875	-0.0002
IC25	19.314	0.293	18.452	19.896	0.0482
IC40	25.500	0.241	24.777	25.959	0.2269
IC50	29.624	0.211	28.969	30.054	0.3702



Test: BV-Bivalve Larval Survival and Development Test | Test ID: LARE SPP
Species: ME-Mytilis edulis | Protocol: ASTM 87
Sample ID: 1 top comp | Sample Type: DMR-Discharge Monitoring Report
Start Date: 7/29/98 17:30 | End Date: 7/31/98 17:30 | Lab ID: MECCA-MEC Carlsbad

Pos	ID	Rep	Group	Initial Density	Final Density	Total Counted	Number Normal	Notes
	1	1	Control	229.5	269	269	244	
	2	2	Control	229.5	222	222	209	
	3	3	Control	229.5	234	234	216	
	4	4	Control	229.5	248	248	235	
	5	5	Control	229.5	233	233	213	
	6	1	1.000	229.5	270	270	244	
	7	2	1.000	229.5	255	255	237	
	8	3	1.000	229.5	248	248	221	
	9	4	1.000	229.5	248	248	225	
	10	5	1.000	229.5	239	239	216	
	11	1	10.000	229.5	261	261	238	
	12	2	10.000	229.5	264	264	238	
	13	3	10.000	229.5	270	270	240	
	14	4	10.000	229.5	238	238	216	
	15	5	10.000	229.5	267	267	243	
	16	1	50.000	229.5	279	279	7	
	17	2	50.000	229.5	213	213	0	
	18	3	50.000	229.5	288	288	0	
	19	4	50.000	229.5	256	256	0	
	20	5	50.000	229.5	243	243	0	
	21	1	100.000	229.5	200	200	0	
	22	2	100.000	229.5	277	277	0	
	23	3	100.000	229.5	208	208	0	
	24	4	100.000	229.5	215	215	0	
	25	5	100.000	229.5	147	147	0	

Comments:

Bivalve Larval Survival and Development Test-Proportion Alive

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	1 Bott Comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9673	1.0000	1.0000	1.0000
1	0.9150	0.9107	1.0000	0.9237	1.0000
10	1.0000	0.9542	1.0000	1.0000	1.0000
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

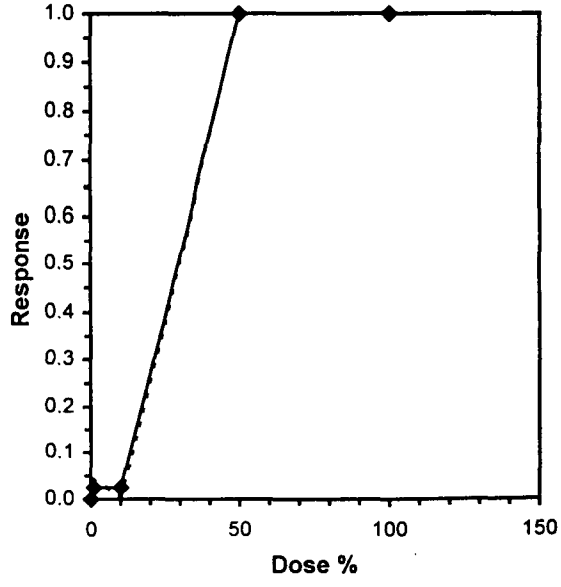
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9935	1.0000	1.5080	1.3890	1.5378	4.412	5			0.9952	1.0000
1	0.9499	0.9561	1.3818	1.2673	1.5378	10.325	5	21.00	17.00	0.9708	0.9755
10	0.9908	0.9974	1.5013	1.3552	1.5378	5.438	5	27.00	17.00	0.9708	0.9755
*50	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000
*100	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.85525	0.888	-0.0444	0.91089
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	10	50	22.3607	10

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	11.045	1.232	9.647	12.478	-7.1135
IC10	13.095	0.458	11.771	14.452	-0.1984
IC15	15.145	0.433	13.895	16.427	-0.1984
IC20	17.196	0.407	16.019	18.402	-0.1984
IC25	19.246	0.382	18.142	20.377	-0.1984
IC40	25.397	0.306	24.514	26.302	-0.1984
IC50	29.497	0.255	28.762	30.251	-0.1984



Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	1 Bott Comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
Control	0.9071	0.9414	0.9231	0.9476	0.9142
1	0.9143	0.9139	0.8967	0.9245	0.8706
10	0.0000	0.0000	0.0000	0.0000	0.0000

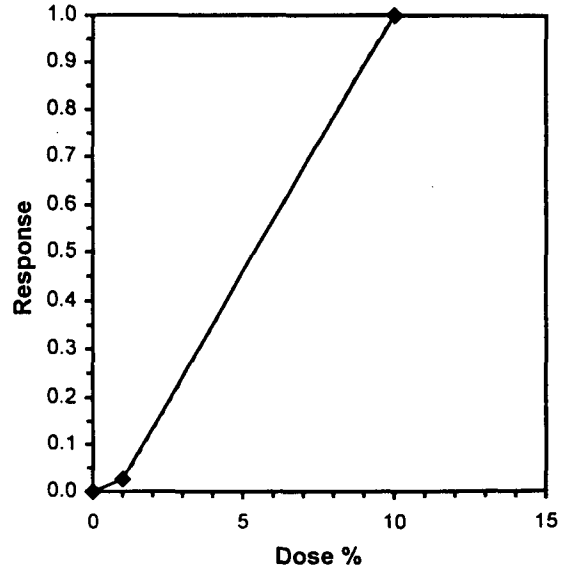
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9267	1.0000	1.2981	1.2610	1.3398	2.610	5			0.9262	1.0000
1	0.9040	0.9755	1.2571	1.2028	1.2925	2.787	5	21.00	18.00	0.9023	0.9742
*10	0.0000	0.0000	0.0315	0.0291	0.0338	6.430	5	15.00	18.00	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.97002	0.835	-0.3755	0.12077
Bartlett's Test indicates unequal variances (p = 3.26E-04)	16.0578	9.21035		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	1	10	3.16228	100

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	1.2238	0.1117	0.8214	1.5638	-0.3958
IC10	1.6857	0.1024	1.3259	2.0078	-0.1924
IC15	2.1476	0.0967	1.8078	2.4519	-0.1924
IC20	2.6095	0.0910	2.2897	2.8959	-0.1924
IC25	3.0714	0.0853	2.7716	3.3399	-0.1924
IC40	4.4572	0.0683	4.2173	4.6719	-0.1924
IC50	5.3810	0.0569	5.1811	5.5599	-0.1924



Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	1 Bottom Comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:		Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
control	1.0000	0.9107	0.9412	1.0000	0.9281
1	0.8366	0.8322	1.0000	0.8540	0.9673
10	0.0000	0.0000	0.0000	0.0000	0.0000
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
control	0.9560	1.0000	1.3936	1.2673	1.5378	9.561	5			0.9560	1.0000
1	0.8980	0.9394	1.2818	1.1488	1.5378	13.596	5	22.00	17.00	0.8976	0.9389
*10	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000
*50	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000
*100	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000

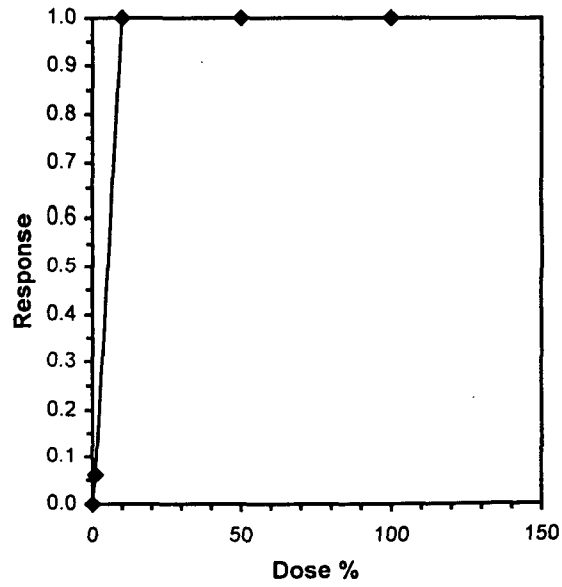
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.82254	0.888	0.96666	1.85239
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	1	10	3.16228	100

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	0.8187	0.3362	0.1827	1.7657	0.5014
IC10	1.3731	0.3205	0.4974	2.1634	0.1510
IC15	1.8524	0.3105	0.9341	2.5988	0.0458
IC20	2.3317	0.2922	1.4674	3.0342	0.0458
IC25	2.8109	0.2739	2.0007	3.4695	0.0458
IC40	4.2487	0.2192	3.6005	4.7756	0.0458
IC50	5.2073	0.1826	4.6671	5.6464	0.0458

* indicates IC estimate less than the lowest concentration



Test: BV-Bivalve Larval Survival and Development Test | Test ID: LARE SPP
Species: ME-Mytilis edulis | Protocol: ASTM 87
Sample ID: 1 Bott comp | Sample Type: DMR-Discharge Monitoring Report
Start Date: 7/29/98 17:30 | End Date: 7/31/98 17:30 | Lab ID: MECCA-MEC Carlsbad

Pos	ID	Rep	Group	Initial Density	Final Density	Total Counted	Number Normal	Notes
	1	1	Control	229.5	269	269	244	
	2	2	Control	229.5	222	222	209	
	3	3	Control	229.5	234	234	216	
	4	4	Control	229.5	248	248	235	
	5	5	Control	229.5	233	233	213	
	6	1	1.000	229.5	210	210	192	
	7	2	1.000	229.5	209	209	191	
	8	3	1.000	229.5	271	271	243	
	9	4	1.000	229.5	212	212	196	
	10	5	1.000	229.5	255	255	222	
	11	1	10.000	229.5	296	296	0	
	12	2	10.000	229.5	219	219	0	
	13	3	10.000	229.5	233	233	0	
	14	4	10.000	229.5	244	244	0	
	15	5	10.000	229.5	284	284	0	
	16	1	50.000	229.5	0	0	0	
	17	2	50.000	229.5	0	0	0	
	18	3	50.000	229.5	0	0	0	
	19	4	50.000	229.5	0	0	0	
	20	5	50.000	229.5	0	0	0	
	21	1	100.000	229.5	0	0	0	
	22	2	100.000	229.5	0	0	0	
	23	3	100.000	229.5	0	0	0	
	24	4	100.000	229.5	0	0	0	
	25	5	100.000	229.5	0	0	0	

Comments:

Bivalve Larval Survival and Development Test-Proportion Alive

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	2Top Comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:		Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
control	1.0000	0.9673	1.0000	1.0000	1.0000
1	0.9978	0.9542	0.9760	0.9586	0.9717
10	1.0000	0.9630	0.9673	0.9847	1.0000
50	0.9978	0.9847	1.0000	0.8932	0.9717
100	0.0000	0.0000	0.0000	0.0000	0.0000

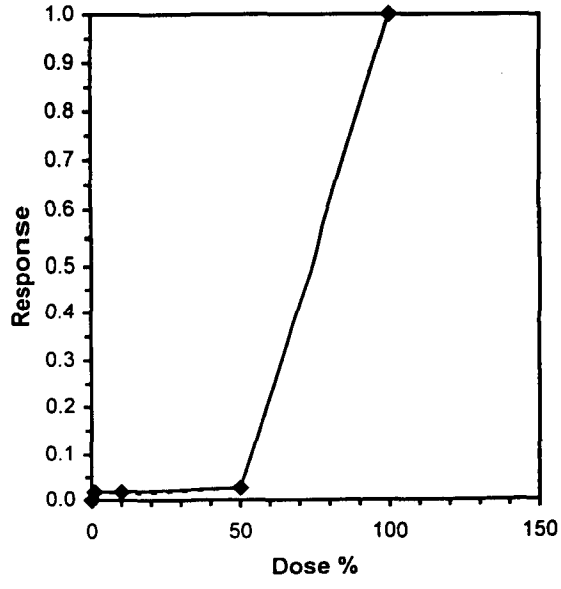
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
control	0.9935	1.0000	1.5080	1.3890	1.5378	4.412	5			0.9952	1.0000
1	0.9717	0.9781	1.4125	1.3552	1.5241	4.753	5	18.00	17.00	0.9773	0.9820
10	0.9830	0.9895	1.4577	1.3771	1.5378	5.330	5	22.50	17.00	0.9773	0.9820
50	0.9695	0.9759	1.4297	1.2380	1.5378	8.455	5	21.00	17.00	0.9691	0.9737
*100	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.94316	0.888	-0.6889	1.18625
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	50	100	70.7107	2

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	51.219	3.896	26.950	53.141	-3.6360
IC10	53.786	0.830	50.944	55.607	-0.8333
IC15	56.353	0.784	53.669	58.073	-0.8333
IC20	58.921	0.738	56.395	60.540	-0.8333
IC25	61.488	0.692	59.120	63.006	-0.8333
IC40	69.191	0.553	67.296	70.405	-0.8333
IC50	74.326	0.461	72.747	75.337	-0.8333



Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	2Top Comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:		Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
control	1.0000	0.9107	0.9412	1.0000	0.9281
1	0.8715	0.8453	0.8584	0.9107	0.8584
10	0.9325	0.8279	0.8584	0.8715	0.8845
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
control	0.9560	1.0000	1.3936	1.2673	1.5378	9.561	5			0.9560	1.0000
*1	0.8688	0.9088	1.2016	1.1666	1.2673	3.250	5	15.50	17.00	0.8719	0.9120
*10	0.8749	0.9152	1.2128	1.1430	1.3079	5.031	5	17.00	17.00	0.8719	0.9120
*50	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000
*100	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000

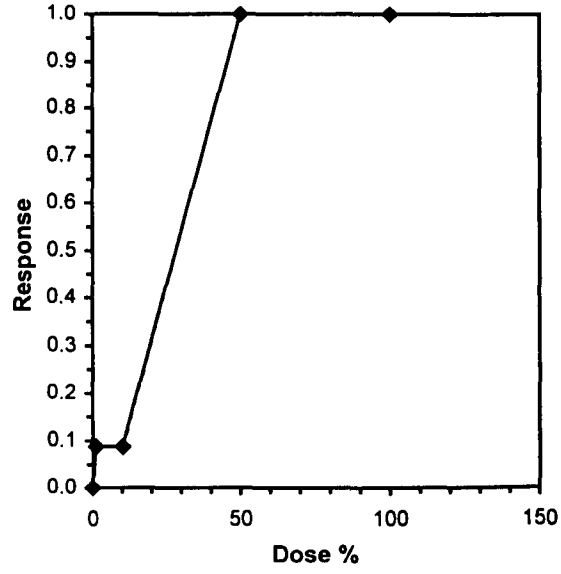
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.86339	0.888	0.67932	1.48497
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	<1	1		

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	0.568	1.503	0.351	1.511	6.1180
IC10	10.528	4.456	0.000	12.746	-0.8476
IC15	12.721	0.829	10.405	14.816	0.2536
IC20	14.914	0.780	12.734	16.886	0.2536
IC25	17.106	0.731	15.063	18.955	0.2536
IC40	23.685	0.585	22.051	25.164	0.2536
IC50	28.071	0.488	26.709	29.304	0.2536

* indicates IC estimate less than the lowest concentration



Test: BV-Bivalve Larval Survival and Development Test | Test ID: LARE SPP
Species: ME-Mytilis edulis | Protocol: ASTM 87
Sample ID: 2 top comp | Sample Type: DMR-Discharge Monitoring Report
Start Date: 7/29/98 17:30 | End Date: 7/31/98 17:30 | Lab ID: MECCA-MEC Carlsbad

Pos	ID	Rep	Group	Initial Density	Final Density	Total Counted	Number Normal	Notes
	1	1	Control	229.5	269	269	244	
	2	2	Control	229.5	222	222	209	
	3	3	Control	229.5	234	234	216	
	4	4	Control	229.5	248	248	235	
	5	5	Control	229.5	233	233	213	
	6	1	1.000	229.5	229	229	200	
	7	2	1.000	229.5	219	219	194	
	8	3	1.000	229.5	224	224	197	
	9	4	1.000	229.5	230	230	209	
	10	5	1.000	229.5	223	223	197	
	11	1	10.000	229.5	244	244	214	
	12	2	10.000	229.5	221	221	190	
	13	3	10.000	229.5	222	222	197	
	14	4	10.000	229.5	226	226	200	
	15	5	10.000	229.5	232	232	203	
	16	1	50.000	229.5	229	229	0	
	17	2	50.000	229.5	226	226	0	
	18	3	50.000	229.5	232	232	0	
	19	4	50.000	229.5	205	205	0	
	20	5	50.000	229.5	223	223	0	
	21	1	100.000	229.5	0	0	0	
	22	2	100.000	229.5	0	0	0	
	23	3	100.000	229.5	0	0	0	
	24	4	100.000	229.5	0	0	0	
	25	5	100.000	229.5	0	0	0	

Comments:

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	2Top Comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:		Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
control	0.9071	0.9414	0.9231	0.9476	0.9142
1	0.8734	0.8858	0.8795	0.9500	0.8834
10	0.8770	0.8597	0.8874	0.8850	0.8750
50	0.0000	0.0000	0.0000	0.0000	0.0000

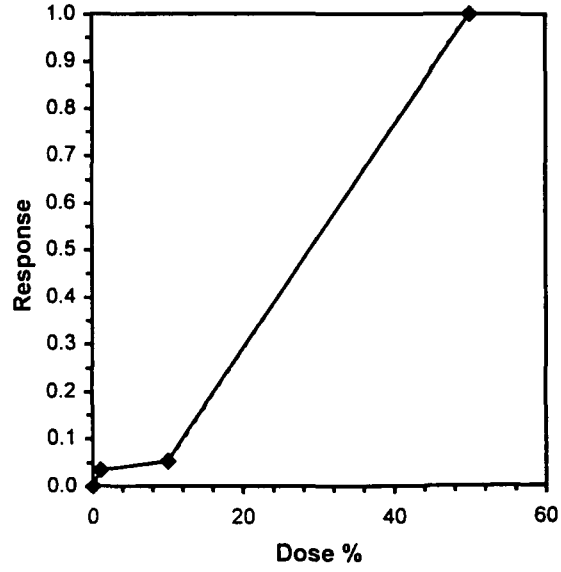
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
control	0.9267	1.0000	1.2981	1.2610	1.3398	2.610	5			0.9262	1.0000
1	0.8944	0.9652	1.2434	1.2070	1.3453	4.618	5	20.00	17.00	0.8942	0.9654
*10	0.8768	0.9462	1.2124	1.1869	1.2286	1.351	5	15.00	17.00	0.8769	0.9467
*50	0.0000	0.0000	0.0335	0.0328	0.0349	2.472	5	15.00	17.00	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.83513	0.868	1.85808	5.03118
Bartlett's Test indicates unequal variances (p = 2.57E-06)	28.7119	11.3449		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	1	10	3.16228	100

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	8.422	3.823	0.000	11.797	-0.4420
IC10	11.974	0.370	10.865	12.989	0.0808
IC15	14.087	0.350	13.039	15.046	0.0808
IC20	16.199	0.329	15.213	17.102	0.0808
IC25	18.312	0.309	17.388	19.158	0.0808
IC40	24.649	0.247	23.910	25.326	0.0808
IC50	28.874	0.206	28.258	29.439	0.0808



Reviewed by:_____

Bivalve Larval Survival and Development Test-Proportion Alive

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	2 Bott Comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
control	1.0000	0.9673	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	0.9281	0.9368	0.9063	1.0000
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

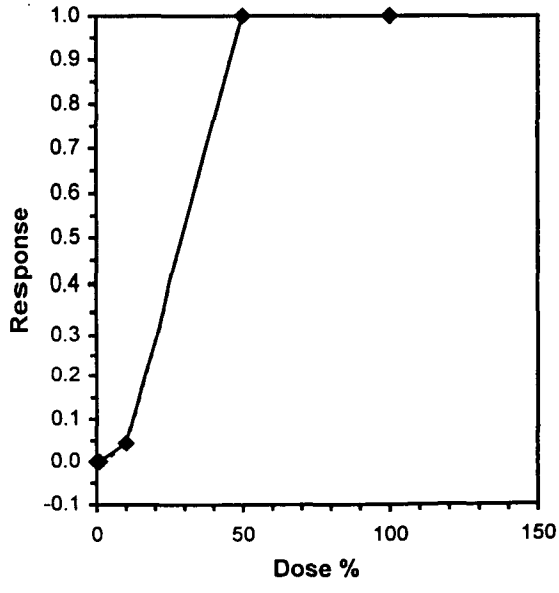
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
control	0.9935	1.0000	1.5080	1.3890	1.5378	4.412	5			0.9987	1.0000
1	1.0000	1.0066	1.5378	1.5378	1.5378	0.000	5	30.00	17.00	0.9987	1.0000
10	0.9542	0.9605	1.3903	1.2597	1.5378	9.799	5	21.00	17.00	0.9551	0.9564
*50	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000
*100	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.78356	0.888	0.27986	2.19676
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	10	50	22.3607	10

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	10.266	1.133	6.356	12.331	-0.8814
IC10	12.358	0.649	10.908	14.313	0.0584
IC15	14.449	0.613	13.080	16.296	0.0584
IC20	16.540	0.577	15.251	18.278	0.0584
IC25	18.631	0.541	17.423	20.261	0.0584
IC40	24.905	0.433	23.938	26.209	0.0584
IC50	29.088	0.361	28.282	30.174	0.0584



Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	2 bott comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9107	0.9412	1.0000	0.9281
1	1.0000	0.8410	0.8845	0.8932	0.9107
10	0.0000	0.0000	0.0000	0.0000	0.0000
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9560	1.0000	1.3936	1.2673	1.5378	9.561	5			0.9560	1.0000
1	0.9059	0.9476	1.2855	1.1606	1.5378	11.380	5	19.50	17.00	0.9063	0.9480
*10	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000
*50	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000
*100	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000

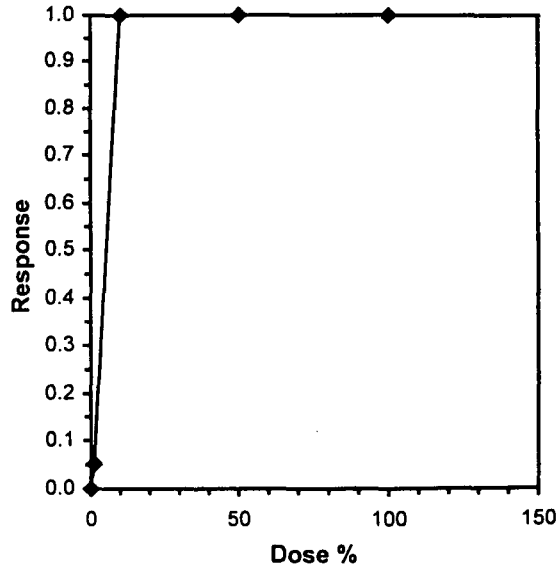
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.76927	0.888	1.42457	3.53552
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	1	10	3.16228	100

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	0.9623	0.3055	0.2287	1.6939	0.3080
IC10	1.4561	0.2734	0.6917	2.1220	0.0616
IC15	1.9307	0.2612	1.2035	2.5596	-0.0075
IC20	2.4054	0.2458	1.7209	2.9973	-0.0075
IC25	2.8800	0.2304	2.2384	3.4350	-0.0075
IC40	4.3040	0.1844	3.7907	4.7480	-0.0075
IC50	5.2534	0.1536	4.8256	5.6233	-0.0075

* indicates IC estimate less than the lowest concentration



Reviewed by:_____

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	2 Bott Comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
control	0.9071	0.9414	0.9231	0.9476	0.9142
1	0.9385	0.8283	0.8286	0.8233	0.8672
10	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
control	0.9267	1.0000	1.2981	1.2610	1.3398	2.610	5			0.9262	1.0000
*1	0.8572	0.9250	1.1885	1.1369	1.3201	6.527	5	18.00	18.00	0.8583	0.9267
*10	0.0000	0.0000	0.0333	0.0307	0.0347	4.811	5	15.00	18.00	0.0000	0.0000

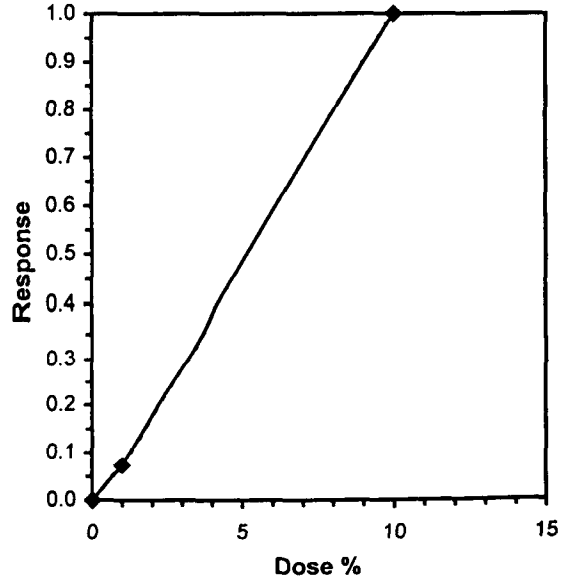
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.83069	0.835	1.77385	4.64718
Bartlett's Test indicates unequal variances (p = 6.40E-06)	23.9178	9.21035		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	<1	1		

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	0.6821	0.2011	0.2928	1.4538	0.7384
IC10	1.2593	0.2054	0.6486	1.8515	0.0161
IC15	1.7448	0.1967	1.1389	2.3042	-0.0341
IC20	2.2304	0.1851	1.6602	2.7569	-0.0341
IC25	2.7160	0.1735	2.1814	3.2096	-0.0341
IC40	4.1728	0.1388	3.7451	4.5677	-0.0341
IC50	5.1440	0.1157	4.7876	5.4731	-0.0341

* indicates IC estimate less than the lowest concentration



Test: BV-Bivalve Larval Survival and Development Test | Test ID: LARE SPP
Species: ME-Mytilis edulis | Protocol: ASTM 87
Sample ID: 2 bott comp | Sample Type: DMR-Discharge Monitoring Report
Start Date: 7/29/98 17:30 | End Date: 7/31/98 17:30 | Lab ID: MECCA-MEC Carlsbad

Pos	ID	Rep	Group	Initial Density	Final Density	Total Counted	Number Normal	Notes
	1	1	Control	229.5	269	269	244	
	2	2	Control	229.5	222	222	209	
	3	3	Control	229.5	234	234	216	
	4	4	Control	229.5	248	248	235	
	5	5	Control	229.5	233	233	213	
	6	1	1.000	229.5	260	260	244	
	7	2	1.000	229.5	233	233	193	
	8	3	1.000	229.5	245	245	203	
	9	4	1.000	229.5	249	249	205	
	10	5	1.000	229.5	241	241	209	
	11	1	10.000	229.5	265	265	0	
	12	2	10.000	229.5	213	213	0	
	13	3	10.000	229.5	215	215	0	
	14	4	10.000	229.5	208	208	0	
	15	5	10.000	229.5	231	231	0	
	16	1	50.000	229.5	0	0	0	
	17	2	50.000	229.5	0	0	0	
	18	3	50.000	229.5	0	0	0	
	19	4	50.000	229.5	0	0	0	
	20	5	50.000	229.5	0	0	0	
	21	1	100.000	229.5	0	0	0	
	22	2	100.000	229.5	0	0	0	
	23	3	100.000	229.5	0	0	0	
	24	4	100.000	229.5	0	0	0	
	25	5	100.000	229.5	0	0	0	

Comments:

Bivalve Larval Survival and Development Test-Proportion Alive

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	3 comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
control	1.0000	0.9673	1.0000	1.0000	1.0000
1	1.0000	1.0000	0.9499	0.9847	1.0000
10	1.0000	0.8715	1.0000	1.0000	1.0000
50	1.0000	1.0000	0.9804	1.0000	0.9586
100	0.7843	0.8017	0.7712	0.7843	0.7451

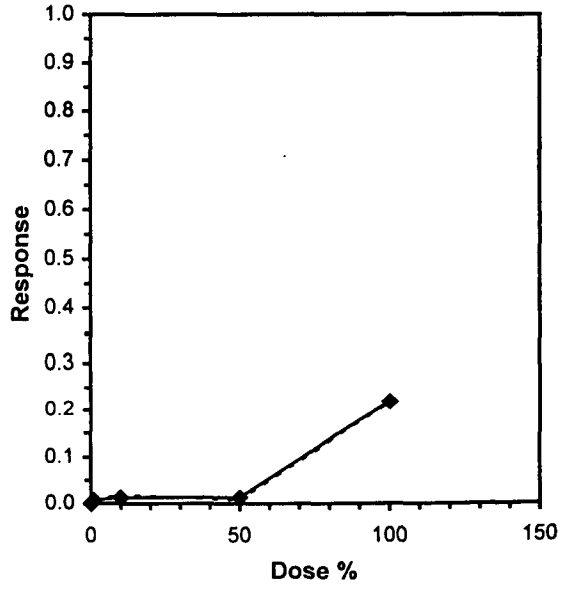
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
control	0.9935	1.0000	1.5080	1.3890	1.5378	4.412	5			0.9952	1.0000
1	0.9869	0.9934	1.4811	1.3450	1.5378	5.780	5	25.00	17.00	0.9882	0.9930
10	0.9743	0.9807	1.4711	1.2041	1.5378	10.144	5	27.00	17.00	0.9821	0.9869
50	0.9878	0.9943	1.4819	1.3659	1.5378	5.386	5	25.00	17.00	0.9821	0.9869
*100	0.7773	0.7825	1.0797	1.0416	1.1093	2.326	5	15.00	17.00	0.7773	0.7811

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.77529	0.888	-1.8125	3.40364
Bartlett's Test indicates equal variances (p = 0.05)	9.27422	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	50	100	70.7107	2

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	58.957	2.484	48.586	62.876	-0.7430
IC10	71.106	2.089	62.511	75.540	-0.5029
IC15	83.255	2.044	75.876	88.102	-0.1781
IC20	95.404				
IC25	>100				
IC40	>100				
IC50	>100				



Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	3 comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
control	0.9071	0.9414	0.9231	0.9476	0.9142
1	0.8285	0.8506	0.7798	0.8230	0.8504
10	0.8615	0.8700	0.8367	0.8200	0.5563
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
control	0.9267	1.0000	1.2981	1.2610	1.3398	2.610	5			0.9262	1.0000
*1	0.8265	0.8919	1.1421	1.0824	1.1740	3.281	5	15.00	17.00	0.8273	0.8932
*10	0.7889	0.8513	1.1041	0.8419	1.2019	13.511	5	15.00	17.00	0.7777	0.8397
*50	0.0000	0.0000	0.0329	0.0321	0.0337	1.987	5	15.00	17.00	0.0000	0.0000
*100	0.0000	0.0000	0.0375	0.0369	0.0382	1.368	5	15.00	17.00	0.0000	0.0000

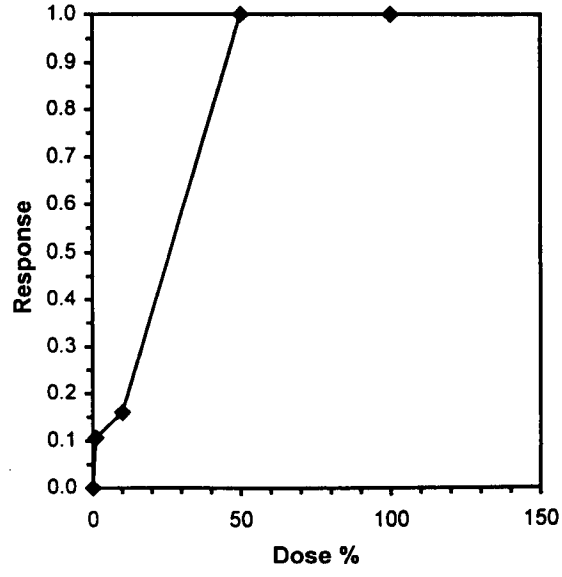
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.68869	0.888	-2.8034	11.9447
Bartlett's Test indicates unequal variances (p = 2.80E-15)	74.2991	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	<1	1		

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	0.468	0.070	0.316	0.713	0.8564
IC10*	0.936	3.029	0.632	15.693	2.2636
IC15	8.261	3.458	0.000	15.300	-0.5211
IC20	11.889	2.750	2.263	16.755	-0.9324
IC25	14.271	2.485	5.189	18.833	-1.0180
IC40	21.417	1.987	14.079	25.066	-1.0185
IC50	26.181	1.656	20.066	29.222	-1.0185

* indicates IC estimate less than the lowest concentration



Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	3 comp
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-%	1	2	3	4	5
control	1.0000	0.9107	0.9412	1.0000	0.9281
1	0.8627	0.8932	0.7407	0.8105	0.8671
10	0.8671	0.7582	0.8932	0.8932	0.6885
50	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
control	0.9560	1.0000	1.3936	1.2673	1.5378	9.561	5			0.9560	1.0000
*1	0.8349	0.8733	1.1568	1.0366	1.2380	6.865	5	15.00	17.00	0.8349	0.8733
*10	0.8200	0.8578	1.1418	0.9786	1.2380	10.315	5	15.00	17.00	0.8200	0.8578
*50	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000
*100	0.0000	0.0000	0.0330	0.0330	0.0330	0.000	5	15.00	17.00	0.0000	0.0000

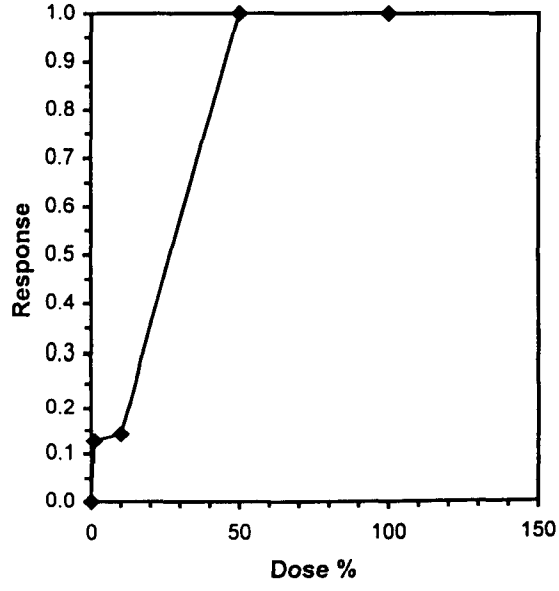
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.94457	0.888	-0.1184	-0.1753
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	<1	1		

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	0.395	0.122	0.212	0.911	1.1661
IC10*	0.789	2.538	0.424	15.193	2.7006
IC15	10.363	4.502	0.000	13.706	-0.1042
IC20	12.695	1.785	4.790	15.841	-0.4374
IC25	15.027	1.522	9.611	17.976	-0.0555
IC40	22.021	1.218	17.688	24.381	-0.0555
IC50	26.684	1.015	23.074	28.651	-0.0555

* indicates IC estimate less than the lowest concentration



MEC ANALYTICAL SYSTEMS, INC.

BIVALVE LARVAE TEST DATA SHEET 2 - REFTOX WQ

CLIENT	PROJECT
LA ACOE	LA River Estuary
MEC JOB NUMBER	PROJECT MANAGER
0719-019	Krause/ Green

SPECIES		MEC LABORATORY	PROTOCOL
Mytilus edulis (mussel)		Carlsbad Room 2	ASTM 1997
TEST START DATE	TIME	TEST END DATE	TIME
29Jul98	1330	31Jul98	

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	48-HR LC50	48-HR IC50
	16±2	30±2	> 5.0		62998	8378	copper sulfate	copper			

CLIENT/ MEC ID	CONCENTRATION		DAY	DISS. OXYGEN		TEMPERATURE		SALINITY		pH			TECHNICIAN
	value	units		meter	mg/L	meter	°C	meter	ppt	meter	unit		
Ref.Tox. - copper	0	µg/L	0		82.0		16.1		32.3		8.2		
			1										
			2										
Ref.Tox. - copper	2.5	µg/L	0		87.0		16.0		33.1		8.3		
			1										
			2										
Ref.Tox. - copper	5	µg/L	0		89.0		15.6		32.7		8.3		
			1										
			2										
Ref.Tox. - copper	10	µg/L	0		90.0		15.6		33.0		8.3		
			1										
			2										
Ref.Tox. - copper	20	µg/L	0		90.0		15.5		32.9		8.3		
			1										
			2										
Ref.Tox. - copper	40	µg/L	0		89.0		15.5		33.0		8.3		
			1										
			2										

BIVALVE LARVAE TEST DATA SHEET 3 - REFTOX

MEC ANALYTICAL SYSTEMS, INC.

SPECIES					
Mytilus edulis (mussel)					
CLIENT	**PROJECT**	**MEC JOB NUMBER**	**PROJECT MANAGER**	**MEC LABORATORY**	**PROTOCOL**
LA ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 2	ASTM 1997

LARVAL OBSERVATION DATA

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
Ref.Tox. - copper	0	µg/L		1	141	36			
				2	168	30			
				3	161	13			
				4	156	12			
				5					
Ref.Tox. - copper	2.5	µg/L		1	141	21			
				2	166	20			
				3	158	17			
				4	189	20			
				5					
Ref.Tox. - copper	5	µg/L		1	166	27			
				2	163	23			
				3	178	25			
				4	168	27			
				5					
Ref.Tox. - copper	10	µg/L		1	4	69			
				2	9	24			
				3	16	56			
				4	16	46			
				5					
Ref.Tox. - copper	20	µg/L		1	1	3			
				2	0	5			
				3	2	7			
				4	2	4			
				5					
Ref.Tox. - copper	40	µg/L		1	0	4			
				2	0	0			
				3	0	5			
				4	4	0			
				5					

MEC ANALYTICAL SYSTEMS INC.

Data summary of 48-hour bivalve test

Mytilus edulis (mussel) **LA ACOE LA River Estuary**

SURVIVAL

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL	% SURVIVAL	MEAN SURVIVA	NORMAL	ABNORMAL	% NORMAL (SURVIVORS)	% NORMAL (INITIAL)
Reference Toxicant	copper	0 mg/L	1	229.5	177	77.1		141	36	79.7	61.4
Reference Toxicant	copper	0 mg/L	2	229.5	198	86.3		168	30	84.8	73.2
Reference Toxicant	copper	0 mg/L	3	229.5	174	75.8	78.1	161	13	92.5	70.2
Reference Toxicant	copper	0 mg/L	4	229.5	168	73.2		156	12	92.9	68.0
Reference Toxicant	copper	0 mg/L	5	229.5							
Reference Toxicant	copper	2.5 mg/L	1	229.5	162	70.6		141	21	87.0	61.4
Reference Toxicant	copper	2.5 mg/L	2	229.5	186	81.0		166	20	89.2	72.3
Reference Toxicant	copper	2.5 mg/L	3	229.5	175	76.3	79.7	158	17	90.3	68.8
Reference Toxicant	copper	2.5 mg/L	4	229.5	209	91.1		189	20	90.4	82.4
Reference Toxicant	copper	2.5 mg/L	5	229.5							
Reference Toxicant	copper	5 mg/L	1	229.5	193	84.1		166	27	86.0	72.3
Reference Toxicant	copper	5 mg/L	2	229.5	186	81.0		163	23	87.6	71.0
Reference Toxicant	copper	5 mg/L	3	229.5	203	88.5	84.6	178	25	87.7	77.6
Reference Toxicant	copper	5 mg/L	4	229.5	195	85.0		168	27	86.2	73.2
Reference Toxicant	copper	5 mg/L	5	229.5							
Reference Toxicant	copper	10 mg/L	1	229.5	73	31.8		4	69	5.5	1.7
Reference Toxicant	copper	10 mg/L	2	229.5	33	14.4		9	24	27.3	3.9
Reference Toxicant	copper	10 mg/L	3	229.5	72	31.4	26.1	16	56	22.2	7.0
Reference Toxicant	copper	10 mg/L	4	229.5	62	27.0		16	46	25.8	7.0
Reference Toxicant	copper	10 mg/L	5	229.5							
Reference Toxicant	copper	20 mg/L	1	229.5	4	1.7		1	3	25.0	0.4
Reference Toxicant	copper	20 mg/L	2	229.5	5	2.2		0	5	0.0	0.0
Reference Toxicant	copper	20 mg/L	3	229.5	9	3.9	2.6	2	7	22.2	0.9
Reference Toxicant	copper	20 mg/L	4	229.5	6	2.6		2	4	33.3	0.9
Reference Toxicant	copper	20 mg/L	5	229.5							
Reference Toxicant	copper	40 mg/L	1	229.5	4	1.7		0	4	0.0	0.0
Reference Toxicant	copper	40 mg/L	2	229.5	0	0.0		0	0	#DIV/0!	0.0
Reference Toxicant	copper	40 mg/L	3	229.5	5	2.2	1.4	0	5	0.0	0.0
Reference Toxicant	copper	40 mg/L	4	229.5	4	1.7		4	0	100.0	1.7

48 HOUR BIVALVE LARVAE REFERENCE TOXICANT BIOASSAY

Test I.D.	Replicates: 4	Study Director: AM	Location: Rm. 2
C980708.0142			
Dilution Water Batch:	**Organism Batch:**	**Associated Test:**	**Zero-time Density:**
062998	JD070698	LAKE/Escardiels	

REFERENCE TOXICANT DILUTION WORKSHEET

Toxicant: $CUSO_4$	Stock Solution: 0.509gCu/L $CuSO_4$	Date Prepared:	Initials:
Target Concentrations: (ug/l)	**Quantity of Stock: Target: 39 uL**	**Quantity of Diluent: Target: 500 mL**	**Final Concentration: A/(A + B)**
40	(A)Actual: 0.0394 g	500.0 (B)Actual: 500 mL	
20	Serial Dilute by 1/2		
10			
5			
2.5			

0 HOURS Date: 07/29/98 Time: 1330 Initials: CC

STOCK

Concentration	Control	2.5	5	10	20	40
DO (%)	82	87	89	90	90	89
Temperature	16.1	16.0	15.6	15.6	15.5	15.5
Salinity	32.3	33.1	32.7	33.0	32.9	33
pH	8.2	8.3	8.3	8.3	8.3	8.3

48 Hour Larval Count Data

Concentration	Rep 1 Normal	Rep 1 Ab-normal	Rep 2 Normal	Rep 2 Ab-normal	Rep 3 Normal	Rep 3 Ab-normal	Rep 4 Normal	Rep 4 Ab-normal	Initials
Control ①	141	36	168	30	161	13	156	12	MG/MN
2.5	141	21	166	20	158	17	189	20	MG/MN
5	166	27	163	23	178	25	168	27	MG/MN
10	4	69	9	24	16	56	16	46	MG/MN
20	1	3	0	5	2	7	2	4	MG/MN
40	0	4	0	0	0	5	4	0	MG/MN

① Controls were improperly preserved, therefore, controls from test were used. MG

Bivalve Larval Survival and Development Test-Proportion Alive

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	REF-Ref Toxicant
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	CUSO-Copper sulfate
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-ppb	1	2	3	4
control	1.0000	0.9673	1.0000	1.0000
2.5	0.7059	0.8105	0.7625	0.9107
5	0.8410	0.8105	0.8845	0.8627
10	0.3181	0.1438	0.3137	0.2702
20	0.0174	0.0218	0.0392	0.0261
40	0.0174	0.0000	0.0218	0.0174

			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-ppb	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
control	0.9918	1.0000	1.5006	1.3890	1.5378	4.957	4				0.9935	1.0000
*2.5	0.7974	0.8040	1.1118	0.9976	1.2673	10.359	4	7.298	2.410	0.1284	0.8235	0.8289
*5	0.8497	0.8567	1.1741	1.1204	1.2241	3.766	4	6.128	2.410	0.1284	0.8235	0.8289
*10	0.2614	0.2636	0.5323	0.3889	0.5992	18.504	4	18.174	2.410	0.1284	0.2614	0.2632
*20	0.0261	0.0264	0.1606	0.1324	0.1993	17.814	4	25.151	2.410	0.1284	0.0261	0.0263
*40	0.0142	0.0143	0.1115	0.0330	0.1481	47.397	4	26.072	2.410	0.1284	0.0142	0.0143

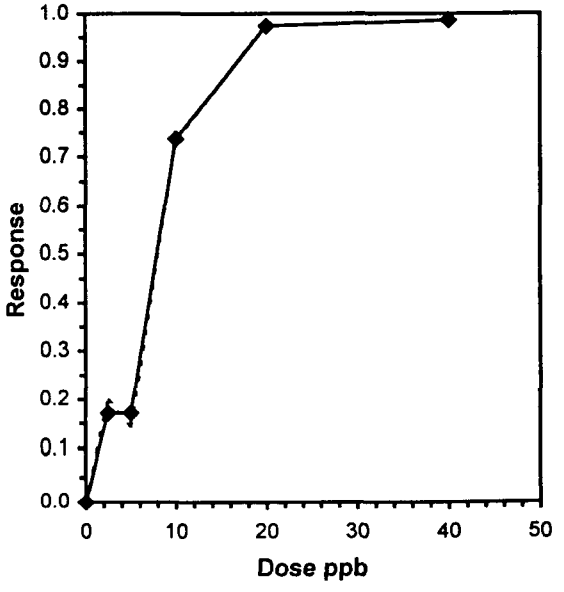
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.94416	0.884	-0.3039	0.67585
Bartlett's Test indicates equal variances (p = 0.28)	6.25244	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	<2.5	2.5			0.03401	0.03418	1.34018	0.00568	9.4E-16	5, 18

Linear Interpolation (80 Resamples)

Point	ppb	SD	95% CL(Exp)		Skew
IC05*	0.7308	0.1180	0.4935	1.2438	1.1019
IC10*	1.4615	0.2359	0.9869	2.4877	1.1019
IC15*	2.1923	1.2185	1.4804	6.9503	1.2512
IC20	5.2558	0.8420	0.5742	5.7859	-2.8068
IC25	5.6977	0.1783	5.1474	6.1930	-0.1104
IC40	7.0233	0.1819	6.5348	7.5906	0.2716
IC50	7.9070	0.2135	7.3750	8.5533	0.1391

* indicates IC estimate less than the lowest concentration



Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	7/29/98 17:30	Test ID:	LARE SPP	Sample ID:	REF-Ref Toxicant
End Date:	7/31/98 17:30	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	CUSO-Copper sulfate
Sample Date:	7/29/98	Protocol:	ASTM 87	Test Species:	ME-Mytilis edulis
Comments:					

Conc-ppb	1	2	3	4
control	0.9071	0.9414	0.9231	0.9476
2.5	0.8704	0.8925	0.9029	0.9043
5	0.8601	0.8763	0.8768	0.8485
10	0.0548	0.2727	0.2222	0.2581
20	0.2500	0.0000	0.2222	0.3333
40	0.0000	0.0000	0.0000	

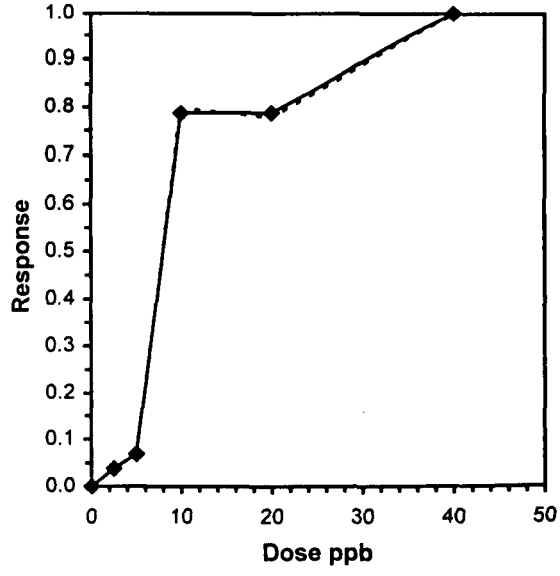
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-ppb	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
control	0.9298	1.0000	1.3042	1.2610	1.3398	2.741	4				0.9291	1.0000
2.5	0.8925	0.9599	1.2373	1.2025	1.2563	2.005	4	0.989	2.567	0.1736	0.8934	0.9616
5	0.8654	0.9308	1.1955	1.1710	1.2122	1.674	4	1.607	2.567	0.1736	0.8654	0.9314
*10	0.2020	0.2172	0.4524	0.2363	0.5495	32.309	4	12.594	2.567	0.1736	0.1979	0.2130
*20	0.2014	0.2166	0.4639	0.2255	0.6155	36.094	4	12.424	2.567	0.1736	0.1979	0.2130
*40	0.0000	0.0000	0.2436	0.2255	0.2527	6.438	3	14.517	2.567	0.1875	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.81422	0.881	-1.5483	3.82083
Bartlett's Test indicates unequal variances (p = 6.03E-04)	21.6756	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	5	10	7.07107		0.12303	0.1322	0.84661	0.00915	1.0E-11	5, 17

Linear Interpolation (80 Resamples)

Point	ppb	SD	95% CL(Exp)		Skew
IC05	3.4633	0.7554	1.3706	5.7300	0.0231
IC10	5.2188	0.0694	5.0363	5.4320	0.3220
IC15	5.5668	0.0692	5.3930	5.8084	0.4622
IC20	5.9148	0.0738	5.7362	6.1535	0.4771
IC25	6.2628	0.0823	6.0694	6.5639	0.4060
IC40	7.3067	0.1217	7.0543	7.8015	0.1911
IC50	8.0027	0.1534	7.6834	8.6260	0.1307



Test: BV-Bivalve Larval Survival and Development Test						Test ID: LARE SPP		
Species: ME-Mytilis edulis						Protocol: ASTM 87		
Sample ID: REF-Ref Toxicant						Sample Type: CUSO-Copper sulfate		
Start Date: 7/29/98 17:30			End Date: 7/31/98 17:30			Lab ID: MECCA-MEC Carlsbad		
Pos	ID	Rep	Group	Initial Density	Final Density	Total Counted	Number Normal	Notes
	1	1	control	229.5	269	269	244	
	2	2	control	229.5	222	222	209	
	3	3	control	229.5	234	234	216	
	4	4	control	229.5	248	248	235	
	5	1	2.500	229.5	162	162	141	
	6	2	2.500	229.5	186	186	166	
	7	3	2.500	229.5	175	175	158	
	8	4	2.500	229.5	209	209	189	
	9	1	5.000	229.5	193	193	166	
	10	2	5.000	229.5	186	186	163	
	11	3	5.000	229.5	203	203	178	
	12	4	5.000	229.5	198	198	168	
	13	1	10.000	229.5	73	73	4	
	14	2	10.000	229.5	33	33	9	
	15	3	10.000	229.5	72	72	16	
	16	4	10.000	229.5	62	62	16	
	17	1	20.000	229.5	4	4	1	
	18	2	20.000	229.5	5	5	0	
	19	3	20.000	229.5	9	9	2	
	20	4	20.000	229.5	6	6	2	
	21	1	40.000	229.5	4	4	0	
	22	2	40.000	229.5	0	0	0	
	23	3	40.000	229.5	5	5	0	
	24	4	40.000	229.5	4	4	0	

Comments:

APPENDIX E

Solid Phase Bioassays

10 DAY SOLID PHASE TEST
INTERACTIVE DATA SETUP

GENERAL

CLIENT:	ACOE
PROJECT:	LA River Estuary
MEC JOB NUMBER:	0719-019
PROJECT MANAGER:	Krause/ Green
TEST SPECIES:	*Neanthes arenaceodentata*
TEST PROTOCOL:	ASTM97/USCOE91
MEC LABORATORY:	Carlsbad
TEST LOCATION:	Room 3
TEST START DATE:	24Jul98
TEMP. RECORDER#:	119280
DILUTION WATER BATCH:	SIO062998
FEEDING INFORMATION:	none
WATER RENEWAL INFO:	every 48 hours

FIELD SAMPLE

DATE RECEIVED AT MEC:	July 16-20, 1998
SAMPLE STORAGE:	4 Degrees Celsius - dark
SAMPLE TREATMENT:	press sieved (2.0 mm)
TEST CHAMBER:	1 L mason jars
EXPOSURE VOLUME:	2 cm sediment/ 600 mL water
REFERENCE TOXICANT:	cadmium
REF. TOX. MATERIAL:	cadmium chloride

REFTOX CONC (mg/ L)

0
3.75
7.5
15
30
60

	CLIENT SAMPLE ID	MEC SAMPLE ID	CONTROL ID	MEC CONTROL ID
1	1 Top Composite	.	Control	C980716.02
2	1 Bottom Composite	.		
3	2 Top Composite	.		
4	2 Bottom Composite	.		
5	3 Composite	.		
6	LA - 2 Reference	.	.	.
7	.	.		
8	.	.		
9	.	.		
10	.	.		
11	.	.	.	.
12	.	.		
13	.	.		
14	.	.		
15	.	.		
16	.	.	.	.
17	.	.		
18	.	.		
19	.	.		
20	.	.		
21	.	.	.	.
22	.	.		
23	.	.		
24	.	.		
25	.	.		
26	.	.	.	.
27	.	.		
28	.	.		
29	.	.		
30	.	.		
31	.	.	.	.
32	.	.		
33	.	.		
34	.	.		
35	.	.		

10 DAY SOLID PHASE TEST DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91

GENERAL TEST INFORMATION

SPECIES: *Neanthes arenaceodentata*		
SUPPLIER: Don Reish		ORGANISM BATCH NO.: DR7525
DATE RECEIVED: 21Jul98	TIME RECEIVED: 12:45	ARRIVAL VIA: Fed Ex
QUANITY ORDERED: 850	AGE: 5 mm	SPECIES CODE:
GENERAL CONDITION: Good		

SAMPLE STORAGE: 4 Degrees Celsius - dark
SEDIMENT TREATMENT: press sieved (2.0 mm)
CONTROL SEDIMENT ID: C980716.02
CONTROL SEDIMENT SUPPLIER: John Brezina
TEST CHAMBERS: 1 L mason jars

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
21Jul98											850	ARRIVAL	

ACCLIMATION MORTALITY: 0%

10 DAY SOLID PHASE TEST

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB No.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91

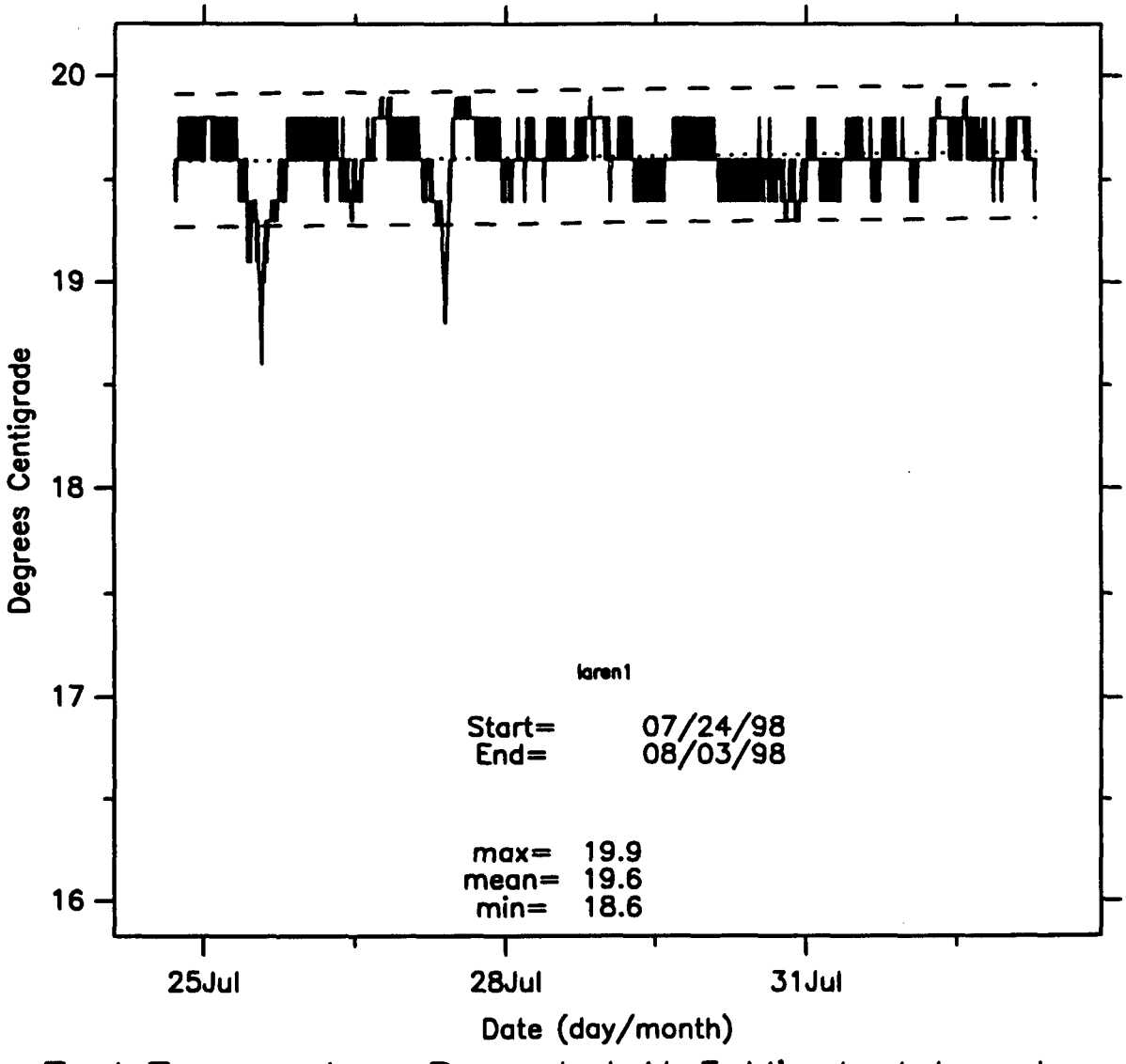
RANDOMIZATION WORKSHEET

SORTED BY CLIENT/ MEC ID			
CLIENT ID	MEC ID	REP	JAR#
Control	C980716.02	1	1
Control	C980716.02	2	2
Control	C980716.02	3	3
Control	C980716.02	4	4
Control	C980716.02	5	5
1 Top Composite		1	6
1 Top Composite		2	7
1 Top Composite		3	8
1 Top Composite		4	9
1 Top Composite		5	10
1 Bottom Composite		1	11
1 Bottom Composite		2	12
1 Bottom Composite		3	13
1 Bottom Composite		4	14
1 Bottom Composite		5	15
2 Top Composite		1	16
2 Top Composite		2	17
2 Top Composite		3	18
2 Top Composite		4	19
2 Top Composite		5	20
2 Bottom Composite		1	21
2 Bottom Composite		2	22
2 Bottom Composite		3	23
2 Bottom Composite		4	24
2 Bottom Composite		5	25
3 Composite		1	26
3 Composite		2	27
3 Composite		3	28
3 Composite		4	29
3 Composite		5	30
LA - 2 Reference		1	36
LA - 2 Reference		2	37
LA - 2 Reference		3	38
LA - 2 Reference		4	39
LA - 2 Reference		5	40

SORTED BY JAR NUMBER			
CLIENT ID	MEC ID	REP	JAR#

Nereis zero time weights - LARE I

	Tare weight (mg) 7-28-98	Total weight (mg) 7-29-98
Rep 1	95.29	100.07
Rep 2	94.43	98.29
Rep 3	133.86	138.06



Test Temperature Recorded At 5 Minute Intervals

(dotted line = predicted mean temperature, dashed line = 95% confidence bounds)

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	24Jul98	16:00	03Aug98	15:00

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)	DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0	SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN			WATER RENEWAL
1 Top Composite / .	0	1	6		7.4		19.7		29.9		8.0				4.87						
		2	7		7.4		19.6		29.8		8.0		0.54								
		3	8		7.4		19.2		29.9		8.0										
		4	9		7.5		19.6		29.9		8.0										
		5	10		7.4		19.3		29.9		8.0										
1 Top Composite / .	1	1	6		6.7		20.0		29.4		8.0										
1 Top Composite / .	2	2	7		6.7		20.4		29.6		7.9										
1 Top Composite / .	3	3	8		7.1		19.9		30.3		8.1										
1 Top Composite / .	4	4	9		5.9		19.9		30.1		7.9										
1 Top Composite / .	5	5	10		7.0		20.1		30.6		8.1				6.06						
1 Top Composite / .	6	1	6		6.9		20.0		30.2		8.1										
1 Top Composite / .	7	2	7		6.9		20.3		29.5		8.0										
1 Top Composite / .	8	3	8		7.0		19.9		29.9		8.1										
1 Top Composite / .	9	4	9		6.9		19.9		30.1		8.2										
1 Top Composite / .	10	1	6		6.6		21.0		30.0		8.1				8.26		0.70				
		2	7		6.5		20.9		30.1		8.0										
		3	8		6.7		20.0		30.0		8.2										
		4	9		6.1		20.7		29.9		8.2		2.47								
		5	10		6.6		20.8		30.0		8.1										

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	24Jul98	16:00	03Aug98	15:00

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			
2 Top Composite / .	0	1	16	8.0	7.4	8.0	19.6	8.0	30.0	8.0	8.0				9.19					
		2	17	8.0	7.3	8.0	19.7	8.0	29.9	8.0	8.0		0.91							
		3	18	8.0	7.4	8.0	19.7	8.0	29.9	8.0	8.0									
		4	19	8.0	7.4	8.0	19.8	8.0	30.1	8.0	8.0									
		5	20	8.0	7.5	8.0	19.6	8.0	29.9	8.0	8.0									
2 Top Composite / .	1	1	16	8.0	6.7	8.0	19.8	8.0	29.3	8.0	7.9									
2 Top Composite / .	2	2	17	8.0	6.9	8.0	20.3	8.0	29.7	8.0	8.1									
2 Top Composite / .	3	3	18	8.0	6.8	8.0	20.2	8.0	30.3	8.0	8.1									
2 Top Composite / .	4	4	19	8.0	7.2	8.0	19.9	8.0	30.1	8.0	8.1									
2 Top Composite / .	5	5	20	8.0	7.1	8.0	19.9	8.0	30.8	8.0	8.1				8.67					
2 Top Composite / .	6	1	16	8.0	6.9	8.0	20.4	8.0	30.1	8.0	8.0									
2 Top Composite / .	7	2	17	8.0	7.0	8.0	20.2	8.0	29.4	8.0	8.0									
2 Top Composite / .	8	3	18	8.0	6.9	8.0	19.9	8.0	30.1	8.0	8.1									
2 Top Composite / .	9	4	19	8.0	6.8	8.0	20.2	8.0	30.2	6.0	8.1									
2 Top Composite / .	10	1	16	8.0	6.7	8.0	20.9	8.0	29.9	6.0	8.2				5.26		0.0613			
		2	17	8.0	6.6	8.0	20.5	8.0	30.0	6.0	8.3									
		3	18	8.0	6.8	8.0	20.4	8.0	30.0	6.0	8.2		2.36							
		4	19	8.0	6.8	8.0	20.7	8.0	30.1	6.0	8.2									
		5	20	8.0	6.9	8.0	20.4	8.0	29.9	6.0	8.3									

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	24Jul98	16:00	03Aug98	15:00

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
3 Composite / .	0	1	26	8.0	7.3	8.0	19.7	8.0	29.3	8.0	8.0				7.31						
		2	27	8.0	7.2	8.0	19.6	8.0	29.6	8.0	8.0										
		3	28	8.0	7.1	8.0	19.6	8.0	29.6	8.0	8.0										
		4	29	8.0	7.2	8.0	19.4	8.0	29.2	8.0	8.0										
		5	30	8.0	7.2	8.0	19.9	8.0	29.0	8.0	8.0		0.41								
3 Composite / .	1	1	26	8.0	6.9	8.0	20.0	8.0	29.4	8.0	8.0										
3 Composite / .	2	2	27	8.0	7.1	8.0	20.1	8.0	29.7	8.0	8.0										
3 Composite / .	3	3	28	8.0	6.9	8.0	20.3	8.0	30.0	8.0	8.0										
3 Composite / .	4	4	29	8.0	7.2	8.0	19.5	8.0	30.1	8.0	8.0										
3 Composite / .	5	5	30	8.0	6.9	8.0	20.5	8.0	30.8	8.0	8.0				3.42						
3 Composite / .	6	1	26	8.0	7.0	8.0	20.2	8.0	30.1	8.0	8.1										
3 Composite / .	7	2	27	8.0	7.0	8.0	20.0	8.0	29.3	8.0	8.2										
3 Composite / .	8	3	28	8.0	6.6	8.0	20.2	8.0	29.9	8.0	8.1										
3 Composite / .	9	4	29	8.0	6.9	8.0	19.9	8.0	30.1	6.0	8.2										
3 Composite / .	10	1	26	8.0	7.0	8.0	20.3	8.0	30.2	6.0	8.3		0.75		3.11		0.17				
		2	27	8.0	6.8	8.0	20.2	8.0	29.9	6.0	8.4										
		3	28	8.0	6.7	8.0	20.4	8.0	29.9	6.0	8.3										
		4	29	8.0	6.7	8.0	20.6	8.0	29.8	6.0	8.3										
		5	30	8.0	6.9	8.0	20.7	8.0	29.9	6.0	8.3										

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91
MEC JOB NUMBER	**PROJECT MANAGER**	**TEST START DATE** / **TIME**	**TEST END DATE**	**TIME**
0719-019	Krause/ Green	24Jul98 / 16:00	03Aug98	15:00

WATER QUALITY DATA

TEST - CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			
LA - 2 Reference / .	0	1	36	8.0	7.5	8.0	19.3	8.0	29.8	8.0	8.0				4.27					
		2	37	8.0	7.5	8.0	19.5	8.0	30.0	8.0	8.1									
		3	38	8.0	7.5	8.0	19.3	8.0	30.0	8.0	8.1		0.10							
		4	39	8.0	7.6	8.0	19.4	8.0	29.8	8.0	8.1									
		5	40	8.0	7.6	8.0	19.3	8.0	29.9	8.0	8.1									
LA - 2 Reference / .	1	1	36	8.0	7.0	8.0	19.7	8.0	29.5	8.0	8.0									
LA - 2 Reference / .	2	2	37	8.0	7.2	8.0	20.3	8.0	29.9	8.0	8.1									
LA - 2 Reference / .	3	3	38	8.0	7.1	8.0	20.2	8.0	30.5	8.0	8.1									
LA - 2 Reference / .	4	4	39	8.0	7.3	8.0	19.7	8.0	30.1	8.0	8.1									
LA - 2 Reference / .	5	5	40	8.0	7.1	8.0	20.2	8.0	30.9	8.0	8.1				3.25					
LA - 2 Reference / .	6	1	36	8.0	7.1	8.0	20.2	8.0	30.3	8.0	8.1									
LA - 2 Reference / .	7	2	37	8.0	7.1	8.0	20.3	8.0	29.9	8.0	8.1									
LA - 2 Reference / .	8	3	38	8.0	7.0	8.0	20.0	8.0	29.9	8.0	8.1									
LA - 2 Reference / .	9	4	39	8.0	7.1	8.0	20.1	8.0	30.0	6.0	8.1									
LA - 2 Reference / .	10	1	36	8.0	7.0	8.0	20.6	8.0	29.9	6.0	8.1				3.62		0.21			
		2	37	8.0	7.0	8.0	20.5	8.0	30.1	6.0	8.1									
		3	38	8.0	6.9	8.0	20.5	8.0	30.0	6.0	8.1		0.28							
		4	39	8.0	7.0	8.0	20.4	8.0	29.9	6.0	8.1									
		5	40	8.0	7.0	8.0	20.5	8.0	30.2	6.0	8.1									

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91	*Neanthes arenaceodentata*	< 5%

ENDPOINT DATA & OBSERVATIONS

CLIENT/ MEC ID	REP	JAR #	INITIA #	DAY 1 DATE 28Jul98 TECHNICIAN #DEAD	DAY 1 #SURF.	DAY 2 DATE 29Jul98 TECHNICIAN #DEAD	DAY 2 #SURF.	DAY 3 DATE 30Jul98 TECHNICIAN #DEAD	DAY 3 #SURF.	DAY 4 DATE TECHNICIAN #DEAD	DAY 4 #SURF.	DAY 5 DATE 01Aug98 TECHNICIAN #DEAD	DAY 5 #SURF.	DAY 6 DATE 02Aug98 TECHNICIAN #DEAD	DAY 6 #SURF.	DAY 7 DATE 03Aug98 TECHNICIAN #DEAD	DAY 7 #SURF.	DAY 8 DATE 04Aug98 TECHNICIAN #DEAD	DAY 8 #SURF.	DAY 9 DATE 05Aug98 TECHNICIAN #DEAD	DAY 9 #SURF.	DAY 10 DATE 06Aug98 TECHNICIAN #DEAD	DAY 10 #SURF.	NUMBER REMAINING		
Control / C980716.02	1	1		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			9		
	2	2		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	3	3		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			9	✓	
	4	4		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			9		
	5	5		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
1 Top Composite / .	1	6		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	2	7		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			15		
	3	8		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10	✓	
	4	9		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	5	10		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
1 Bottom Composite / .	1	11																								
	2	12																								
	3	13																								
	4	14																								
	5	15																								
2 Top Composite / .	1	16		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	2	17		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	3	18		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10	✓	
	4	19		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			9		
	5	20		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
2 Bottom Composite / .	1	21																								
	2	22																								
	3	23																								
	4	24																								
	5	25																								
3 Composite / .	1	26		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	2	27		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	3	28		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			9	✓	
	4	29		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			9		
	5	30		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

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CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91	*Neanthes arenaceodentata*	< 5%

ENDPOINT DATA & OBSERVATIONS

				DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7		DAY 8		DAY 9		DAY 10				
				DATE 28Jul98		DATE 29Jul98		DATE 30Jul98		DATE		DATE 01Aug98		DATE 02Aug98		DATE 03Aug98		DATE 04Aug98		DATE 05Aug98		DATE 06Aug98				
				TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN				
CLIENT/ MEC ID	REP	JAR #	INITIA #	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	NUMBER REMAINING		
. / .	1																									
	2																									
	3																									
	4																									
	5																									
LA - 2 Reference / .	1	36		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	2	37		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	3	38		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	4	39		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	5	40		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			9		
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MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

Neanthes arenaceodentata **ACOE LA River Estuary**

WATER QUALITY

CLIENT SAMPLE ID	MEC SAMPLE ID	DISS.OXYGEN (mg/L)			DISS.OXYGEN (%SAT)	TEMPERATURE (°C)			SALINITY (ppt)			pH			OVERLYING NH_3 (mg/L)			INTER. NH_3 (mg/L)			INTER. SULFIDE (mg/L		
		Mean	Min	Max	Mean	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Reference Toxicant	cadmium	6.9	6.6	7.2	92.2	20.1	19.9	20.5	30.2	29.6	30.9	8.0	7.9	8.1									
Control	C980716.02	7.1	6.8	7.5	94.1	20.1	19.3	20.6	29.9	29.0	30.8	8.0	7.9	8.1	0.11	0.05	0.16	2.10	1.60	2.59	0.15	0.15	0.15
1 Top Composite	.	6.9	5.9	7.5	91.1	20.1	19.2	21.0	30.0	29.4	30.6	8.1	7.9	8.2	1.50	0.54	2.47	6.40	4.87	8.26	0.70	0.70	0.70
1 Bottom Composite	.	#DIV/0!	0.0	0.0	#DIV/0!	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00
2 Top Composite	.	7.0	6.6	7.5	92.9	20.1	19.6	20.9	30.0	29.3	30.8	8.1	7.9	8.3	1.63	0.91	2.36	9.19	9.19	9.19	#DIV/0!	0.00	0.00
2 Bottom Composite	.	#DIV/0!	0.0	0.0	#DIV/0!	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00
3 Composite	.	7.0	6.6	7.3	92.3	20.1	19.4	20.7	29.8	29.0	30.8	8.1	8.0	8.4	0.58	0.41	0.75	4.61	3.11	7.31	0.17	0.17	0.17
.	.																						
LA - 2 Reference	.	7.2	6.9	7.6	95.1	20.0	19.3	20.6	30.0	29.5	30.9	8.1	8.0	8.1	0.19	0.10	0.28	3.71	3.25	4.27	0.21	0.21	0.21
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MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

ACOE LA River Estuary

Neanthes arenaceodentata

ENDPOINTS

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL NO. ALIVE	% SURVIVAL	MEAN SURVIVAL		
Reference Toxicant	cadmium	60 mg/L	5						
Control	C980716.02		1		9	#VALUE!			
Control	C980716.02		2		10	#VALUE!			
Control	C980716.02		3		9	#VALUE!	#VALUE!		
Control	C980716.02		4		9	#VALUE!			
Control	C980716.02		5		10	#VALUE!			
1 Top Composite	.		1		10	#VALUE!			
1 Top Composite	.		2		15	#VALUE!			
1 Top Composite	.		3		10	#VALUE!	#VALUE!		
1 Top Composite	.		4		10	#VALUE!			
1 Top Composite	.		5		10	#VALUE!			
1 Bottom Composite	.		1						
1 Bottom Composite	.		2						
1 Bottom Composite	.		3						
1 Bottom Composite	.		4						
1 Bottom Composite	.		5						
2 Top Composite	.		1		10	#VALUE!			
2 Top Composite	.		2		10	#VALUE!			
2 Top Composite	.		3		10	#VALUE!	#VALUE!		
2 Top Composite	.		4		9	#VALUE!			
2 Top Composite	.		5		10	#VALUE!			
2 Bottom Composite	.		1						
2 Bottom Composite	.		2						
2 Bottom Composite	.		3						
2 Bottom Composite	.		4						
2 Bottom Composite	.		5						
3 Composite	.		1		10	#VALUE!			
3 Composite	.		2		10	#VALUE!			
3 Composite	.		3		9	#VALUE!	#VALUE!		

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

ACOE LA River Estuary

Neanthes arenaceodentata

ENDPOINTS

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL NO. ALIVE	% SURVIVAL	MEAN SURVIVAL		
3 Composite	.		4		9	#VALUE!			
3 Composite	.		5		10	#VALUE!			
.	.								
.	.								
.	.								
.	.								
.	.								
LA - 2 Reference	.		1		10	#VALUE!			
LA - 2 Reference	.		2		10	#VALUE!			
LA - 2 Reference	.		3		10	#VALUE!	#VALUE!		
LA - 2 Reference	.		4		10	#VALUE!			
LA - 2 Reference	.		5		9	#VALUE!			
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10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	24Jul98		03Aug98	15:10

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		WATER RENEWAL	
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
Control / C980716.02	0	1	2	3	7.4	3	19.9	3	29.9	8	8.0			JC	2.59			MW			
		2	16		7.1		19.7		29.9		7.9	JC	0.164					MW			
		3	25		7.4		19.6		29.9		8.0							MW			
		4	18		7.5		19.3		29.9		8.0							MW			
		5	20		7.3		19.9		29.9		8.0							MW			
Control / C980716.02	1	1	2	3	6.9	3	20.1	3	29.6	8	8.0							MG			
Control / C980716.02	2	2	16	3	7.1	3	20.4	3	29.9	8	8.0							DS		MJ	X
Control / C980716.02	3	3	25	3	7.0	3	19.9	3	30.3	8	8.1							MG			
Control / C980716.02	4	4	18	3	7.3	3	19.3	3	30.1	8	8.0							DM		JN	X
Control / C980716.02	5	5	20	3	7.2	3	20.3	3	30.8	8	8.0	① JC ~~JC 2.45~~		JC	2.45			MAI			
Control / C980716.02	6	1	2	3	7.0	3	20.1	3	30.1	8	8.1							MG		MG	X
Control / C980716.02	7	2	16	3	7.0	3	20.3	3	29.8	8	8.0							MG			
Control / C980716.02	8	3	25	3	7.0	3	19.9	3	29.8	8	8.1							MG			X
Control / C980716.02	9	4	18	3	7.1	3	20.1	3	29.9	6	8.1							DL			
Control / C980716.02	10	1	2	3	6.8	3	20.6	3	29.6	6	8.1			JC	1.60	JC	0.148	AM			
		2	16		6.9		20.5		29.8		8.1	JC	0.0522								
		3	25		7.0		20.3		29.0		8.1										
		4	18		7.0		20.4		30.0		8.1										
		5	20		7.1		20.5		30.0		8.1										

① JC wc 8/7/98

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	24Jul98		03Aug98	15:00

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			
1 Top Composite / .	0	1	31	3	7.4	3	19.7	3	29.9	8	8.0			JK	4.87			MN		
		2	33		7.4		19.6		29.8		8.0	JK	0.537					MN		
		3	11		7.4		19.2		29.9		8.0							MN		
		4	1		7.5		19.6		29.9		8.0							MN		
		5	22		7.4		19.3		29.9		8.0							MN		
1 Top Composite / .	1	1	31	3	6.7	3	20.0	3	29.4	8	8.0							MG		
1 Top Composite / .	2	2	33	3	6.7	3	20.4	3	29.6	8	7.9							DS		MN X
1 Top Composite / .	3	3	11	3	7.1	3	19.9	3	30.3	8	8.1							MG		
1 Top Composite / .	4	4	1	3	5.9	3	19.9	3	30.1	8	7.9							D.M.		JN X
1 Top Composite / .	5	5	22	3	7.0	3	20.1	3	30.6	8	8.1	①JK	~~6.06~~	JK	6.06			MN		
1 Top Composite / .	6	1	31	3	6.9	3	20.0	3	30.2	8	8.1							MG		MG X
1 Top Composite / .	7	2	33	3	6.9	3	20.3	3	29.5	8	8.0							MG		
1 Top Composite / .	8	3	11	3	7.0	3	19.9	3	29.9	8	8.1							MG		X
1 Top Composite / .	9	4	1	3	6.9	3	19.9	3	30.1	6	8.2							DL		
1 Top Composite / .	10	1	31	3	6.6	3	21.0	3	30.0	6	8.1			JK	8.26	JK	0.701	AM		
		2	33		6.5		20.9		30.1		8.0									
		3	11		6.7		20.0		30.0		8.2									
		4	1		6.1		20.7		29.9		8.2	JK	2.47							
		5	22		6.6		20.8		30.0		8.1									

① JK WC 8/7/98

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	24Jul98		03Aug98	15:00

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		WATER RENEWAL	
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
2 Top Composite / .	0	1	24	3	7.4	3	19.6	3	30.0	8	8.0			JC	9.19			MW			
		2	5		7.3		19.7		29.9		8.0	JC	0.907					MW			
		3	9		7.4		19.7		29.9		8.0							MW			
		4	29		7.4		19.8		30.1		8.0							MW			
		5	12		7.5		19.6		29.9		8.0							MW			
2 Top Composite / .	1	1	24	3	6.7	3	19.8	3	29.3	8	7.9							MG			
2 Top Composite / .	2	2	5	3	6.9	3	20.3	3	29.7	8	8.1							OS		MA	X
2 Top Composite / .	3	3	9	3	6.8	3	20.2	3	30.3	8	8.1							MG			
2 Top Composite / .	4	4	29	3	7.2	3	19.9	3	30.1	8	8.1							DM.		JN	X
2 Top Composite / .	5	5	12	3	7.1	3	19.9	3	30.8	8	8.1	JC	~~8.67~~	JC	8.67			MA			
2 Top Composite / .	6	1	24	3	6.9	3	20.4	3	30.1	8	8.0							MG		MG	X
2 Top Composite / .	7	2	5	3	7.0	3	20.2	3	29.4	8	8.0							MG			
2 Top Composite / .	8	3	9	3	6.9	3	19.9	3	30.1	8	8.1							MG			X
2 Top Composite / .	9	4	29	3	6.8	3	20.2	3	30.2	6	8.1							DL			
2 Top Composite / .	10	1	24	3	6.7	3	20.4	3	29.9	6	8.2			JC	5.26	JC	0.0613	AM			
		2	5		6.6		20.5		30.0		8.3										
		3	9		6.4		20.4		30.0		8.2	JC	2.36								
		4	29		6.8		20.7		30.1		8.2										
		5	12		6.9		20.4		29.9		8.3										

① JC WC 8/7/98

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	24Jul98	1600	03Aug98	~~1600~~ 15:22 ①MG

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN			WATER RENEWAL
3 Composite / .	0	1	35	3	7.3	3	19.7	3	29.3	8	8.0			fc	7.31			MG			
		2	34	↓	7.2	↓	19.6	↓	29.6	↓	8.0							↓			
		3	4		7.1		19.6		29.6		8.0										
		4	15		7.2		19.4		29.2		8.0										
		5	27		7.2		19.9		29.0		8.0	fc	0.405								
3 Composite / .	1	1	35	3	6.9	3	20.0	3	29.4	8	8.0							MG			
3 Composite / .	2	2	34	3	7.1	3	20.1	3	29.7	8	8.0							DS			MA1 X
3 Composite / .	3	3	4	3	6.9	3	20.3	3	30.0	8	8.0							MG			~~X~~ DM
3 Composite / .	4	4	15	3	7.2	3	19.5	3	30.1	8	8.0							D.M.			JW X
3 Composite / .	5	5	27	3	6.9	3	20.5	3	30.8	8	8.0	① ~~fc~~	~~3.42~~	fc	3.42			MA1			
3 Composite / .	6	1	35	3	7.0	3	20.2	3	30.1	8	8.1							MG			MG X
3 Composite / .	7	2	34	3	7.0	3	20.0	3	29.3	8	8.2							MG			
3 Composite / .	8	3	4	3	6.6	3	20.2	3	29.9	8	8.1							MG			X
3 Composite / .	9	4	15	3	6.9	3	19.9	3	30.1	6	8.2							DL			
3 Composite / .	10	1	35	3	7.0	3	20.3	3	30.2	6	8.3	fc	0.749	fc	3.11	fc	0.168	AM			
		2	34		6.8		20.2		29.9		8.4										
		3	4		6.7		20.4		29.9		8.3										
		4	15		6.7		20.6		29.4		8.3										
		5	27		6.9		20.7		29.4		8.3										

①WC 7-27-98 MG
②WC 7.28.98 MM
③ WC fc 8/7/98

7 10sp na W

[redacted]

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	24Jul98		03Aug98	

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		WATER RENEWAL	
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
LA - 2 Reference / .	0	1	13	3	7.5	3	19.3	3	29.8	8	8.0			JL	4.27			MW			
		2	26	↓	7.5	↓	19.5	↓	30.0	↓	8.1							MW			
		3	28		7.5		19.3		30.0		8.1	JL	0.103					MW			
		4	32		7.6		19.9		29.8		8.1							MW			
		5	21	↓	7.6	↓	19.3	↓	29.9	↓	8.1							MW			
LA - 2 Reference / .	1	1	13	3	7.0	3	19.7	3	29.5	8	8.0							MG			
LA - 2 Reference / .	2	2	26	3	7.2	3	20.3	3	29.9	8	8.1							DS		MAH	X
LA - 2 Reference / .	3	3	28	3	7.1	3	20.2	3	30.5	8	8.1							MG			
LA - 2 Reference / .	4	4	32	3	7.3	3	19.7	3	30.1	8	8.1							DM		JW	X
LA - 2 Reference / .	5	5	21	3	7.1	3	20.2	3	30.9	8	8.1	JL@	3.25	JL	3.25			MAH			
LA - 2 Reference / .	6	1	13	3	7.1	3	20.2	3	30.3	8	8.1							MG		MG	X
LA - 2 Reference / .	7	2	26	3	7.1	3	20.3	3	29.9	8	8.1							MG			
LA - 2 Reference / .	8	3	28	3	7.0	3	20.0	3	29.9	8	8.1							MG			X
LA - 2 Reference / .	9	4	32	3	7.1	3	20.1	3	30.0	6	8.1							DL			
LA - 2 Reference / .	10	1	13	3	7.0	3	20.6	3	29.9	6	8.1			JL	3.62	JL	0.214	AM			
		2	26	‖	7.0	‖	20.5	‖	30.1	‖	8.1										
		3	28	‖	6.4	‖	20.5	‖	30.0	‖	8.1	JL	0.277								
		4	32	‖	7.0	‖	20.4	‖	29.9	‖	8.1										
		5	21	‖	7.0	‖	20.5		30.2	‖	8.1										

① JL WC 8/7/98

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91	*Neanthes arenaceodentata*	< 5%

ENDPOINT DATA & OBSERVATIONS

CLIENT/ MEC ID	REP	JAR #	INITIA #	DAY 1 #DEAD	DAY 1 #SURF.	DAY 2 #DEAD	DAY 2 #SURF.	DAY 3 #DEAD	DAY 3 #SURF.	DAY 4 #DEAD	DAY 4 #SURF.	DAY 5 #DEAD	DAY 5 #SURF.	DAY 6 #DEAD	DAY 6 #SURF.	DAY 7 #DEAD	DAY 7 #SURF.	DAY 8 #DEAD	DAY 8 #SURF.	DAY 9 #DEAD	DAY 9 #SURF.	DAY 10 #DEAD	DAY 10 #SURF.	NUMBER REMAINING		
DATE				7-28-98		7-29-98		7-30-98				8-1-98		8-2-98		8-3-98		8-4-98		8-5-98		8/6/98				
TECHNICIAN				MG		MAI		MG				MAI		MG		MG		MG		DL		AN				
Control / C980716.02	1	2		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			9		
	2	16		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			10		
	3	25		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			9		
	4	18		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			9		
	5	20		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			10		
1 Top Composite / .	1	31		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	2	33		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			15		
	3	11		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			10		
	4	1		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			10		
	5	22		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			10		
1 Bottom Composite / .	1	6																								
	2	8																								
	3	23																								
	4	17																								
	5	19																								
2 Top Composite / .	1	24		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	2	5		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			10		
	3	9		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			10		
	4	29		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			9		
	5	12		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			10		
2 Bottom Composite / .	1	7																								
	2	14																								
	3	30																								
	4	3																								
	5	10																								
3 Composite / .	1	35		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			10		
	2	34		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			10		
	3	4		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			9		
	4	15		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			9		
	5	27		↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			10		

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91	*Neanthes arenaceodentata*	< 5%

ENDPOINT DATA & OBSERVATIONS

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	DAY 8	DAY 9	DAY 10
DATE	7-28-98	7.29.98	7-30-98	8.1.98		8-2-98	8-3-98	8-4-98	8-5-98	
TECHNICIAN	MG	MA	MG	MA		MG	MG	MG	DL	

CLIENT/ MEC ID	REP	JAR #	INITIA #	D1 #DEAD	D1 #SURF.	D2 #DEAD	D2 #SURF.	D3 #DEAD	D3 #SURF.	D4 #DEAD	D4 #SURF.	D5 #DEAD	D5 #SURF.	D6 #DEAD	D6 #SURF.	D7 #DEAD	D7 #SURF.	D8 #DEAD	D8 #SURF.	D9 #DEAD	D9 #SURF.	D10 #DEAD	D10 #SURF.	NUMBER REMAINING		
. / .	1																									
	2																									
	3																									
	4																									
	5																									
LA - 2 Reference / .	1	13		0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0			10		
	2	26		↓	↓	↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓			10		
	3	28		↓	↓	↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓			10		
	4	32		↓	↓	↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓			10		
	5	21		↓	↓	↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓			9		
. / .	1																									
	2																									
	3																									
	4																									
	5																									
. / .	1																									
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. / .	1																									
	2																									
	3																									
	4																									
	5																									

MEC ANALYTICAL SYSTEMS, INC.

SUPPLEMENTAL WATER QUALITY ANALYSIS

CLIENT	PROJECT	MEC JOB NUMB.	TEST	MEC LABORATORY
ACOE	LA Estuary		For Composite sediment	Carlsbad

CIRCLE ONE: PRE-TEST / TEST — CIRCLE ONE: OVERLYING / INTERSTITIAL

CLIENT ID	MEC ID	DAY/ REP	DATE SAMPLE TAKEN/ INITIALS	DATE SAMPLE ANALYZED/ INITIALS	AMMONIA (mg/L)	OTHER ANALYTE (UNIT):	OTHER ANALYTE (UNIT):	SAMPLE TREATMENT
Control			7/21/98 JL	7/21/98 JL	IP			
Reference			7/21/98 JL	7/21/98 JL	8.23			
1 Top			7/21/98 JL	7/21/98 JL	66.1			
1 Bot			7/21/98 JL	7/21/98 JL	257			
2 Top			7/22/98 JL	7/22/98 JL	74.8			
2 Bot			7/22/98 JL	7/22/98 JL	187			
3			7/21/98 JL	7/21/98 JL	37.7			

COMMENTS:

IP = Insufficient Porewater

AMMONIA ANALYSIS

PART I

Project LARE Organism Neanthes Test 10 day sp Day 0, 5, 10 ②fc

PRE-TEST / (INITIAL) / FINAL (circle one)

(OVERLYING) INTERSTITIAL (circle one)

Sample I.D.	Rep #	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Frozen (Y/N)
Control	2		0.164	23.8	8/7/98 fc	Y
Reference	3		0.103	24.0		
1 Top	2		0.537	24.0		
2 Top	2		0.907	23.7		
Site 3	5		0.405	24.1		
~~Control~~	N/A		2.45 **	22.9	8/7/98 fc	Y
Ref		② fc	3.25 *	23.0		
1 Top			6.06	~~23.5~~		
2 Top			8.67	24.2		
Site 3			3.42	23.7		
Control	2		0.0522	23.5	8/7/98 fc	Y
Ref	3		Dr ~~3.25~~ 3.277	23.8		
1 Top	4		2.47	23.6		
2 Top	3		2.36	22.8		
Site 3	1		0.749	23.5		

* Small sample volume
** extra large sample volume

① fc WC 8/7/98

② fc. Porewater for Day 5. not Overlying - 8/7/98

SULFIDE ANALYSIS

Project LARE **Organism** Neanthes Part 1 **Test** 10 DAY SP **Day** 0, 5, 10

PRE-TEST / (INITIAL / FINAL) (circle one)
OVERLYING (INTERSTITIAL) (circle one)

DAY	Sample I.D.	Rep #	Date of Sampling and Initials	Sulfide Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N)
0	1 Top		NOT SAMPLED *				
	2 Top		↓				
	3 Site						
	Control						
	Reference						
5	1 Top		NOT SAMPLED *				
	2 Top		↓				
	3						
	Control						
	Reference						
10	1 Top		8.6.98 MN	0.701	25.2	8.8.98 JL	Y
↓	2 Top		↓ ↓	0.0613	25.1	↓ ↓	↓
	3			0.168	24.5		
	Control			0.148	24.3		
	Reference		↓ ↓	0.214	25.0	↓ ↓	↓

* Not Sampled per David Moore 7/30/98

AMMONIA ANALYSIS

Project LA Estuary LARE **Organism** Neanthes **Test** 10 day SP **Day** 0

PRE-TEST / (INITIAL) / FINAL (circle one)
OVERLYING / (INTERSTITIAL) (circle one)

After 13 renewals

Sample I.D.	Rep #	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Frozen (Y/N)		
						SAL.	PH	
Control		7/27/98 JL	2.59	23.9	7/27/98 JL			N
Reference		↓	4.27	24.0	↓	30.1	7.7	↓
1 Top		↓	4.87	23.9	↓	29.5	7.4	↓
2 Top		↓	①JL 4.87 ~~4.87~~	23.7	↓	29.9	7.5	↓
3		↓	7.31	23.9	↓	30.1	7.4	↓

1/2 hr. after last renewal
① JL wc 7/27/98

AMMONIA ANALYSIS

Project LARE **Organism** Neanthes **Test** 10 day sf **Day** 5

(Day 5)

PRE-TEST / INITIAL / FINAL (circle one)

OVERLYING / INTERSTITIAL (circle one)

Sample I.D.	Rep #	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Frozen (Y/N)
Control	–	8.1.98 MSA	2.45	22.9	8/7/98 jc	Y
Reference	–		3.25	23.0		
1 Top	–		6.06	23.5		
2 Top ~~Bottom~~ DL jc	–		8.67	24.2		
Site 3	–		3.42	23.7		

DL JE 8/7/98

AMMONIA ANALYSIS - PART 1

Project LARE Organism Neanthes Test 10 day SP Day 10

PRE-TEST / INITIAL / (FINAL) (circle one)
OVERLYING / (INTERSTITIAL) (circle one)

Sample I.D.	Rep #	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Frozen (Y/N) Sal	pH	
Control		8/6/98 MW	1.60	25.0	8/7/98 fc	30.3	7.2	Y N ①
Reference		8/6/98 MW	3.62	24.5	↓	30.2	7.4	↓
Top 1		8/7/98 MW	8.26	24.5	↓	30.2	7.4	N
Top 2		8/7/98 MW	5.26	24.8	↓	30.1	7.0	↓
Site 3		8/7/98 MW	3.11	24.0	↓	30.5	7.0	↓
				STD 24.2				

① IE fc 8/7/98

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	24Jul98	16:00	03Aug98	15:00

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP RECDR/HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
Control / C980716.02	0	1	1	3.0	7.4	3.0	19.9	3.0	29.9	8.0	8.0				2.59						
		2	2	3.0	7.1	3.0	19.7	3.0	29.9	8.0	7.9		0.16								
		3	3	3.0	7.4	3.0	19.6	3.0	29.9	8.0	8.0										
		4	4	3.0	7.5	3.0	19.3	3.0	29.9	8.0	8.0										
		5	5	3.0	7.3	3.0	19.9	3.0	29.9	8.0	8.0										
Control / C980716.02	1	1	1	3.0	6.9	3.0	20.1	3.0	29.6	8.0	8.0										
Control / C980716.02	2	2	2	3.0	7.1	3.0	20.4	3.0	29.9	8.0	8.0										
Control / C980716.02	3	3	3	3.0	7.0	3.0	19.9	3.0	30.3	8.0	8.1										
Control / C980716.02	4	4	4	3.0	7.3	3.0	19.3	3.0	30.1	8.0	8.0										
Control / C980716.02	5	5	5	3.0	7.2	3.0	20.3	3.0	30.8	8.0	8.0				2.45						
Control / C980716.02	6	1	1	3.0	7.0	3.0	20.1	3.0	30.1	8.0	8.1										
Control / C980716.02	7	2	2	3.0	7.0	3.0	20.3	3.0	29.8	8.0	8.0										
Control / C980716.02	8	3	3	3.0	7.0	3.0	19.9	3.0	29.8	8.0	8.1										
Control / C980716.02	9	4	4	3.0	7.1	3.0	20.1	3.0	29.9	6.0	8.1										
Control / C980716.02	10	1	1	3.0	6.8	3.0	20.6	3.0	29.6	6.0	8.1				1.60		0.15				
		2	2	3.0	6.9	3.0	20.5	3.0	29.8	6.0	8.1		0.05								
		3	3	3.0	7.0	3.0	20.3	3.0	29.0	6.0	8.1										
		4	4	3.0	7.0	3.0	20.4	3.0	30.0	6.0	8.1										
		5	5	3.0	7.1	3.0	20.5	3.0	30.0	6.0	8.1										

[redacted]

MEC ANALYTICAL SYSTEMS, INC.

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	28Jul98	1600	01Aug98	1500

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5		SIO062998	119280	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	0	mg/L	0	All	3.0	6.6	3.0	20.3	3.0	29.6	8.0	8.1					
			1	1	3.0	6.9	3.0	20.1	3.0	29.8	8.0	8.0					
			2	2	3.0	6.9	3.0	19.9	3.0	30.2	8.0	8.0					
			3	3	3.0	7.1	3.0	20.2	3.0	29.9	8.0	7.9					
			4	1	3.0	6.9	3.0	20.2	3.0	30.7	6.0	8.0					
				2	3.0	7.1	3.0	20.1	3.0	30.8	6.0	8.0					
				3	3.0	7.1	3.0	20.1	3.0	30.6	6.0	8.0					
Ref.Tox.-cadmium	3.75	mg/L	0	All	3.0	6.7	3.0	20.3	3.0	29.9	8.0	8.1					
			1	1	3.0	7.0	3.0	20.1	3.0	29.9	8.0	8.0					
			2	2	3.0	6.9	3.0	20.2	3.0	29.9	8.0	8.0					
			3	3	3.0	7.2	3.0	20.2	3.0	30.1	8.0	7.9					
			4	1	3.0	7.0	3.0	19.9	3.0	30.7	6.0	8.0					
				2	3.0	7.2	3.0	19.9	3.0	30.9	6.0	8.0					
				3	3.0	7.2	3.0	19.9	3.0	30.7	6.0	8.0					
Ref.Tox.-cadmium	7.5	mg/L	0	All	3.0	6.7	3.0	20.3	3.0	29.8	8.0	8.1					
			1	1	3.0	6.9	3.0	20.2	3.0	29.9	8.0	8.0					
			2	2	3.0	6.8	3.0	20.1	3.0	30.3	8.0	8.0					
			3	3	3.0	7.1	3.0	20.2	3.0	30.2	8.0	7.9					
			4	1	3.0	6.9	3.0	20.0	3.0	30.8	6.0	8.0					
				2	3.0	7.0	3.0	20.0	3.0	30.8	6.0	8.0					
				3	3.0	7.0	3.0	20.0	3.0	30.8	6.0	8.0					

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	28Jul98	1600	01Aug98	1500

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5		SI0062998	119280	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	15	mg/L	0	All	3.0	6.7	3.0	20.3	3.0	29.9	8.0	8.1					
			1	1	3.0	6.9	3.0	20.2	3.0	29.9	8.0	8.0					
			2	2	3.0	6.9	3.0	20.1	3.0	30.1	8.0	8.0					
			3	3													
			4	1													
				2													
				3													
Ref.Tox.-cadmium	30	mg/L	0	All	3.0	6.7	3.0	20.4	3.0	29.8	8.0	8.1					
			1	1	3.0	7.1	3.0	20.2	3.0	29.9	8.0	8.0					
			2	2													
			3	3													
			4	1													
				2													
				3													
Ref.Tox.-cadmium	60	mg/L	0	All	3.0	6.7	3.0	20.5	3.0	29.8	8.0	8.1					
			1	1	3.0	7.1	3.0	20.2	3.0	29.9	8.0	8.0					
			2	2													
			3	3													
			4	1													
				2													
				3													

10 DAY SOLID PHASE TEST DATA SHEET 3 - REF TOX

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Neanthes arenaceodentata	< 5%

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; LOE= loss of equilibrium; Q = quiescent; SUR= surfacing; DC = discoloration; OB = on bottom; J = jumper; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 29Jul98 TECHNICIAN #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 30Jul98 TECHNICIAN #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 31Jul98 TECHNICIAN #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 01Aug98 TECHNICIAN #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.-cadmium	0	mg/L	1	10	10	0	N	10	0	N	10	0		10	0	N
			2	10	10	0	N	10	0	N	10	0		10	0	N
			3	10	10	0	N	10	0	N	10	0		10	0	N
			4													
			5													
Ref.Tox.-cadmium	3.75	mg/L	1	10	10	0	N	10	0	N	10	0		10	0	N
			2	10	10	0	N	10	0	N	10	0		10	0	N
			3	10	10	0	N	10	0	N	10	0		10	0	N
			4													
			5													
Ref.Tox.-cadmium	7.5	mg/L	1	10	10	0	N	10	0	N	10	0		10	0	DC
			2	10	10	0	N	10	0	N	10	0		10	0	DC
			3	10	10	0	N	10	0	N	10	0		10	0	DC
			4													
			5													
Ref.Tox.-cadmium	15	mg/L	1	10	6	4	DC/Q	0	6							
			2	10	6	4	DC/Q	0	6							
			3	10	7	3	DC/Q	0	7							
			4													
			5													
Ref.Tox.-cadmium	30	mg/L	1	10	0	10										
			2	10	0	10										
			3	10	0	10										
			4													
			5													
Ref.Tox.-cadmium	60	mg/L	1	10	0	10										
			2	10	0	10										
			3	10	0	10										
			4													
			5													

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

ACOE LA River Estuary

Neanthes arenaceodentata

ENDPOINTS

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL NO. ALIVE	% SURVIVAL	MEAN SURVIVAL		
Reference Toxicant	cadmium	0 mg/L	1	10	10	100.0			
Reference Toxicant	cadmium	0 mg/L	2	10	10	100.0			
Reference Toxicant	cadmium	0 mg/L	3	10	10	100.0	100.0		
Reference Toxicant	cadmium	0 mg/L	4						
Reference Toxicant	cadmium	0 mg/L	5						
Reference Toxicant	cadmium	3.75 mg/L	1	10	10	100.0			
Reference Toxicant	cadmium	3.75 mg/L	2	10	10	100.0			
Reference Toxicant	cadmium	3.75 mg/L	3	10	10	100.0	100.0		
Reference Toxicant	cadmium	3.75 mg/L	4						
Reference Toxicant	cadmium	3.75 mg/L	5						
Reference Toxicant	cadmium	7.5 mg/L	1	10	10	100.0			
Reference Toxicant	cadmium	7.5 mg/L	2	10	10	100.0			
Reference Toxicant	cadmium	7.5 mg/L	3	10	10	100.0	100.0		
Reference Toxicant	cadmium	7.5 mg/L	4						
Reference Toxicant	cadmium	7.5 mg/L	5						
Reference Toxicant	cadmium	15 mg/L	1	10					
Reference Toxicant	cadmium	15 mg/L	2	10					
Reference Toxicant	cadmium	15 mg/L	3	10					
Reference Toxicant	cadmium	15 mg/L	4						
Reference Toxicant	cadmium	15 mg/L	5						
Reference Toxicant	cadmium	30 mg/L	1	10					
Reference Toxicant	cadmium	30 mg/L	2	10					
Reference Toxicant	cadmium	30 mg/L	3	10					
Reference Toxicant	cadmium	30 mg/L	4						
Reference Toxicant	cadmium	30 mg/L	5						
Reference Toxicant	cadmium	60 mg/L	1	10					
Reference Toxicant	cadmium	60 mg/L	2	10					
Reference Toxicant	cadmium	60 mg/L	3	10					
Reference Toxicant	cadmium	60 mg/L	4						

Static Sediment Toxicity-Survival

Start Date:	7/28/98 16:00	Test ID:	C970514.01	Sample ID:	REF-Ref Toxicant
End Date:	8/1/98 16:00	Lab ID:	MEC-MEC Carlsbad	Sample Type:	CDCL-Cadmium chloride
Sample Date:		Protocol:	ASTM 97	Test Species:	NA-Neanthes arenaceodonta
Comments:					

Conc-ppm	1	2	3
Control	0.0000	1.0000	1.0000
3.75	1.0000	1.0000	1.0000
7.5	1.0000	1.0000	1.0000
15	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000
60	0.0000	0.0000	0.0000

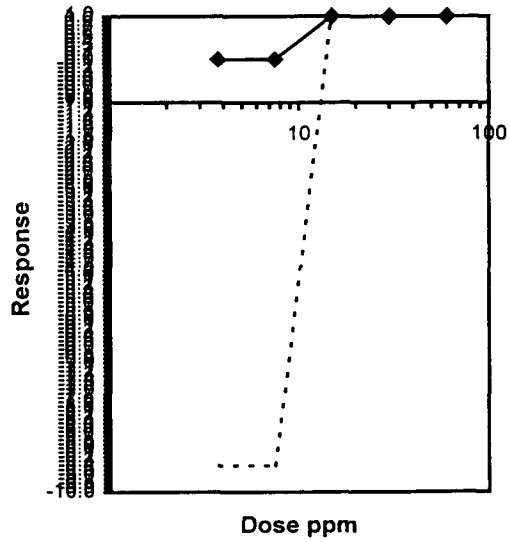
			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-ppm	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
Control	0.6667	1.0000	0.9535	0.0365	1.4120	83.290	3				188	208
3.75	1.0000	1.5000	1.4120	1.4120	1.4120	0.000	3	-1.732	2.500	0.6618	0	30
7.5	1.0000	1.5000	1.4120	1.4120	1.4120	0.000	3	-1.732	2.500	0.6618	0	30
*15	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	3	3.002	2.500	0.6618	30	30
*30	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	3	3.002	2.500	0.6618	30	30
*60	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	3	3.002	2.500	0.6618	30	30

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.53467	0.858	-1.8937	8.5
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	7.5	15	10.6066		0.58226	0.87563	1.17388	0.10512	3.5E-04	5, 12

Graphical Method

Trim Level	EC50
0.0%	10.607
	10.607



Test: ST-Static Sediment Toxicity						Test ID: C970514.01
Species: NA-Neanthes arenaceodonta						Protocol: ASTM 97
Sample ID: REF-Ref Toxicant						Sample Type: CDCL-Cadmium chloride
Start Date: 7/28/98 16:00			End Date: 8/1/98 16:00			Lab ID: MEC-MEC Carlsbad
Pos	ID	Rep	Group	Start	96-Hour	Notes
	1	1	Control	188		
	2	2	Control	10	10	
	3	3	Control	10	10	
	4	1	3.750	10	10	
	5	2	3.750	10	10	
	6	3	3.750	10	10	
	7	1	7.500	10	10	
	8	2	7.500	10	10	
	9	3	7.500	10	10	
	10	1	15.000	10	0	
	11	2	15.000	10	0	
	12	3	15.000	10	0	
	13	1	30.000	10	0	
	14	2	30.000	10	0	
	15	3	30.000	10	0	
	16	1	60.000	10	0	
	17	2	60.000	10	0	
	18	3	60.000	10	0	

Comments:

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	~~24~~ 28 Jul98	1600	~~28Jul~~ 1 Aug 98	

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5		SIO062998	119280	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	0	mg/L	0	All	3	6.6	3	20.3	3	29.6	8	8.1	MG		
			1	1	3	6.9	3	20.1	3	29.8	8	8.0	MAI		
			2	2	3	6.9	3	19.9	3	30.2	8	8.0	MG		
			3	3	3	7.1	3	20.2	3	29.9	8	7.9	DM		
			4	1	3	~~7~~ 6.9 DWM	3	20.2	3	30.7	~~8~~ 6	8.0	MAI		
				2	↓	7.1	↓	20.1	↓	30.8	↓	8.0	↓		
				3	↓	7.1	↓	20.1	↓	30.6	↓	8.0	↓		
Ref.Tox.-cadmium	3.75	mg/L	0	All	3	6.7	3	20.3	3	29.9	8	8.1	MG		
			1	1	3	7.0	3	20.1	3	29.9	8	8.0	MAI		
			2	2	3	6.9	3	20.2	3	29.9	8	8.0	MG		
			3	3	3	7.2	3	20.2	3	30.1	8	7.9	DM		
			4	1	3	7.0	3	19.9	3	30.7	6	8.0	MAI		
				2	↓	7.2	↓	19.9	↓	30.9	↓	8.0	↓		
				3	↓	7.2	↓	19.9	↓	30.7	↓	8.0	↓		
Ref.Tox.-cadmium	7.5	mg/L	0	All	3	6.7	3	20.3	3	29.8	8	8.1	MG		
			1	1	3	6.9	3	20.2	3	29.9	8	8.0	MAI		
			2	2	3	6.8	3	20.1	3	30.3	8	8.0	MG		
			3	3	3	7.1	3	20.2	3	30.2	8	7.9	DM		
			4	1	3	6.9	3	20.0	3	30.8	6	8.0	MAI		
				2	↓	7.0	↓	20.0	↓	30.8	↓	8.0	↓		
				3	↓	7.0	↓	20.0	↓	30.8	↓	8.0	↓		

7/22/98 10spLAREna RTWQ   CDIC 8.1.98 MAI

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	~~24~~ 28Jul98	1600	1 Aug 98 ~~28Jul98~~	

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5		SIO062998	119280	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	15	mg/L	0	All	3	6.7	3	20.3	3	29.9	8	8.1	MG		
			1	1	3	6.9	3	20.2	3	29.9	8	8.0	MAI		
			2	2	3	6.9	3	20.1	3	30.1	8	8.0	MG		
			3	3	—	—	—	—	—	—	—	—			
			4	1											
				2											
				3											
Ref.Tox.-cadmium	30	mg/L	0	All	3	6.7	3	20.4	3	29.8	8	8.1	MG		
			1	1	3	7.1	3	20.2	3	29.9	8	8.0	MAI		
			2	2	—	—	—	—	—	—	—	—			
			3	3											
			4	1											
				2											
				3											
Ref.Tox.-cadmium	60	mg/L	0	All	3	6.7	3	20.5	3	29.8	8	8.1	MG		
			1	1	3	7.1	3	20.2	3	29.9	8	8.0	MAI		
			2	2	—	—	—	—	—	—	—	—			
			3	3											
			4	1											
				2											
				3											

10 DAY SOLID PHASE TEST DATA SHEET 3 - REF TOX

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Neanthes arenaceodentata	< 5%

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; LOE= loss of equilibrium; Q = quiescent; SUR= surfacing; DC = discoloration; OB = on bottom; J = jumper; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE: 7.29.98 TECHNICIAN: MAI #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE: 7-30-98 TECHNICIAN: ML #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE: 7-31-98 TECHNICIAN: JW #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE: 8.1.98 TECHNICIAN: MAI #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.- cadmium	0	mg/L	1	10	10	0	N	10	0	N	10	0		10	0	N
			2	10	10	0	↓	10	0	↓	10	0		10	0	↓
			3	10	10	0	↓	10	0	↓	10	0		10	0	↓
			4													
			5													
Ref.Tox.- cadmium	3.75	mg/L	1	10	10	0	N	10	0	N	10	0		10	0	N
			2	10	10	0	↓	10	0	↓	10	0		10	0	↓
			3	10	10	0	↓	10	0	↓	10	0		10	0	↓
			4													
			5													
Ref.Tox.- cadmium	7.5	mg/L	1	10	10	0	N	10	0	N	10	0		10	0	DC
			2	10	10	0	↓	10	0	↓	10	0		10	0	↓
			3	10	10	0	↓	10	0	↓	10	0		10	0	↓
			4													
			5													
Ref.Tox.- cadmium	15	mg/L	1	10	6	4	DC	0	6							
			2	10	6	4	↓	0	6							
			3	10	7	3	↓	0	7							
			4													
			5													
Ref.Tox.- cadmium	30	mg/L	1	10	0	10										
			2	10	0	10										
			3	10	0	10										
			4													
			5													
Ref.Tox.- cadmium	60	mg/L	1	10	0	10										
			2	10	0	10										
			3	10	0	10										
			4													
			5													

96 HOUR NEANTHES REFERENCE TOXICANT BIOASSAY

Test I.D.	Replicates: ~~2~~ 3	Study Director:	Location:
C970514.01		MG	Room 3
Dilution Water Batch:	**Organism Batch:**	**Associated Test:**	**No. Organisms:**
	DR 7525	ACOE L.A. River Estuary	10

REFERENCE TOXICANT DILUTION WORKSHEET

Toxicant: **Cadmium**	Stock Solution:	Date Prepared:	Initials:
Target Concentrations: (mg/l) ppm (3 reps)	Quantity of Stock: Target: ~~1 mL~~ 9mL	Quantity of Diluent: Target: ~~1000 mL~~ 1500mL	Final Concentration: A/(A + B)
60	(A)Actual: 9.001 mL	(B)Actual: 1500.0	
30	Serial Dilute by 1/2		
15			
7.5			
3.8			

0 HOURS **Date:** 7/28/98 **Time:** 1350/1600 Start **Initials:** MG

STOCK

Concentration	Control	3.8	7.5	15	30	60
DO ~~mg/L~~ mg/L	6.6	6.7	6.7	6.7	6.7	6.7
Temperature	20.3	20.3	20.3	20.3	20.4	20.5
Salinity	29.6	29.9	29.8	29.9	29.8	29.8
pH	8.1	8.1	8.1	8.1	8.1	8.1

24 HOURS **Date:** **Time:** **Initials:**

Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

48 HOURS **Date:** **Time:** **Initials:**

Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

Sample I.D.:	Study Director:

72 HOURS Date:			Time:		Initials:	
Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

96 HOURS Date:			Time:		Initials:	
Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

Acute Test-Survival

Start Date:	7/28/98 16:00	Test ID:	C970514.01	Sample ID:	REF-Ref Toxicant
End Date:	8/1/98 16:00	Lab ID:	MECCA-MEC Carlsbad	Sample Type:	CDCL-Cadmium chloride
Sample Date:	7/28/98	Protocol:	EPAA 91-EPA Acute	Test Species:	N. arenaceodentata
Comments:					

Conc-ppm	1	2	3
COntrol	1.0000	1.0000	1.0000
3.75	1.0000	1.0000	1.0000
7.5	1.0000	1.0000	1.0000
15	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000
60	0.0000	0.0000	0.0000

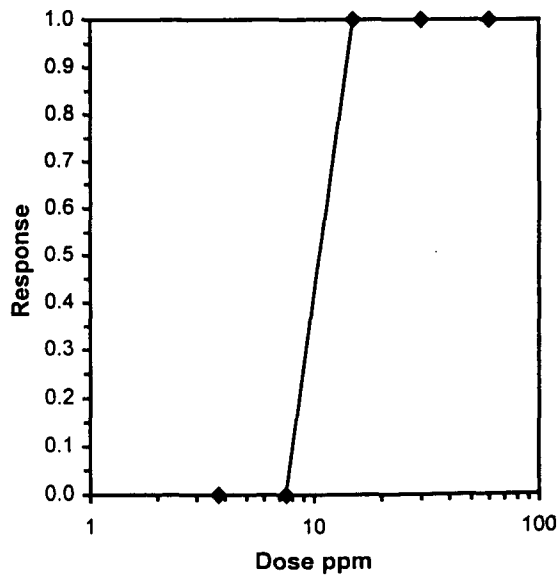
			Transform: Arcsin Square Root					Number	Total
Conc-ppm	Mean	N-Mean	Mean	Min	Max	CV%	N	Resp	Number
COntrol	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	3	0	30
3.75	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	3	0	30
7.5	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	3	0	30
15	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	3	30	30
30	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	3	30	30
60	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	3	30	30

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	1	0.858		
Equality of variance cannot be confirmed				

Graphical Method

Trim Level	EC50
0.0%	10.607

10.607



Test: AC-Acute Fish Test
Species: PP-Pimephales promelas
Sample ID: REF-Ref Toxicant
Start Date: 7/28/98 16:00 End Date: 8/1/98 16:00

Test ID: C970514.01
Protocol: EPAA 91-EPA A
Sample Type: CDCL-Cad
Lab ID: MECCA-MEC Car

Pos	ID	Rep	Group	Start	96-Hour	Notes
	1	1	COntrol	10	10	
	2	2	COntrol	10	10	
	3	3	COntrol	10	10	
	4	1	3.750	10	10	
	5	2	3.750	10	10	
	6	3	3.750	10	10	
	7	1	7.500	10	10	
	8	2	7.500	10	10	
	9	3	7.500	10	10	
	10	1	15.000	10	0	
	11	2	15.000	10	0	
	12	3	15.000	10	0	
	13	1	30.000	10	0	
	14	2	30.000	10	0	
	15	3	30.000	10	0	
	16	1	60.000	10	0	
	17	2	60.000	10	0	
	18	3	60.000	10	0	

Comments:

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	~~24~~Jul98	1600	1 Aug ~~28 Jul~~ 98	

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5		SIO062998	119280	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	0	mg/L	0	All	3	6.6	3	20.3	3	29.6	8	8.1	MG		
			1	1	3	6.9	3	20.1	3	29.8	8	8.0	MAI		
			2	2	3	6.9	3	19.9	3	30.2	8	8.0	MG		
			3	3	3	7.1	3	20.2	3	29.9	8	7.9	DM		
			4	1	3	~~6.9~~ DWH 7.0	3	20.2	3	30.7	~~6~~ 8 MAI	8.0	MAI		
				2	↓	7.1	↓	20.1	↓	30.8	↓	8.0	↓		
				3	↓	7.1	↓	20.1	↓	30.6	↓	8.0			
Ref.Tox.-cadmium	3.75	mg/L	0	All	3	6.7	3	20.3	3	29.9	8	8.1	MG		
			1	1	3	7.0	3	20.1	3	29.9	8	8.0	MAI		
			2	2	3	6.9	3	20.2	3	29.9	8	8.0	MG		
			3	3	3	7.2	3	20.2	3	30.1	8	7.9	DM		
			4	1	3	7.0	3	19.9	3	30.7	6	8.0	MAI		
				2	↓	7.2	↓	19.9	↓	30.9	↓	8.0	↓		
				3	↓	7.2	↓	19.9	↓	30.7	↓	8.0			
Ref.Tox.-cadmium	7.5	mg/L	0	All	3	6.7	3	20.3	3	29.8	8	8.1	MG		
			1	1	3	6.9	3	20.2	3	29.9	8	8.0	MAI		
			2	2	3	6.8	3	20.1	3	30.3	8	8.0	MG		
			3	3	3	7.1	3	20.2	3	30.2	8	7.9	DM		
			4	1	3	6.9	3	20.0	3	30.8	6	8.0	MAI		
				2	↓	7.0	↓	20.0		30.8	↓	8.0	↓		
				3	↓	7.0	↓	20.0		30.8	↓	8.0			

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	~~24~~ 28 Jul98	1600	1 Aug 98 ~~28 Jul 98~~	

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP.REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5		SIO062998	119280	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	15	mg/L	0	All	3	6.7	3	20.3	3	29.9	8	8.1	MG		
			1	1	3	6.9	3	20.2	3	29.9	8	8.0	MAI		
			2	2	3	6.9	3	20.1	3	30.1	8	8.0	MG		
			3	3	----	----	----	----	----	----	----	----			
			4	1											
				2											
				3											
Ref.Tox.-cadmium	30	mg/L	0	All	3	6.7	3	20.4	3	29.8	8	8.1	MG		
			1	1	3	7.1	3	20.2	3	29.9	8	8.0	MAI		
			2	2	----	----	----	----	----	----	----	----			
			3	3											
			4	1											
				2											
				3											
Ref.Tox.-cadmium	60	mg/L	0	All	3	6.7	3	20.5	3	29.8	8	8.1	MG		
			1	1	3	7.1	3	20.2	3	29.9	8	8.0	MAI		
			2	2	----	----	----	----	----	----	----	----			
			3	3											
			4	1											
				2											
				3											

10 DAY SOLID PHASE TEST DATA SHEET 3 - REF TOX

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Neanthes arenaceodentata	< 5%

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; DC = discoloration
LOE= loss of equilibrium; OB = on bottom
Q = quiescent; J = jumper
SUR= surfacing; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE	DAY 1 TECHNICIAN	DAY 1 #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE	DAY 2 TECHNICIAN	DAY 2 #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE	DAY 3 TECHNICIAN	DAY 3 #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE	DAY 4 TECHNICIAN	DAY 4 #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.- cadmium	0	mg/L	1	10	7.29.98	MA1	10	0	N	7-30-98	M6	10	0	N	7-31-98	JW	10	0		8.1.98	MA1	10	0	N
			2	10			10	0	↓			10	0	↓			10	0				10	0	↓
			3	10			10	0	↓			10	0	↓			10	0				10	0	↓
			A																					
			S																					
Ref.Tox.- cadmium	3.75	mg/L	1	10			10	0	N			10	0	N			10	0				10	0	N
			2	10			10	0	↓			10	0	↓			10	0				10	0	↓
			3	10			10	0	↓			10	0	↓			10	0				10	0	↓
			A																					
			S																					
Ref.Tox.- cadmium	7.5	mg/L	1	10			10	0	N			10	0	N			10	0				10	0	DX
			2	10			10	0	↓			10	0	↓			10	0				10	0	↓
			3	10			10	0	↓			10	0	↓			10	0				10	0	↓
			A																					
			S																					
Ref.Tox.- cadmium	15	mg/L	1	10			6	4	DX			0	6											
			2	10			6	4	↓			0	6											
			3	10			7	3	↓			0	7											
			A																					
			S																					
Ref.Tox.- cadmium	30	mg/L	1	10			0	10																
			2	10			0	10																
			3	10			0	10																
			A																					
			S																					
Ref.Tox.- cadmium	60	mg/L	1	10			0	10																
			2	10			0	10																
			3	10			0	10																
			A																					
			S																					

96 HOUR NEANTHES REFERENCE TOXICANT BIOASSAY

Test I.D.	Replicates: ~~2~~ 3	Study Director:	Location:
C970514.01		MG	Room 3
Dilution Water Batch:	**Organism Batch:**	**Associated Test:**	**No. Organisms:**
	DR 7525	ACOE L.A. River Estuary	10

REFERENCE TOXICANT DILUTION WORKSHEET

Toxicant: Cadmium	Stock Solution:	Date Prepared:	Initials:

Target Concentrations: (mg/l) ppm (3 reps)	Quantity of Stock: Target:	Quantity of Diluent: Target:	Final Concentration: A/(A + B)
	~~60mT~~ 9mL	~~1000 ml~~ 1500mL	
60	(A)Actual: 9.001 mL	(B)Actual: 1500.0	
30	Serial Dilute by 1/2		
15			
7.5			
3.8			

0 HOURS **Date:** 7/28/98 **Time:** 1350/1600 start **Initials:** MG

STOCK

Concentration	Control	3.8	7.5	15	30	60
DO ~~mg/L~~ mg/L	6.6	6.7	6.7	6.7	6.7	6.7
Temperature	20.3	20.3	20.3	20.3	20.4	20.5
Salinity	29.6	29.9	29.8	29.9	29.8	29.8
pH	8.1	8.1	8.1	8.1	8.1	8.1

24 HOURS **Date:** **Time:** **Initials:**

Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

48 HOURS **Date:** **Time:** **Initials:**

Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

Sample I.D.:	Study Director:

72 HOURS Date: Time: Initials:

Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

96 HOURS Date: Time: Initials:

Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

10 DAY SOLID PHASE TEST
INTERACTIVE DATA SETUP

GENERAL

CLIENT:	ACOE
PROJECT:	LA River Estuary
MEC JOB NUMBER:	0719-019
PROJECT MANAGER:	Krause/ Green
TEST SPECIES:	*Neanthes arenaceodentata*
TEST PROTOCOL:	ASTM97/USCOE91
MEC LABORATORY:	Carlsbad
TEST LOCATION:	Room 3
TEST START DATE:	03Aug98
TEMP. RECORDER#:	119280
DILUTION WATER BATCH:	SIO062998
FEEDING INFORMATION:	none
WATER RENEWAL INFO:	every 48 hours

FIELD SAMPLE

DATE RECEIVED AT MEC:	July 16-20, 1998
SAMPLE STORAGE:	4 Degrees Celsius - dark
SAMPLE TREATMENT:	press sieved (2.0 mm)
TEST CHAMBER:	1 L mason jars
EXPOSURE VOLUME:	2 cm sediment/ 600 mL water
REFERENCE TOXICANT:	cadmium
REF. TOX. MATERIAL:	cadmium chloride

REFTOX CONC (mg/ L)
0
3.75
7.5
15
30
60

	CLIENT SAMPLE ID	MEC SAMPLE ID	CONTROL ID	MEC CONTROL ID
1	1 Top Composite	.	Control	C980716.02
2	1 Bottom Composite	.		
3	2 Top Composite	.		
4	2 Bottom Composite	.		
5	3 Composite	.		
6	LA - 2 Reference	.	Control 2	C980716.02
7	LA-2 Reference 2	.		
8	.	.		
9	.	.		
10	.	.		
11	.	.	.	.
12	.	.		
13	.	.		
14	.	.		
15	.	.		
16	.	.	.	.
17	.	.		
18	.	.		
19	.	.		
20	.	.		
21	.	.	.	.
22	.	.		
23	.	.		
24	.	.		
25	.	.		
26	.	.	.	.
27	.	.		
28	.	.		
29	.	.		
30	.	.		
31	.	.	.	.
32	.	.		
33	.	.		
34	.	.		
35	.	.		

10 DAY SOLID PHASE TEST DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91

GENERAL TEST INFORMATION

SPECIES: *Neanthes arenaceodentata*		
SUPPLIER: Don Reish		ORGANISM BATCH NO.: DR7525
DATE RECEIVED: 27Jul98	TIME RECEIVED: 12:45	ARRIVAL VIA: Fed Ex
QUANITY ORDERED: 850	AGE: 5 mm	SPECIES CODE:
GENERAL CONDITION: Good		

SAMPLE STORAGE: 4 Degrees Celsius - dark
SEDIMENT TREATMENT: press sieved (2.0 mm)
CONTROL SEDIMENT ID: C980716.02
CONTROL SEDIMENT SUPPLIER: John Brezina
TEST CHAMBERS: 1 L mason jars

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
27Jul98											850	ARRIVAL	

ACCLIMATION MORTALITY: 0%

10 DAY SOLID PHASE TEST

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB No.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91

RANDOMIZATION WORKSHEET

SORTED BY CLIENT/ MEC ID

CLIENT ID	MEC ID	REP	JAR#
Control	C980716.02	1	1
Control	C980716.02	2	2
Control	C980716.02	3	3
Control	C980716.02	4	4
Control	C980716.02	5	5
1 Top Composite	.	1	6
1 Top Composite	.	2	7
1 Top Composite	.	3	8
1 Top Composite	.	4	9
1 Top Composite	.	5	10
1 Bottom Composite	.	1	11
1 Bottom Composite	.	2	12
1 Bottom Composite	.	3	13
1 Bottom Composite	.	4	14
1 Bottom Composite	.	5	15
2 Top Composite	.	1	16
2 Top Composite	.	2	17
2 Top Composite	.	3	18
2 Top Composite	.	4	19
2 Top Composite	.	5	20
2 Bottom Composite	.	1	21
2 Bottom Composite	.	2	22
2 Bottom Composite	.	3	23
2 Bottom Composite	.	4	24
2 Bottom Composite	.	5	25
3 Composite	.	1	26
3 Composite	.	2	27
3 Composite	.	3	28
3 Composite	.	4	29
3 Composite	.	5	30
Control 2	C980716.02	1	31
Control 2	C980716.02	2	32
Control 2	C980716.02	3	33
Control 2	C980716.02	4	34
Control 2	C980716.02	5	35
LA - 2 Reference	.	1	36
LA - 2 Reference	.	2	37
LA - 2 Reference	.	3	38
LA - 2 Reference	.	4	39
LA - 2 Reference	.	5	40
LA-2 Reference 2	.	1	41
LA-2 Reference 2	.	2	42
LA-2 Reference 2	.	3	43
LA-2 Reference 2	.	4	44
LA-2 Reference 2	.	5	45
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SORTED BY JAR NUMBER

CLIENT ID	MEC ID	REP	JAR#

SHORT TERM CULTURE LOG

ORGANISM: Nereis

DATE RECEIVED: 7.27.98

MEC BATCH NUMBER: DR 7/27/98

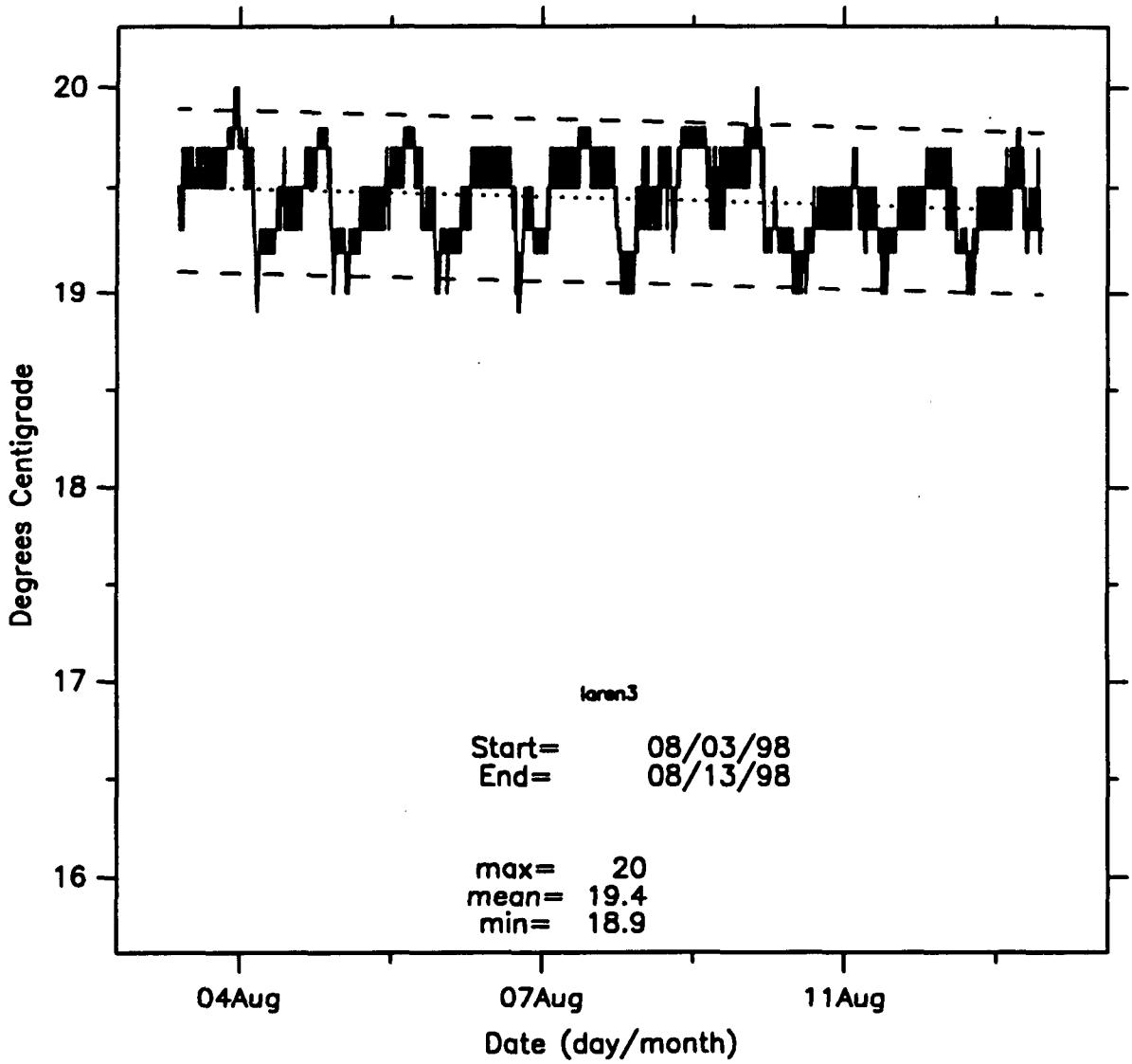
LOCATION: Room 3

Date	Feed AM/PM		Tub #	D.O.	Temp	Cond/ Salinity	pH	H_2O Change AM/PM		# Dead (330 Alive)	Initials	
7.27.98				6.7	20.8	325	7.9		X	0	AM	Arrival
7.29.98		X	1	7.0	20.3	32.3	Orig 7.9 8.0		X		MAI	
7.29.98		X	2	7.0	20.3	32.1	8.1		X		MAI	
7-30-98		X	1	6.7	20.2	31.0	7.9		X		MG	
7-30-98		X	2	6.6	20.4	31.3	7.9		X		MG	
8.1.98		X	1	7.1	20.1	31.3	8.0		X		MAI	
8.1.98		X	2	7.1	20.4	31.3	8.0		X		MAI	
8-2-98		X	1	6.9	20.2	30.0	8.0		X		MG	
8-2-98		X	2	6.7	20.3	29.9	7.9		X		MG	

Notes: Orig 7.29.98 MAI

LARE Neanthes - Zero time weights

Tare Weights (mg) 8-3-98 MG	Total Weights (mg) 8-4-98 MG	Weight Count - MG
1) 129.24	1) 131.52	1) 5
2) 104.27	2) 107.21	2) 5
3) 107.81	3) 110.43	3) 5



Test Temperature Recorded At 5 Minute Intervals

(dotted line = predicted mean temperature, dashed line = 95% confidence bounds)

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	03Aug98	1725	13Aug98	1630

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			
1 Bottom Composite / .	0	1	11	3.0	6.9	3.0	20.2	3.0	29.9	8.0	8.1		1.54		19.60		0.01			
		2	12	3.0	6.6	3.0	20.6	3.0	29.7	8.0	8.0									
		3	13	3.0	7.0	3.0	19.8	3.0	29.8	8.0	8.1									
		4	14	3.0	7.0	3.0	19.9	3.0	29.6	8.0	8.1									
		5	15	3.0	6.8	3.0	20.4	3.0	29.6	8.0	8.0									
1 Bottom Composite / .	1	1	11	3.0	6.8	3.0	20.2	3.0	29.6	8.0	8.0									
1 Bottom Composite / .	2	2	12	3.0	6.9	3.0	20.5	3.0	29.7	8.0	8.1									
1 Bottom Composite / .	3	3	13	3.0	7.0	3.0	19.9	3.0	29.7	8.0	8.1									
1 Bottom Composite / .	4	4	14	3.0	7.0	3.0	20.3	3.0	30.0	8.0	8.1									
1 Bottom Composite / .	5	5	15	3.0	7.4	3.0	20.4	3.0	29.8	8.0	8.1				12.70		0.0032			
1 Bottom Composite / .	6	1	11	3.0	7.5	3.0	20.0	3.0	29.2	8.0	8.0									
1 Bottom Composite / .	7	2	12	3.0	8.9	3.0	20.4	3.0	30.2	8.0	8.1									
1 Bottom Composite / .	8	3	13	3.0	7.7	3.0	19.9	3.0	30.0	8.0	8.1									
1 Bottom Composite / .	9	4	14	3.0	7.3	3.0	20.1	3.0	30.1	8.0	8.1									
1 Bottom Composite / .	10	1	11	3.0	6.7	3.0	20.3	3.0	30.4	8.0	8.0		1.47		6.80		0.04			
		2	12	3.0	6.9	3.0	20.6	3.0	30.5	8.0	8.1									
		3	13	3.0	6.3	3.0	20.1	3.0	30.4	8.0	8.1									
		4	14	3.0	6.5	3.0	20.1	3.0	30.2	8.0	8.1									
		5	15	3.0	7.0	3.0	20.6	3.0	30.4	8.0	8.1									

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	03Aug98	1725	13Aug98	1630

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
2 Bottom Composite / .	0	1	21	3.0	6.9	3.0	20.0	3.0	29.7	8.0	8.0				27.20		0.03				
		2	22	3.0	6.8	3.0	20.3	3.0	29.6	8.0	8.0										
		3	23	3.0	7.0	3.0	20.1	3.0	29.6	8.0	8.1		1.59								
		4	24	3.0	7.0	3.0	20.5	3.0	29.6	8.0	8.1										
		5	25	3.0	6.9	3.0	20.2	3.0	29.8	8.0	8.1										
2 Bottom Composite / .	1	1	21	3.0	6.8	3.0	20.2	3.0	29.6	8.0	8.0										
2 Bottom Composite / .	2	2	22	3.0	6.8	3.0	20.3	3.0	29.7	8.0	8.0										
2 Bottom Composite / .	3	3	23	3.0	6.9	3.0	20.1	3.0	29.6	8.0	8.1										
2 Bottom Composite / .	4	4	24	3.0	7.2	3.0	20.6	3.0	30.3	8.0	8.2										
2 Bottom Composite / .	5	5	25	3.0	7.3	3.0	20.4	3.0	29.8	8.0	8.0				19.40		0.04				
2 Bottom Composite / .	6	1	21	3.0	7.6	3.0	20.0	3.0	29.2	8.0	8.1										
2 Bottom Composite / .	7	2	22	3.0	9.0	3.0	20.1	3.0	30.0	8.0	8.1										
2 Bottom Composite / .	8	3	23	3.0	8.4	3.0	20.1	3.0	30.0	8.0	8.1										
2 Bottom Composite / .	9	4	24	3.0	7.1	3.0	20.2	3.0	30.3	8.0	8.0										
2 Bottom Composite / .	10	1	21	3.0	6.7	3.0	20.2	3.0	30.3	8.0	8.1				14.50		0.05				
		2	22	3.0	6.9	3.0	20.4	3.0	30.3	8.0	8.1										
		3	23	3.0	6.9	3.0	20.5	3.0	30.3	8.0	8.1										
		4	24	3.0	6.7	3.0	20.3	3.0	30.3	8.0	8.0										
		5	25	3.0	6.9	3.0	20.3	3.0	30.3	8.0	8.1		2.07								

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	03Aug98	1725	13Aug98	1630

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			
Control 2 / C980716.02	0	1	31	3.0	7.0	3.0	19.9	3.0	29.8	8.0	8.0		0.09		1.77		0.04			
		2	32	3.0	7.0	3.0	20.2	3.0	29.7	8.0	8.1									
		3	33	3.0	7.0	3.0	20.0	3.0	29.7	8.0	8.1									
		4	34	3.0	6.9	3.0	20.4	3.0	29.5	8.0	8.0									
		5	35	3.0	6.9	3.0	20.5	3.0	29.5	8.0	8.0									
Control 2 / C980716.02	1	1	31	3.0	7.0	3.0	20.1	3.0	29.5	8.0	8.1									
Control 2 / C980716.02	2	2	32	3.0	7.0	3.0	20.0	3.0	29.6	8.0	8.1									
Control 2 / C980716.02	3	3	33	3.0	7.1	3.0	20.0	3.0	29.8	8.0	8.1									
Control 2 / C980716.02	4	4	34	3.0	7.0	3.0	20.5	3.0	29.8	8.0	8.1									
Control 2 / C980716.02	5	5	35	3.0	7.5	3.0	20.3	3.0	29.8	8.0	8.1				1.08		0.00			
Control 2 / C980716.02	6	1	31	3.0	7.9	3.0	20.1	3.0	29.3	8.0	8.1									
Control 2 / C980716.02	7	2	32	3.0	8.8	3.0	20.2	3.0	30.0	8.0	8.0									
Control 2 / C980716.02	8	3	33	3.0	7.3	3.0	20.2	3.0	29.9	8.0	8.0									
Control 2 / C980716.02	9	4	34	3.0	7.5	3.0	20.2	3.0	30.4	8.0	8.0									
Control 2 / C980716.02	10	1	31	3.0	7.1	3.0	20.1	3.0	30.3	8.0	8.1				0.77		0.15			
		2	32	3.0	7.0	3.0	20.2	3.0	30.3	8.0	8.2		0.00							
		3	33	3.0	6.9	3.0	20.3	3.0	30.2	8.0	8.1									
		4	34	3.0	6.9	3.0	20.2	3.0	30.4	8.0	8.1									
		5	35	3.0	7.1	3.0	20.5	3.0	30.4	8.0	8.2									

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	03Aug98	1725	13Aug98	1630

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			
LA-2 Reference 2 / .	0	1	41	3.0	7.1	3.0	19.8	3.0	29.4	8.0	8.0				4.11		0.00			
		2	42	3.0	6.9	3.0	20.0	3.0	29.6	8.0	8.0									
		3	43	3.0	7.1	3.0	19.9	3.0	29.5	8.0	8.1									
		4	44	3.0	7.0	3.0	20.0	3.0	29.7	8.0	8.1		0.10							
		5	45	3.0	7.0	3.0	19.8	3.0	29.6	8.0	8.1									
LA-2 Reference 2 / .	1	1	41	3.0	7.0	3.0	19.7	3.0	29.2	8.0	8.1									
LA-2 Reference 2 / .	2	2	42	3.0	7.0	3.0	20.0	3.0	29.5	8.0	8.1									
LA-2 Reference 2 / .	3	3	43	3.0	7.0	3.0	19.9	3.0	29.6	8.0	8.1		2.46							
LA-2 Reference 2 / .	4	4	44	3.0	7.2	3.0	20.1	3.0	29.9	8.0	8.2									
LA-2 Reference 2 / .	5	5	45	3.0	7.4	3.0	19.9	3.0	29.7	8.0	8.1		~~2.46~~ 2		~~0.00~~ 2		0.000			
LA-2 Reference 2 / .	6	1	41	3.0	7.8	3.0	19.8	3.0	29.3	8.0	8.1									
LA-2 Reference 2 / .	7	2	42	3.0	9.2	3.0	20.3	3.0	29.9	8.0	8.1									
LA-2 Reference 2 / .	8	3	43	3.0	7.7	3.0	19.9	3.0	30.0	8.0	8.1									
LA-2 Reference 2 / .	9	4	44	3.0	7.4	3.0	20.0	3.0	30.2	8.0	8.1									
LA-2 Reference 2 / .	10	1	41	3.0	7.0	3.0	19.9	3.0	30.5	8.0	8.1				2.08		0.01			
		2	42	3.0	7.1	3.0	20.2	3.0	30.3	8.0	8.1									
		3	43	3.0	7.0	3.0	20.0	3.0	30.3	8.0	8.1									
		4	44	3.0	7.0	3.0	20.1	3.0	30.3	8.0	8.1		0.03							
		5	45	3.0	7.0	3.0	19.8	3.0	30.3	8.0	8.2									

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91	*Neanthes arenaceodentata*	< 5%

ENDPOINT DATA & OBSERVATIONS

CLIENT/ MEC ID	REP	JAR #	INITIA #	DAY 1 DATE 04Aug98 TECHNICIAN #DEAD	DAY 1 #SURF.	DAY 2 DATE 05Aug98 TECHNICIAN #DEAD	DAY 2 #SURF.	DAY 3 DATE 06Aug98 TECHNICIAN #DEAD	DAY 3 #SURF.	DAY 4 DATE 07Aug98 TECHNICIAN #DEAD	DAY 4 #SURF.	DAY 5 DATE 08Aug98 TECHNICIAN #DEAD	DAY 5 #SURF.	DAY 6 DATE 09Aug98 TECHNICIAN #DEAD	DAY 6 #SURF.	DAY 7 DATE 10Aug98 TECHNICIAN #DEAD	DAY 7 #SURF.	DAY 8 DATE 11Aug98 TECHNICIAN #DEAD	DAY 8 #SURF.	DAY 9 DATE 12Aug98 TECHNICIAN #DEAD	DAY 9 #SURF.	DAY 10 DATE 13Aug98 TECHNICIAN #DEAD	DAY 10 #SURF.	NUMBER REMAINING
Control / C980716.02	1	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
	2	2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	3	3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	4	4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
	5	5		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
1 Top Composite / .	1	6																						
	2	7																						
	3	8																						
	4	9																						
	5	10																						
1 Bottom Composite / .	1	11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	2	12		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	3	13		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
	4	14		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
	5	15		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
2 Top Composite / .	1	16																						
	2	17																						
	3	18																						
	4	19																						
	5	20																						
2 Bottom Composite / .	1	21		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
	2	22		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
	3	23		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
	4	24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	5	25		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
3 Composite / .	1	26																						
	2	27																						
	3	28																						
	4	29																						
	5	30																						

need to fill in initialth cc 9/11/98

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91	*Neanthes arenaceodentata*	< 5%

ENDPOINT DATA & OBSERVATIONS

CLIENT/ MEC ID	REP	JAR #	INITIAL #	DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7		DAY 8		DAY 9		DAY 10		NUMBER REMAINING		
				DATE 04Aug98		DATE 05Aug98		DATE 06Aug98		DATE 07Aug98		DATE 08Aug98		DATE 09Aug98		DATE 10Aug98		DATE 11Aug98		DATE 12Aug98		DATE 13Aug98				
				TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN				
				#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.			
Control 2 / C980716.02	1	31																								
	2	32																								
	3	33																								
	4	34																								
	5	35																								
LA - 2 Reference / .	1	36		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9		
	2	37		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10		
	3	38		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7		
	4	39		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10		
	5	40		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10		
LA-2 Reference 2 / .	1	41																								
	2	42																								
	3	43																								
	4	44																								
	5	45																								
. / .	1																									
	2																									
	3																									
	4																									
	5																									
. / .	1																									
	2																									
	3																									
	4																									
	5																									
. / .	1																									
	2																									
	3																									
	4																									
	5																									

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

Neanthes arenaceodentata ACOE LA River Estuary

WATER QUALITY

CLIENT SAMPLE ID	MEC SAMPLE ID	DISS.OXYGEN (mg/L)			DISS.OXYGEN (%SAT)	TEMPERATURE (°C)			SALINITY (ppt)			pH			OVERLYING NH_3 (mg/L)			INTER. NH_3 (mg/L)			INTER. SULFIDE (mg/L		
		Mean	Min	Max	Mean	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Reference Toxicant	cadmium	7.0	6.9	7.1	92.6	20.1	19.9	20.5	29.7	29.4	30.1	8.1	8.0	8.2	[illegible]			[illegible]			[illegible]		
Control	C980716.02	#DIV/0!	0.0	0.0	#DIV/0!	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00
1 Top Composite	.	#DIV/0!	0.0	0.0	#DIV/0!	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00
1 Bottom Composite	.	7.1	6.3	8.9	93.8	20.2	19.8	20.6	29.9	29.2	30.5	8.1	8.0	8.1	1.51	1.47	1.54	13.03	6.80	19.60	0.02	0.00	0.04
2 Top Composite	.	#DIV/0!	0.0	0.0	#DIV/0!	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00
2 Bottom Composite	.	7.1	6.7	9.0	95.0	20.3	20.0	20.6	29.9	29.2	30.3	8.1	8.0	8.2	1.83	1.59	2.07	20.37	14.50	27.20	0.04	0.03	0.05
3 Composite	.	7.0	6.6	7.3	92.3	20.1	19.4	20.7	29.8	29.0	30.8	8.1	8.0	8.4	0.58	0.41	0.75	4.61	3.11	7.31	0.17	0.17	0.17
Control 2	C980716.02	7.2	6.9	8.8	95.6	20.2	19.9	20.5	29.9	29.3	30.4	8.1	8.0	8.2	0.05	0.00	0.09	1.43	1.08	1.77	0.02	0.00	0.04
LA - 2 Reference	.	7.2	6.9	7.6	95.1	20.0	19.3	20.6	30.0	29.5	30.9	8.1	8.0	8.1	0.19	0.10	0.28	3.71	3.25	4.27	0.21	0.21	0.21
LA-2 Reference 2	.	7.3	6.9	9.2	95.8	20.0	19.7	20.3	29.8	29.2	30.5	8.1	8.0	8.2	0.86	0.03	2.46	2.06	0.00	4.11	0.00	0.00	0.01
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MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

ACOE LA River Estuary

Neanthes arenaceodentata

ENDPOINTS

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL NO. ALIVE	% SURVIVAL	MEAN SURVIVAL		
Reference Toxicant	cadmium	60 mg/L	5						
Control	C980716.02		1		9	#VALUE!			
Control	C980716.02		2		10	#VALUE!			
Control	C980716.02		3		10	#VALUE!	#VALUE!		
Control	C980716.02		4		9	#VALUE!			
Control	C980716.02		5		9	#VALUE!			
1 Top Composite	.		1						
1 Top Composite	.		2						
1 Top Composite	.		3						
1 Top Composite	.		4						
1 Top Composite	.		5						
1 Bottom Composite	.		1		10	#VALUE!			
1 Bottom Composite	.		2		10	#VALUE!			
1 Bottom Composite	.		3		9	#VALUE!	#VALUE!		
1 Bottom Composite	.		4		9	#VALUE!			
1 Bottom Composite	.		5		9	#VALUE!			
2 Top Composite	.		1						
2 Top Composite	.		2						
2 Top Composite	.		3						
2 Top Composite	.		4						
2 Top Composite	.		5						
2 Bottom Composite	.		1		8	#VALUE!			
2 Bottom Composite	.		2		9	#VALUE!			
2 Bottom Composite	.		3		8	#VALUE!	#VALUE!		
2 Bottom Composite	.		4		10	#VALUE!			
2 Bottom Composite	.		5		10	#VALUE!			
3 Composite	.		1						
3 Composite	.		2						
3 Composite	.		3						

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

ACOE LA River Estuary

Neanthes arenaceodentata

				ENDPOINTS					
CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL NO. ALIVE	% SURVIVAL	MEAN SURVIVAL		
3 Composite	.		4						
3 Composite	.		5						
Control 2	C980716.02		1						
Control 2	C980716.02		2						
Control 2	C980716.02		3						
Control 2	C980716.02		4						
Control 2	C980716.02		5						
LA - 2 Reference	.		1		9	#VALUE!			
LA - 2 Reference	.		2		10	#VALUE!			
LA - 2 Reference	.		3		7	#VALUE!	#VALUE!		
LA - 2 Reference	.		4		10	#VALUE!			
LA - 2 Reference	.		5		10	#VALUE!			
LA-2 Reference 2	.		1						
LA-2 Reference 2	.		2						
LA-2 Reference 2	.		3						
LA-2 Reference 2	.		4						
LA-2 Reference 2	.		5						
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10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	~~24Jul98~~ 03 Aug98 ③MG	1725	~~03Aug98~~ 13 Aug 98	1630

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0		SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		WATER RENEWAL	
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
Control 2 / C980716.02	0	1	13	3	7.0	3	19.9	3	29.8	8	8.0	JL	0.0949	JL	1.77	JL	0.0366	MM			
		2	26	3	7.0	3	20.2	3	29.7	8	8.1							MM			
		3	28	3	7.0	3	20.0	3	29.7	8	8.1							MM			
		4	32	3	6.9	3	20.4	3	29.5	8	8.0							MM			
		5	21	3	6.9	3	20.5	3	29.5	8	8.0							MM			
Control 2 / C980716.02	1	1	13	3	7.0	3	20.1	3	29.5	8	8.1							MG			
Control 2 / C980716.02	2	2	26	3	7.0	3	20.0	3	29.6	6	8.1							DL			*
Control 2 / C980716.02	3	3	28	3	7.1	3	20.0	3	29.8	6	8.1							DS			
Control 2 / C980716.02	4	4	32	3	7.0	3	20.5	3	29.8	6	8.1							MM		MM	*
Control 2 / C980716.02	5	5	21	3	7.5	3	20.3	3	29.8	8	8.1	~~JL~~ ① JL NS 0.000		JL	1.08	JL	0.000	MM			
Control 2 / C980716.02	6	1	13	3	7.9	3	20.1	3	29.3	8	8.1							MG		MG	*
Control 2 / C980716.02	7	2	26	3	8.8	3	20.2	3	30.0	6	8.0							MM			
Control 2 / C980716.02	8	3	28	3	7.3	3	20.2	3	29.9	8	8.0							MM			*
Control 2 / C980716.02	9	4	32	3	7.5	3	20.2	3	30.4	8	8.0	~~JL~~ ② JL 0.0000						DS			
Control 2 / C980716.02	10	1	13	3	7.1	3	20.1	3	30.3	8	8.1			JL	0.77	JL	0.152	DS/SW			
		2	26		7.0		20.2		30.3		8.2	JL	0.00								
		3	28		6.9		20.3		30.2		8.1										
		4	32		6.9		20.2		30.4		8.1										
		5	21		7.1		20.5		30.4		8.2										

① JL WC 8/12/98 No sample
② JL WC 8/13/98
③ WD 8-3-98 MG

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	~~24Jul98~~ 03 Aug98	1725	03Aug98	

WATER QUALITY DATA

TEST CONDITIONS: DO (mg/L) > 4.5 | TEMP (C) 20±2 | SALINITY (ppt) 30±2 | pH 8.0±0.5 | NH3 (mg/L) < 4.0 | DILUTION WATER BATCH SIO062998 | TEMP.RECDR./HOBO# 119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN		WATER RENEWAL
1 Bottom Composite / .	0	1	6	3	6.9	3	20.2	3	29.9	8	8.1	JL	1.54	JL	19.6	JL	0.0141	MM		
		2	8	3	6.6	3	20.6	3	29.7	8	8.0							MM		
		3	23	3	7.0	3	19.8	3	29.8	8	8.1							MM		
		4	17	3	7.0	3	19.9	3	29.6	8	8.1							MM		
		5	19	3	6.8	3	20.4	3	29.6	8	8.0							MM		
1 Bottom Composite / .	1	1	6	3	6.8	3	20.2	3	29.6	8	8.0							MG		
1 Bottom Composite / .	2	2	8	3	6.9	3	20.5	3	29.7	6	8.1							DL		*
1 Bottom Composite / .	3	3	23	3	7.0	3	19.9	3	29.7	6	8.1							DS		
1 Bottom Composite / .	4	4	17	3	7.0	3	20.3	3	30.0	6	8.1							MW		MW *
1 Bottom Composite / .	5	5	19	3	7.4	3	20.4	3	29.8	8	8.1	~~JL~~ NS	~~0.0032~~	JL	12.7	JL	0.0032	MA		
1 Bottom Composite / .	6	1	6	3	7.5	3	20.0	3	29.2	8	8.0							MG		MG *
1 Bottom Composite / .	7	2	8	3	8.9	3	20.9	3	30.2	6	8.1							MW		
1 Bottom Composite / .	8	3	23	3	~~8.7~~ 8.0	3	19.9	3	30.0	8	8.1							MA		*
1 Bottom Composite / .	9	4	17	3	7.3	3	20.1	3	30.1	8	8.1							DS		
1 Bottom Composite / .	10	1	6	3	6.7	3	20.3	3	30.4	8	8.0	JL	1.47	JL	6.80	JL	0.0398	DS/JW		
		2	8	↓	6.9	↓	20.6	↓	30.5	↓	8.1							↓		
		3	23		6.3		20.1		30.4		8.1									
		4	17		6.5		20.1		30.2		8.1									
		5	19	↓	7.0	↓	20.6	↓	30.4	↓	8.1									

① WC 8.11.98 MH
② JL WC 8/12/98 No sample

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	~~22Jul98~~ 03 Aug 98	1725	03Aug98	

WATER QUALITY DATA

TEST CONDITIONS — DO (mg/L): > 4.5 | TEMP (C): 20±2 | SALINITY (ppt): 30±2 | pH: 8.0±0.5 | NH3 (mg/L): < 4.0 | DILUTION WATER BATCH: SIO062998 | TEMP.RECDR./HOBO#: 119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN			WATER RENEWAL
2 Bottom Composite / .	0	1	7	3	6.9	3	20.0	3	29.7	8	8.0			JC	27.2	JC	0.0320	MM			
		2	14	3	6.8	3	20.3	3	29.6	8	8.0							MM			
		3	30	3	7.0	3	20.1	3	29.6	8	8.1	JC	1.59					MM			
		4	3	3	7.0	3	20.5	3	29.6	8	8.1							MM			
		5	10	3	6.9	3	20.2	3	29.8	8	8.1							MM			
2 Bottom Composite / .	1	1	7	3	6.8	3	20.2	3	29.6	8	8.0							MG			
2 Bottom Composite / .	2	2	14	3	6.8	3	20.3	3	29.7	6	8.0							DL			*
2 Bottom Composite / .	3	3	30	3	6.9	3	20.1	3	29.6	6	8.1							DS			
2 Bottom Composite / .	4	4	3	3	7.2	3	20.6	3	30.3	6	8.2							MW			*
2 Bottom Composite / .	5	5	10	3	7.3	3	20.4	3	29.9	8	8.0	JC QA 0.0388 NS		JC	19.4	JC	0.0388	MM			
2 Bottom Composite / .	6	1	7	3	7.6	3	20.0	3	29.2	8	8.1							MG			*
2 Bottom Composite / .	7	2	14	3	9.0	3	20.1	3	30.0	6	8.1							MW			
2 Bottom Composite / .	8	3	30	3	8.4	3	20.1	3	30.0	8	8.1							MM			*
2 Bottom Composite / .	9	4	3	3	7.1	3	20.2	3	30.3	8	8.0							DS			
2 Bottom Composite / .	10	1	7	3	6.7	3	20.2	3	30.3	8	8.1			JC	14.5	JC	0.0500	DS/JW			
		2	14	↓	6.9	↓	20.4	↓	30.3	↓	8.1			↓	↓	↓	↓	↓			
		3	30		6.9		20.5		30.3		8.1										
		4	3		6.7		20.3		30.3		8.0										
		5	10	↓	6.9	↓	20.3	↓	30.3	↓	8.1	JC	2.07								

(1) WC JC 8/12/98 No sample

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	03 Aug 98 ~~24Jul98~~	1725	~~03Aug98~~	

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)			DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 4.5	20±2	30±2	8.0±0.5	< 4.0			SIO062998	119280

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN		WATER RENEWAL	
LA-2 Reference 2 /	0	1		3	7.1	3	19.8	3	29.4	8	8.0			JL	4.11	JL	0.000	MM			
		2		3	6.9	3	20.0	3	29.6	8	8.0							MM			
		3		3	7.1	3	19.9	3	29.5	8	8.1							MM			
		4		3	7.0	3	20.0	3	29.7	8	8.1	JL	0.0980					MM			
		5		3	7.0	3	19.8	3	29.6	8	8.1							MM			
LA-2 Reference 2 /	1	1		3	7.0	3	19.7	3	29.2	8	8.1							MG			
LA-2 Reference 2 /	2	2		3	7.0	3	20.	3	29.5	6	8.1							DL			*
LA-2 Reference 2 /	3	3		3	7.0	3	19.9	3	29.6	6	8.1							DS			
LA-2 Reference 2 /	4	4		3	7.2	3	20.1	3	29.9	6	8.2							MV		MV	*
LA-2 Reference 2 /	5	5		3	7.4	3	19.9	3	29.7	8	8.1	~~JL~~	~~0.000~~ NS	JL	2.46	JL	0.000	MAI			
LA-2 Reference 2 /	6	1		3	7.8	3	19.8	3	29.3	8	8.1							MG		MG	*
LA-2 Reference 2 /	7	2		3	9.2	3	20.3	3	29.9	6	8.1							MV			
LA-2 Reference 2 /	8	3		3	7.7	3	19.9	3	30.0	8	8.1							MAI			*
LA-2 Reference 2 /	9	4		3	7.4	3	20.0	3	30.2	8	8.1							DS			
LA-2 Reference 2 /	10	1		3	7.0	3	19.9	3	30.5	8	8.1			JL	2.08	JL	0.0092	DS/JW			
		2			7.1		20.2		30.3		8.1										
		3			7.0		20.0		30.3		8.1										
		4			7.0		20.1		30.3		8.1	JL	0.0279								
		5			7.0		19.8		30.3		8.2										

① JL we 8/12/98 No samples

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad		*Neanthes arenaceodentata*	< 5%

ENDPOINT DATA & OBSERVATIONS

CLIENT/ MEC ID	REP	JAR #	INITIA #	DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7		DAY 8		DAY 9		DAY 10		NUMBER REMAINING	
				DATE 8-4-98		DATE 8-5-98		DATE 8/6/98		DATE 8/7/98		DATE 8-8-98		DATE 8-9-98		DATE 8/10/98		DATE 8-11-98		DATE 8-12-98		DATE 8-13-98			
				TECHNICIAN MG		TECHNICIAN DL		TECHNICIAN AM		TECHNICIAN MW		TECHNICIAN MAI		TECHNICIAN MG		TECHNICIAN MW		TECHNICIAN MAI		TECHNICIAN DS		TECHNICIAN MG			
				#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.		
Control	1			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
	2			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	1	↓	↓	↓	↓	↓	10	
	3			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	1	↓	↓	↓	↓	↓	10	
	4			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	0	↓	↓	↓	↓	↓	9	
	5			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	0	↓	↓	↓	↓	↓	9	
Reference	1			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
	2			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	10	
	3			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	7	
	4			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	10	
	5			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	10	
1 Bottom	1			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	~~10~~ AM	10
	2			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	~~9~~	10
	3			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	~~8~~	9
	4			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	~~10~~	9
	5			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		9
2 Bottom	1			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
	2			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	9	
	3			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	8	
	4			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	10	
	5			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	10	
. / .	1																								
	2																								
	3																								
	4																								
	5																								
. / .	1																								
	2																								
	3																								
	4																								
	5																								

QNC, AM 8/13/98

AMMONIA ANALYSIS

Project LARE Organism Neanthes Part 2 Test 10 DAY SP Day 0, 10

PRE-TEST / (INITIAL) / (FINAL) (circle one)
(OVERLYING) / INTERSTITIAL (circle one)

Sample I.D.	Rep #	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Frozen (Y/N)
1 Bottom	1	8-3-98 DL	1.54	24.2	8-8-98 fc	Y
2 Bottom	3	↓ ↓	1.59	24.0	↓ ↓	↓
Control	3	↓ ↓	0.0949	24.1	↓ ↓	↓
Reference	4	↓ ↓	0.0980	24.1	↓ ↓	↓
				STD 24.2		
1 Bottom	1	8/13/98 JW	1.47	23.3		N
2 Bottom	5	↓ ↓	2.07	23.9		↓
Control	2	↓ ↓	OK 0.00 ~~0.0278~~	23.5		↓
Reference	4	↓ ↓	0.0278	23.5		↓

All reps sampled, only 1 random rep analyzed. fc 8/13/98

① fc wc 8/13/98

AMMONIA ANALYSIS

Project LARE Organism Neanthes (Part II) Test 10 day SP Day 0, 5, 10

PRE-TEST / INITIAL / FINAL (DAY 5) (circle one)
OVERLYING / INTERSTITIAL (circle one)

DAY	Sample I.D.	Rep #	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Frozen (Y/N)	SAL	PH	
0	1 Bottom	—	8-3-98 DL	19.6	28.7 ~~29.7~~	8-3-98 DL	N			
	2 Bottom	—	8-3-98 DL	27.2	29.0 ~~29.0~~	8-3-98 DL	N			
	Control	—	8-3-98 DL	1.77	27.9	8-7-98 DL	N			
	Reference	—	8-3-98 DL	4.11	28.2	8-3-98 DL	N			
								SAL	PH	
5	1 Bottom	—	8-8-98 JC	12.7	25.0	8-8-98 JC		29.9	7.5	N
	2 Bottom	—	↓ ↓	19.4	24.8	↓ ↓		29.8	7.6	↓
	Control *	—	↓ ↓	1.08	25.9	↓ ↓		29.5	7.6	
	Reference	—	↓ ↓	2.46	24.8	↓ ↓		29.7	7.6	↓
					STD 24.3					
10	1 Bottom	—	8-13-98 JC	6.80	23.0	8-13-98 JC		30.4	7.4	N
	2 Bottom	—	↓ ↓	14.5	23.0	↓ ↓		30.9	7.1	↓
	Control	—	↓ ↓	0.771	24.0	↓ ↓		30.2	7.5	↓
	Reference	—	↓ ↓	2.08	23.2	↓ ↓		30.1	7.6	↓
					STD 23.4					

Had to spin down 4 jars of Control to get both Sulfide + NH_4 samples.

SULFIDE ANALYSIS

Project LARE **Organism** Neanthes Part 2 **Test** 10 DAY SP **Day** 0, 5, 10

PRE-TEST / INITIAL, DAY 5 / FINAL (circle one)
OVERLYING / INTERSTITIAL (circle one)

Sample I.D.	Rep #	Date of Sampling and Initials	Sulfide Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N)
1 Bottom		8.3.98 DL	0.0141	24.6	8.8.98 JL	Y
2 Bottom		↓ ↓	0.0320	24.5	↓ ↓	↓
Control		↓ ↓	0.0366	24.3	↓ ↓	↓
Reference		↓ ↓	0.000	24.4	↓ ↓	↓
1 Bottom		8.8.98 JL	0.0032	24.6	8.8.98 JL	N
2 Bottom		↓ ↓	0.0388	25.0	↓ ↓	↓
Control		↓ ↓	0.000	24.5	↓ ↓	↓
Reference		↓ ↓	0.000	24.0	↓ ↓	↓
1 Bottom		8.13.98 JL	0.0398	23.8	8.18.98 JL	Y
2 Bottom		↓	0.0500	23.6	↓ ↓	↓
Control		↓	0.152	23.5	↓ ↓	↓
Reference		↓	0.0092	23.5	↓ ↓	↓

AMMONIA ANALYSIS

Project LA Estuary Organism Neanthes sp 10day

After 3 renewals

PRE-TEST / INITIAL / FINAL (circle one)
OVERLYING / INTERSTITIAL (circle one)

SDD 24.0

Sample I.D.	Rep #	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Frozen (Y/N)		
						Sal. ppt	pH	
Cont.								
Ref								
1 Top		7/24/98 JC	17.3	24.8	7/24/98 JC	29.4	7.4	N
1 Bot		↓	100.	24.7	↓	29.4	7.5	↓
2 Top		↓	26.7	25.1	↓	29.5	7.4	↓
2 Bot		↓	88.7	25.0	↓	29.5	7.7	↓
3								

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	03Aug98	1650	13Aug98	1630

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5		SIO062998	119280	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	0	mg/L	0	All	3.0	6.9	3.0	20.2	3.0	29.6	8.0	8.2					
			1	1	3.0	7.0	3.0	20.0	3.0	29.8	8.0	8.1					
			2	2	3.0	7.0	3.0	19.9	3.0	29.4	6.0	8.1					
			3	3	3.0	6.9	3.0	19.9	3.0	29.4	6.0	8.1					
			4	1	3.0	7.0	3.0	20.2	3.0	29.4	6.0	8.1					
				2	3.0	7.0	3.0	20.2	3.0	29.6	6.0	8.1					
				3	3.0	7.0	3.0	20.1	3.0	29.6	6.0	8.1					
Ref.Tox.-cadmium	3.75	mg/L	0	All	3.0	6.9	3.0	20.4	3.0	29.9	8.0	8.2					
			1	1	3.0	7.0	3.0	20.0	3.0	29.8	8.0	8.2					
			2	2	3.0	7.1	3.0	19.9	3.0	29.6	6.0	8.1					
			3	3	3.0	7.0	3.0	20.0	3.0	29.5	6.0	8.1					
			4	1	3.0	7.1	3.0	20.2	3.0	29.6	6.0	8.1					
				2	3.0	7.1	3.0	20.1	3.0	29.7	6.0	8.1					
				3	3.0	7.1	3.0	20.1	3.0	29.6	6.0	8.1					
Ref.Tox.-cadmium	7.5	mg/L	0	All	3.0	6.9	3.0	20.5	3.0	29.7	8.0	8.2					
			1	1	3.0	6.9	3.0	20.0	3.0	29.8	8.0	8.2					
			2	2	3.0	7.1	3.0	19.9	3.0	29.7	6.0	8.1					
			3	3	3.0	6.9	3.0	20.1	3.0	29.6	6.0	8.1					
			4	1	3.0	7.1	3.0	20.2	3.0	29.8	6.0	8.1					
				2	3.0	7.1	3.0	20.3	3.0	29.8	6.0	8.1					
				3	3.0	7.0	3.0	20.2	3.0	29.7	6.0	8.1					

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad Room 3	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	03Aug98	1650	13Aug98	1630

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN WAT BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5		SIO062998	119280	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	15	mg/L	0	All	3.0	6.9	3.0	20.5	3.0	29.6	8.0	8.2			
			1	1	3.0	7.0	3.0	19.9	3.0	29.8	8.0	8.2			
			2	~~2~~	~~3.0~~	~~6.9~~	~~3.0~~	~~20.1~~	~~3.0~~	~~30.1~~	~~8.0~~	~~8.0~~			
			3	3	3.0	7.0	3.0	19.9	3.0	29.6	8.0	8.1			
			4	1											
				2											
				3											
Ref.Tox.-cadmium	30	mg/L	0	All	3.0	7.0	3.0	20.5	3.0	29.4	8.0	8.2			
			1	1	3.0	7.1	3.0	20.0	3.0	29.8	8.0	8.2			
			2	2											
			3	3											
			4	1											
				2											
				3											
Ref.Tox.-cadmium	60	mg/L	0	All	3.0	6.9	3.0	20.5	3.0	29.4	8.0	8.2			
			1	1	3.0	7.0	3.0	20.0	3.0	29.6	8.0	8.2			
			2	2											
			3	3											
			4	1											
				2											
				3											

10 DAY SOLID PHASE TEST DATA SHEET 3 - REF TOX

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	0719-019	Krause/ Green	Carlsbad Room 3	ASTM97/USCOE91

SPECIES	ACCLM.MORT.
Neanthes arenaceodentata	< 5%

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; LOE= loss of equilibrium; Q = quiescent; SUR= surfacing; DC = discoloration; OB = on bottom; J = jumper; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 04Aug98 TECHNICIAN #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 05Aug98 TECHNICIAN #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 06Aug98 TECHNICIAN #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 07Aug98 TECHNICIAN #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.- cadmium	0	mg/L	1	5	5	0	N	5	0	N	5	0	N	5	0	N
			2	5	5	0	N	5	0	N	5	0	N	5	0	N
			3	5	5	0	N	5	0	N	5	0	N	5	0	N
			4													
			5													
Ref.Tox.- cadmium	3.75	mg/L	1	5	5	0	N	5	0	N	5	0	N	5	0	N
			2	5	5	0	N	5	0	N	5	0	N	5	0	N
			3	5	5	0	N	5	0	N	5	0	N	5	0	N
			4													
			5													
Ref.Tox.- cadmium	7.5	mg/L	1	5	5	0	N	5	0	N	5	0	N	5	0	N
			2	5	5	0	N	5	0	N	5	0	N	5	0	N
			3	5	5	0	N	5	0	N	5	0	N	5	0	N
			4													
			5													
Ref.Tox.- cadmium	15	mg/L	1	5	0	5										
			2	5	0	5										
			3	5	3	2	DC,Q	0	3	N						
			4													
			5													
Ref.Tox.- cadmium	30	mg/L	1	5	0	5										
			2	5	0	5										
			3	5	0	5										
			4													
			5													
Ref.Tox.- cadmium	60	mg/L	1	5	0	5										
			2	5	0	5										
			3	5	0	5										
			4													
			5													

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

ACOE LA River Estuary

Neanthes arenaceodentata

ENDPOINTS

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL NO. ALIVE	% SURVIVAL	MEAN SURVIVAL		
Reference Toxicant	cadmium	0 mg/L	1	5	5	100.0			
Reference Toxicant	cadmium	0 mg/L	2	5	5	100.0			
Reference Toxicant	cadmium	0 mg/L	3	5	5	100.0	100.0		
Reference Toxicant	cadmium	0 mg/L	4						
Reference Toxicant	cadmium	0 mg/L	5						
Reference Toxicant	cadmium	3.75 mg/L	1	5	5	100.0			
Reference Toxicant	cadmium	3.75 mg/L	2	5	5	100.0			
Reference Toxicant	cadmium	3.75 mg/L	3	5	5	100.0	100.0		
Reference Toxicant	cadmium	3.75 mg/L	4						
Reference Toxicant	cadmium	3.75 mg/L	5						
Reference Toxicant	cadmium	7.5 mg/L	1	5	5	100.0			
Reference Toxicant	cadmium	7.5 mg/L	2	5	5	100.0			
Reference Toxicant	cadmium	7.5 mg/L	3	5	5	100.0	100.0		
Reference Toxicant	cadmium	7.5 mg/L	4						
Reference Toxicant	cadmium	7.5 mg/L	5						
Reference Toxicant	cadmium	15 mg/L	1	5					
Reference Toxicant	cadmium	15 mg/L	2	5					
Reference Toxicant	cadmium	15 mg/L	3	5					
Reference Toxicant	cadmium	15 mg/L	4						
Reference Toxicant	cadmium	15 mg/L	5						
Reference Toxicant	cadmium	30 mg/L	1	5					
Reference Toxicant	cadmium	30 mg/L	2	5					
Reference Toxicant	cadmium	30 mg/L	3	5					
Reference Toxicant	cadmium	30 mg/L	4						
Reference Toxicant	cadmium	30 mg/L	5						
Reference Toxicant	cadmium	60 mg/L	1	5					
Reference Toxicant	cadmium	60 mg/L	2	5					
Reference Toxicant	cadmium	60 mg/L	3	5					
Reference Toxicant	cadmium	60 mg/L	4						

Static Sediment Toxicity-Survival

Start Date:	8/3/98 16:50	Test ID:	C980514.02	Sample ID:	REF-Ref Toxicant
End Date:	8/7/98 16:00	Lab ID:	MEC-MEC Carlsbad	Sample Type:	CDCL-Cadmium chloride
Sample Date:		Protocol:	ASTM 97	Test Species:	NA-Neanthes arenaceodonta
Comments:					

Conc-ppm	1	2	3
Control	1.0000	1.0000	1.0000
3.75	1.0000	1.0000	1.0000
7.5	1.0000	1.0000	1.0000
15	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000
60	0.0000	0.0000	0.0000

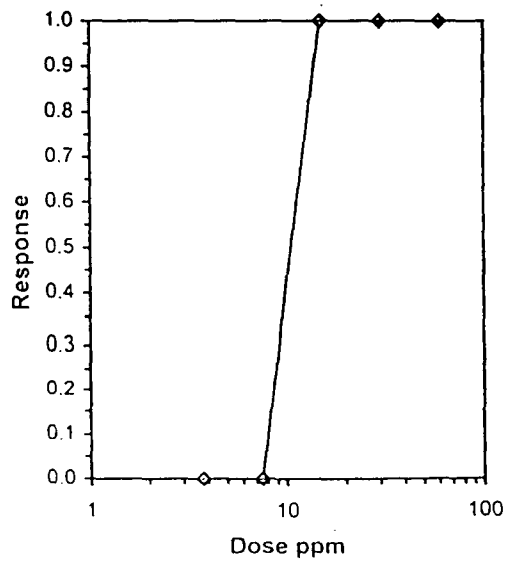
			Transform: Arcsin Square Root					Number	Total
Conc-ppm	Mean	N-Mean	Mean	Min	Max	CV%	N	Resp	Number
Control	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	3	0	15
3.75	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	3	0	15
7.5	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	3	0	15
15	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	3	15	15
30	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	3	15	15
60	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	3	15	15

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	1	0.858		
Equality of variance cannot be confirmed				

Graphical Method

Trim Level	EC50
0.0%	10.607

10.607



Test: ST-Static Sediment Toxicity					Test ID: C980514.02	
Species: NA-Neanthes arenaceodonta					Protocol: ASTM 97	
Sample ID: REF-Ref Toxicant					Sample Type: CDCL-Cadmium chloride	
Start Date: 8/3/98 16:50			End Date: 8/7/98 16:00		Lab ID: MEC-MEC Carlsbad	
Pos	ID	Rep	Group	Start	96-Hour	Notes
	1	1	Control	5	5	
	2	2	Control	5	5	
	3	3	Control	5	5	
	4	1	3.750	5	5	
	5	2	3.750	5	5	
	6	3	3.750	5	5	
	7	1	7.500	5	5	
	8	2	7.500	5	5	
	9	3	7.500	5	5	
	10	1	15.000	5	0	
	11	2	15.000	5	0	
	12	3	15.000	5	0	
	13	1	30.000	5	0	
	14	2	30.000	5	0	
	15	3	30.000	5	0	
	16	1	60.000	5	0	
	17	2	60.000	5	0	
	18	3	60.000	5	0	

Comments:

10 DAY SOLID PHASE TEST DATA SHEET 3 - REF TOX

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	SPECIES	ACCLM.MORT.
ACOE	LA River Estuary	0719-019	*Neanthes arenaceodentata*	< 5%

PROJECT MANAGER	MEC LABORATORY	PROTOCOL
Krause/ Green	Carlsbad	

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; LOE = loss of equilibrium; Q = quiescent; SUR = surfacing; DC = discoloration; OB = on bottom; J = jumper; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE	DAY 1 TECHNICIAN	DAY 2 DATE	DAY 2 TECHNICIAN	DAY 3 DATE	DAY 3 TECHNICIAN	DAY 4 DATE	DAY 4 TECHNICIAN
					8-4-98	MG	8-5-98	DL	8/6/98	AM	8/7/98	MM
					#ALIVE / #DEAD / OBS		#ALIVE / #DEAD / OBS		#ALIVE / #DEAD / OBS		#ALIVE / #DEAD / OBS	
Ref.Tox.-	0	mg/L	1	5	5 0 N		5 0 N		5 0 N		5 0 N	
			2	↓	5 0 N		5 0 N		5 1 N		↓ ↓ ↓	
			3	↓	5 0 N		5 0 N		5 1 N		↓ ↓ ↓	
			4									
			5									
Ref.Tox.-	3.75	mg/L	1	5	5 0 N		5 0 N		5 0 N		5 0 N	
			2	↓	5 0 N		5 0 N		5 1 1		↓ ↓ ↓	
			3	↓	5 0 N		5 0 N		5 1 1		↓ ↓ ↓	
			4									
			5									
Ref.Tox.-	7.5 ~~3.75~~	mg/L	1	5	5 0 N		5 0 N		5 0 N		5 0 N	
			2	↓	5 0 N		5 0 N		5 1 1		↓ ↓ ↓	
			3	↓	5 0 N		5 0 N		5 1 1		↓ ↓ ↓	
			4									
			5									
Ref.Tox.-	15 ~~7.5~~	mg/L	1	5	0 5		0 3 N					
			2	↓	0 5		② DL					
			3	↓	3 2	DC, Q	0 3 N					
			4									
			5									
Ref.Tox.-	30 ~~15~~	mg/L	1	5	0 5							
			2	↓	0 5							
			3	↓	0 5							
			4									
			5									
Ref.Tox.-	60 ~~30~~	mg/L	1	5	0 5							
			2	↓	0 5							
			3	↓	0 5							
			4									
			5									

① MG

① WC 7-29-98 MC

② ~~DL~~ WC 8-5-98 DL

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad	

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green				

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5							

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-	0	mg/L	0	All	3	6.9	3	20.2	3	29.6	8	8.2	MG		
			1	1	3	7.0	3	20.0	3	29.8	8	8.1	MG		
			2	2	3	7.0	3	19.9	3	29.4	6	8.1	DL		
			3	3	3	6.9	3	19.9	3	29.4	6	8.1	DS		
			4	1	3	7.0	3	20.2	3	29.4	6	8.1	MW		
				2	↓	7.0	↓	20.2	↓	29.6	↓	8.1	↓		
				3	↓	7.0	↓	20.1	↓	29.6	↓	8.1	↓		
Ref.Tox.-	3.75	mg/L	0	All	3	6.9	3	20.4	3	29.90 ~~29.9~~	8	8.2	MG		
			1	1	3	7.0	3	20.0	3	29.8	8	8.2	MG		
			2	2	3	7.1	3	19.9	3	29.6	6	8.1	DL		
			3	3	3	7.0	3	20.0	3	29.5	6	8.1	DS		
			4	1	3	7.1	3	20.2	3	29.6	6	8.1	MW		
				2	↓	7.1	↓	20.1	↓	29.7	↓	8.1	↓		
				3	↓	7.1	↓	20.1	↓	29.6	↓	8.1	↓		
Ref.Tox.-	7.5	mg/L	0	All	3	6.9	3	20.5	3	29.7	8	8.2	MG		
			1	1	3	6.9	3	20.0	3	29.8	8	8.2	MG		
			2	2	3	7.1	3	19.9	3	29.7	6	8.1	DL		
			3	3	3	6.9	3	20.1	3	29.6	6	8.1	DS		
			4	1	3	7.1	3	20.2	3	29.8	6	8.1	MW		
				2	↓	7.1	↓	20.3	↓	29.8	↓	8.1	↓		
				3	↓	7.0	↓	20.2	↓	29.7	↓	8.1	↓		

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	LA River Estuary	*Neanthes arenaceodentata*	Carlsbad	

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Krause/ Green	8-3-98	1650		

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	20±2	30±2	> 4.5							

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit					TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-	15	mg/L	0	All	3	6.9	3	20.5	3	29.6	8	8.2					MG		
			1	1	3	7.0	3	19.9	3	29.8	8	8.2					MG		
			2	2	3	7.0	3	19.9	3	29.6	6	8.1					SL		
			3	3															
			4	1															
				2															
				3															
Ref.Tox.-	30	mg/L	0	All	3	7.0	3	20.5	3	29.4	8	8.2					MG		
			1	1	3	7.1	3	20.0	3	29.8	8	8.2					MG		
			2	2															
			3	3															
			4	1															
				2															
				3															
Ref.Tox.-	60	mg/L	0	All	3	6.9	3	20.5	3	29.4	8	8.2					MG		
			1	1	3	7.0	3	20.0	3	29.6	8	8.2					MG		
			2	2															
			3	3															
			4	1															
				2															
				3															

96 HOUR NEANTHES REFERENCE TOXICANT BIOASSAY

Test I.D.	Replicates:	Study Director:	Location:
C9705 14.02	~~2~~ 3	MG	Room 3
Dilution Water Batch:	**Organism Batch:**	**Associated Test:**	**No. Organisms:**
	DR 72798	LARE II	

REFERENCE TOXICANT DILUTION WORKSHEET

Toxicant: Cadmium	Stock Solution: 961284	Date Prepared: 8-3-98	Initials: MG
Target Concentrations: (mg/l) ppm	**Quantity of Stock: Target:**	**Quantity of Diluent: Target:**	**Final Concentration: A/(A + B)**
60	(A)Actual: 9.000 l	(B)Actual: 1500.0	
30	Serial Dilute by 1/2		
15			
7.5			
3.8			
	9 mL	~~1000 mL~~ 1500 mL	

0 HOURS Date: 8/3/98 Time: 1650/Start Initials: MG

STOCK

Concentration	Control	3.8	7.5	15	30	60
DO (%)						
Temperature						
Salinity						
pH						

24 HOURS Date: Time: Initials:

Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

48 HOURS Date: Time: Initials:

Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

Sample I.D.:	Study Director:

72 HOURS Date:		Time:		Initials:		
Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

96 HOURS Date:		Time:		Initials:		
Rep	Control	3.8	7.5	15	30	60
No. Alive R1						
No. Dead R1						
No. Alive R2						
No Dead R2						

10 DAY SOLID PHASE TEST
INTERACTIVE DATA SETUP

GENERAL

CLIENT:	ACOE
PROJECT:	L.A. River
MEC JOB NUMBER:	0719-019
PROJECT MANAGER:	Dr. Paul Krause
TEST SPECIES:	*Eohaustorius estaurius*
TEST PROTOCOL:	ASTM 1997
MEC LABORATORY:	Tiburon
TEST LOCATION:	15 deg. room
TEST START DATE:	30Jul98
TEMP. RECORDER#:	N.A.
DILUTION WATER BATCH:	Bodega Seawater
FEEDING INFORMATION:	none
WATER RENEWAL INFO:	none

FIELD SAMPLE

DATE RECEIVED AT MEC:	23Jul98
SAMPLE STORAGE:	4 Degrees Celsius - dark
SAMPLE TREATMENT:	press sieved (1.0 mm)
TEST CHAMBER:	1 L mason jars
EXPOSURE VOLUME:	2 cm sediment/ 900 mL water
REFERENCE TOXICANT:	*cadmium*
REF. TOX. MATERIAL:	cadmium chloride

REFTOX CONC (mg/L)

0
1.6
3.2
6.4
12.8
.

	CLIENT SAMPLE ID	MEC SAMPLE ID	CONTROL ID	MEC CONTROL ID
1	Reference	T980722.05	Control A	T980722.08
2	Site 1- Top	T980722.05		
3	Site 1- Bottom	T980722.06		
4	Site 3	T980722.07		
5	.	.		
6	.	.	.	.
7	.	.		
8	.	.		
9	.	.		
10	.	.		
11	.	.	.	.
12	.	.		
13	.	.		
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18	.	.		
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22	.	.		
23	.	.		
24	.	.		
25	.	.		
26	.	.	.	.
27	.	.		
28	.	.		
29	.	.		
30	.	.		
31	.	.	.	.
32	.	.		
33	.	.		
34	.	.		
35	.	.		

10 DAY SOLID PHASE TEST DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A. River	0719-019	Dr. Paul Krause	Tiburon 15 deg. room	ASTM 1997

GENERAL TEST INFORMATION

SPECIES: *Eohaustorius estaurius*		
SUPPLIER: Northwest Aquatics		ORGANISM BATCH NO.:
DATE RECEIVED: 22Jul98	TIME RECEIVED: 1100	ARRIVAL VIA: Fed Ex
QUANITY ORDERED:	AGE: Juvenile	SPECIES CODE: Ee072298
GENERAL CONDITION: Rec dry. Upon reciept containers filled 30ppt		

SAMPLE STORAGE: 4 Degrees Celsius - dark
SEDIMENT TREATMENT: press sieved (1.0 mm)
CONTROL SEDIMENT ID: T980722.08
CONTROL SEDIMENT SUPPLIER: Northwest Aquatics
TEST CHAMBERS: 1 L mason jars

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
22Jul98												ARRIVAL	

ACCLIMATION MORTALITY: < 5%

10 DAY SOLID PHASE TEST

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB No.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE	L.A. River	0719-019	Dr. Paul Krause	Tiburon 15 deg. room	ASTM 1997

RANDOMIZATION WORKSHEET

SORTED BY CLIENT/ MEC ID

CLIENT ID	MEC ID	REP	JAR#
Control A	T980722.08	1	1
Control A	T980722.08	2	2
Control A	T980722.08	3	3
Control A	T980722.08	4	4
Control A	T980722.08	5	5
Reference	T980722.05	1	6
Reference	T980722.05	2	7
Reference	T980722.05	3	8
Reference	T980722.05	4	9
Reference	T980722.05	5	10
Site 1- Top	T980722.05	1	11
Site 1- Top	T980722.05	2	12
Site 1- Top	T980722.05	3	13
Site 1- Top	T980722.05	4	14
Site 1- Top	T980722.05	5	15
Site 1- Bottom	T980722.06	1	16
Site 1- Bottom	T980722.06	2	17
Site 1- Bottom	T980722.06	3	18
Site 1- Bottom	T980722.06	4	19
Site 1- Bottom	T980722.06	5	20
Site 3	T980722.07	1	21
Site 3	T980722.07	2	22
Site 3	T980722.07	3	23
Site 3	T980722.07	4	24
Site 3	T980722.07	5	25
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SORTED BY JAR NUMBER

CLIENT ID	MEC ID	REP	JAR#

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	30Jul98	1810	09Aug98	1420

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Seawater	N.A.

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
Control A / T980722.08	0	1	1	20.0	7.5	2.0	16.8	2.0	29.0	21.0	8.1	16.0	0.56	16.00	NT			MJB/SC			
		2	2	20.0	7.5	2.0	16.8	2.0	29.0	21.0	8.1							MJB/SC			
		3	3	20.0	7.3	2.0	16.7	2.0	29.0	21.0	8.1							MJB/SC			
		4	4	20.0	7.4	2.0	16.7	2.0	29.0	21.0	8.2							MJB/SC			
		5	5	20.0	7.4	2.0	16.7	2.0	29.0	21.0	8.2							MJB/SC			
Control A / T980722.08	1	1	1	20.0	8.2	15.0	16.4	15.0	29.0	4.0	8.1	16.0	0.13	16.00	0.16			MJB/CL			
Control A / T980722.08	2	2	2	20.0	9.5	2.0	18.4	2.0	29.0	4.0	8.2	16.0	<0.1					MJB/CL			
Control A / T980722.08	3	3	3	20.0	9.6	2.0	15.9	2.0	29.0	4.0	8.1	16.0	0.24					MJB/CL			
Control A / T980722.08	4	4	4	20.0	7.9	15.0	15.2	15.0	29.0	21.0	8.0	16.0	0.26					SLN/SB			
Control A / T980722.08	5	5	5	3.0	7.9	15.0	15.4	15.0	30.0	21.0	8.0	16.0	0.19	16.00	0.23			SLN			
Control A / T980722.08	6	1	1	20.0	8.1	2.0	15.0	2.0	30.0	21.0	7.8	16.0	<0.1					SB/SC			
Control A / T980722.08	7	2	2	20.0	7.7	15.0	16.1	15.0	29.0	21.0	7.9	16.0	<0.1					SB			
Control A / T980722.08	8	3	3	20.0	8.8	2.0	15.8	2.0	30.0	4.0	8.1	16.0	0.12					CL/MJB			
Control A / T980722.08	9	4	4	20.0	8.5	2.0	16.8	2.0	30.0	4.0	8.2	16.0	0.11					MJB			
Control A / T980722.08	10	1	1	20.0	8.6	2.0	15.7	2.0	29.0	4.0	8.3	16.0	<0.1	16.00	0.46			MJB			
		2	2	20.0	8.6	2.0	15.7	2.0	29.0	4.0	8.2	16.0	<0.1					MJB			
		3	3	20.0	8.5	2.0	15.9	2.0	30.0	4.0	8.2	16.0	0.17					MJB			
		4	4	20.0	8.4	2.0	15.9	2.0	30.0	4.0	8.2	16.0	0.19					MJB			
		5	5	20.0	8.3	2.0	15.7	2.0	30.0	4.0	8.2	16.0	<0.1					MJB			

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	30Jul98	1810	09Aug98	1420

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L) > 5.0	TEMP (C) 15±2	SALINITY (ppt) 30±2	pH 8.0±0.5	NH3 (mg/L) < 4.0		DILUTION WATER BATCH Bodega Seawater				TEMP.RECDR./HOBO# N.A.		

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN			WATER RENEWAL
Reference / T980722.05	0	1	6		7.5		16.6		29.0		8.2		1.04		NT			MJB/SC			
		2	7		8.2		16.7		29.0		8.1							MJB/SC			
		3	8		7.2		16.7		29.0		8.1							MJB/SC			
		4	9		7.0		16.7		29.0		8.1							MJB/SC			
		5	10		7.3		17.1		29.0		8.2							MJB/SC			
Reference / T980722.05	1	1	6		7.9		16.6		29.0		8.1		0.56		4.20			CL			
Reference / T980722.05	2	2	7		9.6		18.4		29.0		8.2		0.75					MJB/CL			
Reference / T980722.05	3	3	8		8.8		15.4		29.0		8.1		0.70					MJB/CL			
Reference / T980722.05	4	4	9		8.1		15.2		29.0		8.0		0.75					SLN/SB			
Reference / T980722.05	5	5	10		8.0		15.0		30.0		8.0		0.92		1.82			SLN			
Reference / T980722.05	6	1	6		8.1		15.1		30.0		7.9		0.60					SB/SC			
Reference / T980722.05	7	2	7		7.7		15.6		30.0		8.1		0.78					SB			
Reference / T980722.05	8	3	8		9.0		15.5		30.0		8.3		0.75					CL/MJB			
Reference / T980722.05	9	4	9		8.5		16.5		30.0		8.7		<0.1					MJB			
Reference / T980722.05	10	1	6		8.7		15.9		30.0		8.3		0.26		0.93			MJB			
		2	7		8.6		15.9		30.0		8.4		0.45					MJB			
		3	8		8.8		16.2		30.0		8.3		0.38					MJB			
		4	9		8.3		16.0		30.0		8.3		0.31					MJB			
		5	10		8.4		15.8		30.0		8.3		0.49					MJB			

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	30Jul98	1810	09Aug98	1420

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L) > 5.0	TEMP (C) 15±2	SALINITY (ppt) 30±2	pH 8.0±0.5	NH3 (mg/L) < 4.0		DILUTION WATER BATCH Bodega Seawater		TEMP.RECDR./HOBO# N.A.	

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
Site 1- Top / T980722.05	0	1	11	20.0	7.3	2.0	16.8	2.0	28.0	21.0	8.0	16.0	0.59	16.00	18.35			MJB/SC			
		2	12	20.0	7.0	2.0	17.0	2.0	28.0	21.0	8.0							MJB/SC			
		3	13	20.0	7.0	2.0	17.0	2.0	28.0	21.0	8.0							MJB/SC			
		4	14	20.0	7.0	2.0	17.0	2.0	28.0	21.0	8.0							MJB/SC			
		5	15	20.0	7.1	2.0	17.0	2.0	28.0	21.0	8.0							MJB/SC			
Site 1- Top / T980722.05	1	1	11	20.0	7.4	15.0	17.3	18.0	28.0	4.0	7.9	16.0	0.46					CL			
Site 1- Top / T980722.05	2	2	12	20.0	9.0	2.0	19.4	2.0	28.0	4.0	8.0	16.0	0.49					CL/MJB			
Site 1- Top / T980722.05	3	3	13	20.0	9.0	2.0	15.5	2.0	29.0	4.0	8.1	16.0	1.38					CL/MJB			
Site 1- Top / T980722.05	4	4	14	20.0	8.1	18.0	15.5	18.0	28.0	21.0	7.9	16.0	0.70					SB/SLN			
Site 1- Top / T980722.05	5	5	15	20.0	8.0	18.0	15.0	18.0	29.0	4.0	8.0	16.0	1.31	16.00	7.38			SB/SLN			
Site 1- Top / T980722.05	6	1	11	20.0	8.1	2.0	15.4	2.0	30.0	21.0	7.9	16.0	0.86					SB/SC			
Site 1- Top / T980722.05	7	2	12	20.0	7.8	2.0	15.8	2.0	29.0	21.0	8.1	16.0	1.11					SB			
Site 1- Top / T980722.05	8	3	13	20.0	9.3	18.0	15.7	18.0	30.0	4.0	8.1	16.0	1.64					CL/MJB			
Site 1- Top / T980722.05	9	4	14	20.0	8.4	2.0	16.7	2.0	28.0	4.0	8.2	16.0	3.64					MJB			
Site 1- Top / T980722.05	10	1	11	20.0	7.9	2.0	15.9	2.0	28.0	4.0	8.2	16.0	0.79	16.00	5.46			MJB			
		2	12	20.0	7.9	2.0	16.1	2.0	28.0	4.0	8.2	16.0	1.16					MJB			
		3	13	20.0	7.8	2.0	15.9	2.0	29.0	4.0	8.2	16.0	0.96					MJB			
		4	14	20.0	7.9	2.0	15.8	2.0	30.0	4.0	8.1	16.0	1.32					MJB			
		5	15	20.0	8.0	2.0	15.8	2.0	29.0	4.0	8.2	16.0	1.05					MJB			

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	30Jul98	1810	09Aug98	1420

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Seawater	N.A.

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				RENEWAL
Site 1- Bottom / T980722.06	0	1	16	20.0	5.7	2.0	16.7	2.0	28.0	21.0	7.9	16.0	0.50	16.00	13.65			MJB/SC			
		2	17	20.0	6.9	2.0	16.7	2.0	28.0	21.0	7.9							MJB/SC			
		3	18	20.0	7.3	2.0	16.8	2.0	28.0	21.0	8.0							MJB/SC			
		4	19	20.0	7.0	2.0	16.6	2.0	28.0	21.0	7.9							MJB/SC			
		5	20	20.0	7.2	2.0	16.8	2.0	28.0	21.0	7.9							MJB/SC			
Site 1- Bottom / T980722.06	1	1	16	20.0	7.7	18.0	17.3	18.0	28.0	4.0	8.0	16.0	0.55					CL/MJB			
Site 1- Bottom / T980722.06	2	2	17	20.0	9.5	2.0	17.2	2.0	29.0	4.0	8.0	16.0	2.41					MJB/CL			
Site 1- Bottom / T980722.06	3	3	18	20.0	8.8	2.0	15.4	2.0	29.0	4.0	8.0	16.0	1.46					MJB/CL			
Site 1- Bottom / T980722.06	4	4	19	20.0	8.2	18.0	15.5	18.0	29.0	21.0	7.9	16.0	0.99					SB/SLN			
Site 1- Bottom / T980722.06	5	5	20	3.0	7.9	18.0	15.0	18.0	29.0	21.0	7.9	16.0	1.92	16.00	11.80			SB/SLN			
Site 1- Bottom / T980722.06	6	1	16	20.0	8.1	2.0	15.9	2.0	30.0	21.0	7.9	16.0	0.45					SB/SC			
Site 1- Bottom / T980722.06	7	2	17	20.0	7.8	18.0	16.1	18.0	29.0	21.0	8.0	16.0	3.78					SB			
Site 1- Bottom / T980722.06	8	3	18	20.0	8.8	2.0	15.8	2.0	30.0	4.0	8.1	16.0	5.34					CL/MJB			
Site 1- Bottom / T980722.06	9	4	19	20.0	8.1	2.0	16.5	2.0	29.0	4.0	8.2	16.0	2.63					MJB			
Site 1- Bottom / T980722.06	10	1	16	20.0	8.0	2.0	15.8	2.0	30.0	4.0	8.1	16.0	1.95	16.00	14.60			MJB			
		2	17	20.0	8.0	2.0	15.8	2.0	30.0	4.0	8.1	16.0	1.64					MJB			
		3	18	20.0	7.8	2.0	15.9	2.0	30.0	4.0	8.2	16.0	2.45					MJB			
		4	19	20.0	7.8	2.0	16.1	2.0	29.0	4.0	8.2	16.0	2.19					MJB			
		5	20	20.0	7.9	2.0	16.0	2.0	29.0	4.0	8.1	16.0	2.35					MJB			

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	30Jul98	1810	09Aug98	1420

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Seawater	N.A.

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				RENEWAL
Site 3 / T980722.07	0	1	21	20.0	7.0	2.0	16.7	2.0	28.0	21.0	8.0	16.0	0.61	16.00	19.51			MJB/CL			
		2	22	20.0	7.2	2.0	16.8	2.0	28.0	21.0	8.1							MJB/CL			
		3	23	20.0	7.3	2.0	16.7	2.0	28.0	21.0	8.1							MJB/CL			
		4	24	20.0	7.2	2.0	16.7	2.0	28.0	21.0	8.0							MJB/CL			
		5	25	20.0	7.1	2.0	16.6	2.0	28.0	21.0	8.0							MJB/CL			
Site 3 / T980722.07	1	1	21	20.0	6.7	15.0	17.2	15.0	28.0	4.0	7.8	16.0	0.91					MJB/CL			
Site 3 / T980722.07	2	2	22	20.0	9.3	2.0	17.3	2.0	29.0	4.0	8.1	16.0	1.74					MJB/CL			
Site 3 / T980722.07	3	3	23	20.0	9.3	2.0	15.4	2.0	29.0	4.0	8.0	16.0	1.41					MJB/CL			
Site 3 / T980722.07	4	4	24	20.0	8.0	15.0	15.3	15.0	28.0	21.0	7.9	16.0	0.95					SLN/SB			
Site 3 / T980722.07	5	5	25	3.0	7.9	15.0	15.0	15.0	29.0	21.0	8.0	16.0	1.87	16.00	6.29			SLN/SB			
Site 3 / T980722.07	6	1	21	20.0	8.1	2.0	15.2	2.0	29.0	21.0	7.9	16.0	1.58					SC/SB			
Site 3 / T980722.07	7	2	22	20.0	7.5	15.0	15.5	15.0	29.0	21.0	8.0	16.0	2.75					SB			
Site 3 / T980722.07	8	3	23	20.0	8.7	2.0	15.0	2.0	30.0	4.0	8.2	16.0	3.64					MJB/CL			
Site 3 / T980722.07	9	4	24	20.0	8.0	2.0	16.5	2.0	29.0	4.0	8.2	16.0	2.28					MJB			
Site 3 / T980722.07	10	1	21	20.0	7.9	2.0	15.7	2.0	29.0	4.0	8.2	16.0	1.82	16.00	5.46			MJB			
		2	22	20.0	7.8	2.0	15.7	2.0	29.0	4.0	8.1	16.0	2.23					MJB			
		3	23	20.0	7.9	2.0	15.9	2.0	29.0	4.0	8.1	16.0	2.08					MJB			
		4	24	20.0	8.0	2.0	15.9	2.0	30.0	4.0	8.2	16.0	2.63					MJB			
		5	25	20.0	8.0	2.0	16.0	2.0	29.0	4.0	8.3	16.0	1.88					MJB			

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
ACOE	L.A. River	0719-019	Dr. Paul Krause	Tiburon 15 deg. room	ASTM 1997	Eohaustorius estaurius	< 5%

ENDPOINT DATA & OBERSERVATIONS

				DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7		DAY 8		DAY 9		DAY 10				
				DATE		DATE		DATE		DATE		DATE		DATE		DATE		DATE		DATE		DATE				
				31Jul98		01Aug98		02Aug98		03Aug98		04Aug98		05Aug98		06Aug98		07Aug98		08Aug98		09Aug98				
				TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN		TECHNICIAN				
				CL		MJB		MJB		SB		SLN		SB		SB		CL		MJB		MJB				
CLIENT/ MEC ID	REP	JAR #	INITIAL #	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	NUMBER REMAINING		
Control A / T980722.08	1	1	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			20		
	2	2	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			20		
	3	3	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			20		
	4	4	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			20		
	5	5	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			20		
Reference / T980722.05	1	6	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			20		
	2	7	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			19		
	3	8	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			18		
	4	9	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			20		
	5	10	20	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0			19		
Site 1- Top / T980722.05	1	11	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			7		
	2	12	20	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0			16		
	3	13	20	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0			11		
	4	14	20	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			8		
	5	15	20	0	4	0	1	0	1	0	0	0	0	0	1	0	0	0	3	0	0			13		
Site 1- Bottom / T980722.06	1	16	20	0	2	0	0	0	0	0	0	0	1	0	4	0	2	0	1	0	0			14		
	2	17	20	0	2	0	2	0	2	0	3	0	2	0	3	0	2	0	0	0	0			12		
	3	18	20	0	0	0	1	0	2	0	2	0	1	0	3	0	0	0	0	0	0			17		
	4	19	20	0	2	0	1	0	0	0	2	0	1	0	2	0	2	0	0	0	0			16		
	5	20	20	0	2	0	0	0	2	0	0	0	1	0	1	0	2	0	0	0	0			14		
Site 3 / T980722.07	1	21	20	0	7	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1			20		
	2	22	20	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0			20		
	3	23	20	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0			19		
	4	24	20	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	1	0	0			18		
	5	25	20	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0			20		
. / .	1																									
	2																									
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MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

Eohaustorius estuarius **ACOE L.A. River**

WATER QUALITY

CLIENT SAMPLE ID	MEC SAMPLE ID	DISS.OXYGEN (mg/L)			DISS.OXYGEN (%SAT)	TEMPERATURE (°C)			SALINITY (ppt)			pH			OVERLYING NH_3 (mg/L)			INTER. NH_3 (mg/L)		
		Mean	Min	Max	Mean	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Ref.Tox.-cadmium	Ref.Tox.-cadmium	8.2	7.9	8.6	97.6	14.9	14.5	15.4	28.6	28.0	29.0	8.0	8.0	8.1	#DIV/0!	0.00	0.00			
Control A	T980722.08	8.2	7.3	9.6	100.3	16.2	15.0	18.4	29.4	29.0	30.0	8.1	7.8	8.3	0.22	0.11	0.56	0.28	0.16	0.46
Reference	T980722.05	8.2	7.0	9.6	100.4	16.2	15.0	18.4	29.5	29.0	30.0	8.2	7.9	8.7	0.62	0.26	1.04	2.32	0.93	4.20
Site 1- Top	T980722.05	7.9	7.0	9.3	96.5	16.3	15.0	19.4	28.6	28.0	30.0	8.1	7.9	8.2	1.16	0.46	3.64	10.40	5.46	18.35
Site 1- Bottom	T980722.06	7.8	5.7	9.5	95.5	16.2	15.0	17.3	28.9	28.0	30.0	8.0	7.9	8.2	2.04	0.45	5.34	13.35	11.80	14.60
Site 3	T980722.07	7.8	6.7	9.3	95.3	16.1	15.0	17.3	28.7	28.0	30.0	8.1	7.8	8.3	1.89	0.61	3.64	10.42	5.46	19.51

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

ACOE L.A. River

Eohaustorius estuarius

ENDPOINTS

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL NO. ALIVE	% SURVIVAL	MEAN SURVIVAL		
Ref.Tox.-cadmium	Ref.Tox.-cadmium	0 mg/L	1	8	8	100.0			
Ref.Tox.-cadmium	Ref.Tox.-cadmium	0 mg/L	2	8	8	100.0			
Ref.Tox.-cadmium	Ref.Tox.-cadmium	0 mg/L	3				100.0		
Ref.Tox.-cadmium	Ref.Tox.-cadmium	0 mg/L	4						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	0 mg/L	5						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	1.6 mg/L	1	8	7	87.5			
Ref.Tox.-cadmium	Ref.Tox.-cadmium	1.6 mg/L	2	8	7	87.5			
Ref.Tox.-cadmium	Ref.Tox.-cadmium	1.6 mg/L	3				87.5		
Ref.Tox.-cadmium	Ref.Tox.-cadmium	1.6 mg/L	4						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	1.6 mg/L	5						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	3.2 mg/L	1	8	8	100.0			
Ref.Tox.-cadmium	Ref.Tox.-cadmium	3.2 mg/L	2	8	7	87.5			
Ref.Tox.-cadmium	Ref.Tox.-cadmium	3.2 mg/L	3				93.8		
Ref.Tox.-cadmium	Ref.Tox.-cadmium	3.2 mg/L	4						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	3.2 mg/L	5						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	6.4 mg/L	1	8	6	75.0			
Ref.Tox.-cadmium	Ref.Tox.-cadmium	6.4 mg/L	2	8	8	100.0			
Ref.Tox.-cadmium	Ref.Tox.-cadmium	6.4 mg/L	3				87.5		
Ref.Tox.-cadmium	Ref.Tox.-cadmium	6.4 mg/L	4						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	6.4 mg/L	5						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	12.8 mg/L	1	8	5	62.5			
Ref.Tox.-cadmium	Ref.Tox.-cadmium	12.8 mg/L	2	8	6	75.0			
Ref.Tox.-cadmium	Ref.Tox.-cadmium	12.8 mg/L	3				68.8		
Ref.Tox.-cadmium	Ref.Tox.-cadmium	12.8 mg/L	4						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	12.8 mg/L	5						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	. mg/L	1						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	. mg/L	2						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	. mg/L	3						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	. mg/L	4						
Ref.Tox.-cadmium	Ref.Tox.-cadmium	. mg/L	5						

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

ACOE L.A. River

Eohaustorius estuarius

ENDPOINTS

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL NO. ALIVE	% SURVIVAL	MEAN SURVIVAL		
Control A	T980722.08		1	20	20	100.0			
Control A	T980722.08		2	20	20	100.0			
Control A	T980722.08		3	20	20	100.0	100.0		
Control A	T980722.08		4	20	20	100.0			
Control A	T980722.08		5	20	20	100.0			
Reference	T980722.05		1	20	20	100.0			
Reference	T980722.05		2	20	19	95.0			
Reference	T980722.05		3	20	18	90.0	96.0		
Reference	T980722.05		4	20	20	100.0			
Reference	T980722.05		5	20	19	95.0			
Site 1- Top	T980722.05		1	20	7	35.0			
Site 1- Top	T980722.05		2	20	16	80.0			
Site 1- Top	T980722.05		3	20	11	55.0	55.0		
Site 1- Top	T980722.05		4	20	8	40.0			
Site 1- Top	T980722.05		5	20	13	65.0			
Site 1- Bottom	T980722.06		1	20	14	70.0			
Site 1- Bottom	T980722.06		2	20	12	60.0			
Site 1- Bottom	T980722.06		3	20	17	85.0	73.0		
Site 1- Bottom	T980722.06		4	20	16	80.0			
Site 1- Bottom	T980722.06		5	20	14	70.0			
Site 3	T980722.07		1	20	20	100.0			
Site 3	T980722.07		2	20	20	100.0			
Site 3	T980722.07		3	20	19	95.0	97.0		
Site 3	T980722.07		4	20	18	90.0			
Site 3	T980722.07		5	20	20	100.0			

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE L.A.	L.A.	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM97/USCOE91
MEC JOB NUMBER	**PROJECT MANAGER**	**TEST START DATE** / **TIME**	**TEST END DATE**	**TIME**
0719-019	Dr. Paul Krause	07/30/98 1510	08/09/98	1420

WATER QUALITY DATA

TEST CONDITIONS: DO (mg/L) > 5.0 | TEMP (C) 15±2 | SALINITY (ppt) 30±2 | pH 8.0±0.5 | NH3 (mg/L) < 4.0 | DILUTION WATER BATCH: Bodega Sea Water | TEMP.RECDR./HOBO#

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 meter	OVERLY. NH3 mg/L	INTER. NH3 meter	INTER. NH3 mg/L	INTER. SULFIDE meter	INTER. SULFIDE mg/L	TECHNICIAN	FEEDING am	FEEDING pm	WATER RENEWAL
Control A / T980722.08	0	1	1	020	7.5	002	16.8	002	29	021	8.10	16	0.56	16	NT			MJB/SC			
		2	2	020	7.5	002	16.8	002	29	021	8.14							MJB/SC			
		3	3	020	7.3	002	16.7	002	29	021	8.13							MJB/SC			
		4	4	020	7.4	002	16.7	002	29	021	8.15							MJB/SC			
		5	5	020	7.4	002	16.7	002	29	021	8.15							MJB/SC			
Control A / T980722.08	1	1	1	~~020~~ 020	~~8.2~~ 8.2*	015	16.4	015	29	021	8.08	16	0.13	16	0.16			MSB/CL			
Control A / T980722.08	2	2	2	20	9.5	2	18.4	2	29	4	8.20	16	< 0.1					MSB/CL			
Control A / T980722.08	3	3	3	20	9.6	2	15.9	2	29	4	8.10	16	0.24					MJB/CL			
Control A / T980722.08	4	4	4	20	7.9	15	15.2	15	29	21	8.02	16	0.26					SLK/SB			
Control A / T980722.08	5	5	5	20	7.9	15	15.4	15	30	21	7.96	16	0.19	16	0.23			SLK			
Control A / T980722.08	6	1	1	20	8.1	2	15.0	2	30	21	7.82	16	< 0.10					SB/SC			
Control A / T980722.08	7	2	2	20	7.7	15	16.1	15	29	21	7.94	16	< 0.10					SB			
Control A / T980722.08	8	3	3	20	8.8	2	15.8	2	30	4	8.09	16	0.12					CL/MSB			
Control A / T980722.08	9	4	4	20	8.5	2	15.8	2	30	4	8.21	16	0.11					MSB			
Control A / T980722.08	10	1	1	20	8.6	2	15.7	2	29	4	8.27	16	< 0.10	16	0.46			MSB			
		2	2		8.6		15.7		29		8.24		< 0.10								
		3	3		8.5		15.9		30		8.16		0.17								
		4	4		8.4		15.9		30		8.21		0.19								
		5	5	20	8.3	2	15.7	2	30	4	8.20	16	< 0.10								

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* cl 7/31/98 © Faulty

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE L.A.	L.A.	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	07/30/98	1810	08/09/98	1420

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Sea Water	

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN	FEEDING		WATER
				meter	mg/L	meter	°C	meter	ppt	meter	unit	meter	mg/L	meter	mg/L	meter	mg/L		am	pm	RENEWAL
Reference / T980722.02	0	1	6	020	7.5	002	16.6	002	29	021	8.14	16	1.04	16	NT			MJB/SC			
		2	7	020	8.2	002	16.7	002	29	021	8.14							MJB/SC			
		3	8	020	7.2	002	16.7	002	29	021	8.06							MJB/SC			
		4	9	020	7.0	002	16.7	002	29	021	8.09							MJB/SC			
		5	10	020	7.3	002	17.1	002	29	021	8.17							MJB/SC			
Reference / T980722.02	1	1	6	020	7.9 16.4*	015	16.6	015	29	004	8.14	16	0.56	16	9.2			LL			
Reference / T980722.02	2	2	7	20	9.6	2	18.4*	2	29	4	8.19	16	0.75					MSB/LL			
Reference / T980722.02	3	3	8	20	8.8	2	15.4	2	29	4	8.13	16	0.70					MSB/CL			
Reference / T980722.02	4	4	9	20	8.1	15	15.2	15	29	21	7.96	16	0.75					SCM/SB			
Reference / T980722.02	5	5	10	3	8.0	15	15.0	15	30	21	8.04	16	0.92	16	1.82			SCM			
Reference / T980722.02	6	1	6	20	8.1	2	15.1	2	30	21	7.91	16	0.60					SB/SC			
Reference / T980722.02	7	2	7	20	7.7	15	15.6	15	30	21	8.13	16	0.78					SB			
Reference / T980722.02	8	3	8	20	9.0	2	15.5	2	30	4	8.32	16	0.75					CL/MSB			
Reference / T980722.02	9	4	9	20	8.5	2	16.5	2	30	4	8.66	16	<0.10					MSB			
Reference / T980722.02	10	1	6	20	8.7	2	15.9	2	30	4	8.29	16	0.26	16	0.93			MSB			
		2	7		8.6		15.9		30		8.36		0.45								
		3	8		8.8		16.2		30		8.32		0.38								
		4	9		8.3		16.0		30		8.28		0.31								
		5	10	20	8.4	2	15.8	2	30	4	8.34	16	0.49					MSB			

131155

* a 7/31/98 ©

* Fan installed for [illegible]

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE L.A.	L.A.	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	07/30/98	1810	08/09/98	1120

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Sea Water	

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN	FEEDING		WATER
				meter	mg/L	meter	°C	meter	ppt	meter	unit	meter	mg/L	meter	mg/L	meter	mg/L		am	pm	RENEWAL
Site 1 - Top / T980722.05	0	1	11	020	7.3	002	16.8	002	28	021	8.01	16	0.59	16	18.35			MJB/SC			
		2	12	020	7.0	002	17.0	002	28	021	8.01							MJB/SC			
		3	13	020	7.0	002	17.0	002	28	021	7.99							MJB/SC			
		4	14	020	7.0	002	17.0	002	28	021	7.99							MJB/SC			
		5	15	020	7.1	002	17.0	002	28	021	7.96							MJB/SC			
Site 1 - Top / T980722.05	1	1	11	020	7.4	015	17.3	015	28	021	7.94	16	0.46					LL			
Site 1 - Top / T980722.05	2	2	12	20	9.0	2	19.4	2	28	4	8.03	16	0.49					MJB/LL			
Site 1 - Top / T980722.05	3	3	13	20	9.0	2	15.5	2	29	4	8.06	16	1.38					MJB/LL			
Site 1 - Top / T980722.05	4	4	14	20	8.1	15	15.5	15	28	21	7.92	16	0.70					SW/SS			
Site 1 - Top / T980722.05	5	5	15	020	8.0	2	15.0	2	29	4	7.99	16	1.31	16	7.38			SS/SW			
Site 1 - Top / T980722.05	6	1	11	20	8.1	2	15.4	2	30	21	7.86	16	0.86					SB/SC			
Site 1 - Top / T980722.05	7	2	12	20	7.8	15	15.8	15	29	21	8.06	16	1.11					SB			
Site 1 - Top / T980722.05	8	3	13	20	9.3	2	15.7	2	30	4	8.10	16	1.64					CL/MJB			
Site 1 - Top / T980722.05	9	4	14	20	8.4	2	16.7	2	28	4	8.22	16	3.64					MSB			
Site 1 - Top / T980722.05	10	1	11	20	7.9	2	15.9	2	28	4	8.16	16	0.79	16	5.46			MSB			
		2	12	↓	7.9	↓	16.1	↓	28	↓	8.15	↓	1.16					↓			
		3	13	↓	7.8	↓	15.9	↓	29	↓	8.21	↓	0.96					↓			
		4	14	↓	7.9	↓	15.8	↓	30	↓	8.13	↓	1.32					↓			
		5	15	20	8.0	2	15.8	2	29	4	8.19	16	1.05					MSB			

* Corner Rm Static Fan installed for, 1

121156

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE L.A.	L.A.	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	07/30/98	1810	08/09/98	1420

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Sea Water	

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN	FEEDING		WATER
				meter	mg/L	meter	°C	meter	ppt	meter	unit	meter	mg/L	meter	mg/L	meter	mg/L		am	pm	RENEWAL
Site 1 - Bottom / T980722.06	0	1	16	020	5.7	02	16.7	002	28	021	7.90	16	0.50	16	13.65			MJB/SC			
		2	17	020	10.9	002	16.7	002	28	021	7.91							MJB/SC			
		3	18	020	7.3	002	16.8	002	28	021	7.95							MJB/SC			
		4	19	020	7.0	002	16.6	002	28	021	7.90							MJB/SC			
		5	20	020	7.2	002	16.8	002	28	021	7.86							MJB/SC			
Site 1 - Bottom / T980722.06	1	1	16	020	7.7	015	17.3	015	28	004	7.99	16	0.55					CL			
Site 1 - Bottom / T980722.06	2	2	17	20	9.5	2	17.2	2	29	4	7.99	16	2.41					MSB/CL			
Site 1 - Bottom / T980722.06	3	3	18	20	8.8	2	15.4	2	29	4	8.00	16	1.46					MJB/CL			
Site 1 - Bottom / T980722.06	4	4	19	20	8.2	15	15.5	15	29	21	7.85	16	0.99					SLW/SLB			
Site 1 - Bottom / T980722.06	5	5	20	3	7.9	15	15.0	15	29	21	7.94	16	1.92	16	11.8			SB/SLW			
Site 1 - Bottom / T980722.06	6	1	16	20	8.1	2	15.9	2	30	21	7.86	16	0.45					SR/SC			
Site 1 - Bottom / T980722.06	7	2	17	20	7.8	15	16.1	15	29	21	8.05	16	3.78					SB			
Site 1 - Bottom / T980722.06	8	3	18	20	8.8	2	15.8	2	30	4	8.11	16	5.34					CL/MSB			
Site 1 - Bottom / T980722.06	9	4	19	20	8.1	2	16.5	2	29	4	8.17	16	2.63					MSB			
Site 1 - Bottom / T980722.06	10	1	16	20	8.0	2	15.8	2	30	4	8.06	16	1.95	16	14.6			MSB			
		2	17		8.0		15.8		30		8.14		1.64								
		3	18		7.8		15.9		30		8.20		2.45								
		4	19		7.8		16.1		29		8.16		2.19								
		5	20	20	7.9	2	16.0	2	29	4	8.11	16	2.35					MSB			

121157

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE L.A.	L.A.	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	07/30/98	1810	08/09/98	1420

WATER QUALITY DATA

TEST CONDITIONS: DO (mg/L) > 5.0; TEMP (C) 15±2; SALINITY (ppt) 30±2; pH 8.0±0.5; NH3 (mg/L) < 4.0; DILUTION WATER BATCH: Bodega Sea Water; TEMP.RECDR./HOBO#:

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 meter	OVERLY. NH3 mg/L	INTER. NH3 meter	INTER. NH3 mg/L	INTER. SULFIDE meter	INTER. SULFIDE mg/L	TECHNICIAN	FEEDING am	FEEDING pm	WATER RENEWAL
Site 3 / T980722.07	0	1	21	020	7.0	002	16.7	002	28	021	8.03	16	0.61	16	19.5			MJB/SC			
		2	22	020	7.2	002	16.8	002	28	021	8.05	~~16~~	~~0.91~~					MJB/SC			
		3	23	020	7.3	002	16.7	002	28	021	8.05							MJB/SC			
		4	24	020	7.2	002	16.7	002	28	021	8.01							MJB/SC			
		5	25	020	7.1	002	16.6	002	28	021	7.98							MJB/SC			
Site 3 / T980722.07	1	1	21	020	6.7	015	17.2	015	28	004	7.78	16	0.91					MSB/CL			
Site 3 / T980722.07	2	2	22	20	9.3	2	17.3	2	29	4	8.14	16	1.74					MSB/CL			
Site 3 / T980722.07	3	3	23	20	9.3	2	15.4	2	29	4	8.00	16	1.41					MSB/CL			
Site 3 / T980722.07	4	4	24	20	8.0	015	15.3	015	28	21	7.91	16	0.95					SW/SB			
Site 3 / T980722.07	5	5	25	3	7.9	15	15.0	15	29	21	7.99	16	1.87	16	6.29						
Site 3 / T980722.07	6	1	21	20	8.1	2	15.2	2	29	21	7.89	16	1.58					SB/SC			
Site 3 / T980722.07	7	2	22	20	7.5	15	15.5	15	29	21	7.97	16	2.75					SB			
Site 3 / T980722.07	8	3	23	20	8.7	2	15.0	2	30	4	8.17	16	3.64					CL/MSB			
Site 3 / T980722.07	9	4	24	20	8.0	2	16.5	2	29	4	8.24	16	~~8.24~~ 12.28					MSB			
Site 3 / T980722.07	10	1	21	20	7.9	2	15.7	2	29	4	8.19	16	1.82	16	5.46			MSB			
		2	22		7.8		15.7		29		8.07		2.23								
		3	23		7.9		15.9		29		8.13		2.08								
		4	24		8.0		15.9		30		8.18		2.63								
		5	25	20	8.0	2	16.0	2	29	4	8.26	16	1.88	16				MSB			

131158

*08/08/98 MSB

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
ACOE L.A.	L.A.	0719-019	Dr. Paul Krause	Tiburon 15 deg. room	ASTM97/USCOE91	Eohaustorius estaurius	<5

SURVIVAL DATA

CLIENT/ MEC ID	REP	JAR #	INITIAL #	DAY 1 DATE 07/31/98 TECHNICIAN CL		DAY 2 DATE 08/01/98 TECHNICIAN MSB		DAY 3 DATE 08/02/98 TECHNICIAN MSB		DAY 4 DATE 08/03/98 TECHNICIAN SO		DAY 5 DATE 08/04/98 TECHNICIAN SM		DAY 6 DATE 08/05/98 TECHNICIAN SB		DAY 7 DATE 08/06/98 TECHNICIAN SB		DAY 8 DATE 08/07/98 TECHNICIAN CL		DAY 9 DATE 08/08/98 TECHNICIAN MSB		DAY 10 DATE 08/09/98 TECHNICIAN DaMSB		NUMBER REMAINING
				#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	
Control A / T980722.08	1	1		0	0	0	0	0	0	0	0	0	0	0	*40	0	0	0	0	0	0		20	20
	2	2		0	0									0	20			0	0			0	20	20
	3	3		0	0									0	20							0	20	20
	4	4		0	0									0	20								20	20
	5	5		0	0		0	0	0			0	0	0	10								20	20
Reference / T980722.02	1	6		0	0		0	0	0	0	0	0	0	0	0	0	0	0	0				20	20
	2	7		0	1					0				0	0								19	19
	3	8		0	0					0				0	0								18	18
	4	9		0	0					0				0	0								20	20
	5	10		0	0		0	0	0	1		0	0	0	10							0	19	19
Site 1 - Top / T980722.05	1	11		0	*40		0	0	0	0	0	0	0	0	0	0	0	0	0			2	7	7
	2	12		0	3		0							0	6	1	0	0	0			2	16	16
	3	13		0	0		1		0					0	0	1	0	0	0			2	11	11
	4	14		0	6		0		0					0	0	0	0	0	0			2	8	7
	5	15		0	4		1	0	1			0	0	0	1	0	0	0	3			3	13	13
Site 1 - Bottom / T980722.06	1	16		0	2		0	0	0	0	0	0	1	6	4	0	2	0	1			4	14	14
	2	17		0	2	0	2		2		3		2	0	3	0	2	0	0				12	12
	3	18		0	0	0	1		2		2		1	0	3	0	0					2	17	17
	4	19		0	2	0	1		0		2		1	0	2	0	2					1	16	15
	5	20		0	2	0	0	0	2	0	0	0	1	0	1	0	2				0		14	14
Site 3 / T980722.07	1	21		0	7	0	0	0	0	0	0	0	1	0	0	0	0	0	1				20	20
	2	22		0	0				1				0	0	0	0	3	0	0		0		20	20
	3	23		0	0				0				0	0	0	0	2	0	1				19	19
	4	24		0	0				0				*3	0	0	0	1	0	1				18	18
	5	25		0	0	0	0	0	1			0	1	0	0	0	0	0	0	0	0		20	20
/	1	26																						
	2	27																						
	3	28																						
	4	29																						
	5	30																						

131159

*CL 07/31/98

*6 seen collected

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A. River	Eohaustorius estaurius	Tiburon 15 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	03Aug98	1500	07Aug98	1500

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	15±2	30±2	> 5.0	< 4.0	Bodega Seawater	N.A.	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	0	mg/L	0	All	20.0	8.0	2.0	15.4	2.0	28.0	21.0	8.0	SB		
Ref.Tox.-cadmium	0	mg/L	4	1	3.0	8.6	15.0	15.3	15.0	29.0	4.0	8.0	SC/CL		
				2	3.0	8.6		14.9		29.0	4.0	8.0	SC/CL		
				3											
				Avg											
Ref.Tox.-cadmium	1.6	mg/L	0	All	20.0	8.0	2.0	15.3	2.0	28.0	21.0	8.1			
Ref.Tox.-cadmium	1.6	mg/L	4	1	3.0	8.5	2.0	14.9	2.0	29.0	4.0	8.0			
				2	3.0	8.6		14.7		29.0	4.0	8.0			
				3											
				Avg											
Ref.Tox.-cadmium	3.2	mg/L	0	All	20.0	8.1	2.0	15.3	2.0	28.0	21.0	8.1			
Ref.Tox.-cadmium	3.2	mg/L	4	1	3.0	8.2	2.0	14.7	2.0	29.0	4.0	8.0	SC/CL		
				2	3.0	8.1		14.7		29.0	4.0	8.0	SC/CL		
				3											
				Avg											
Ref.Tox.-cadmium	6.4	mg/L	0	All	20.0	8.2	2.0	15.2	2.0	28.0	21.0	8.1			
Ref.Tox.-cadmium	6.4	mg/L	4	1	3.0	8.1	2.0	14.7	2.0	29.0	4.0	8.0	SC/CL		
				2	3.0	8.1		14.6		29.0	4.0	8.0	SC/CL		
				3											
				Avg											
Ref.Tox.-cadmium	12.8	mg/L	0	All	20.0	8.2	2.0	15.2	2.0	28.0	21.0	8.1			
Ref.Tox.-cadmium	12.8	mg/L	4	1	3.0	7.9	2.0	14.5	2.0	29.0	4.0	8.0	SC/CL		
				2	3.0	8.0		14.5		28.0	4.0	8.0	SC/CL		
				3											
				Avg											
Ref.Tox.-cadmium	.	mg/L	0	All											
Ref.Tox.-cadmium	.	mg/L	4	1											
				2											
				3											
				Avg											

10 DAY SOLID PHASE TEST DATA SHEET 3 - REF TOX

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	SPECIES	ACCLM.MORT.
ACOE	L.A. River	0719-019	Eohaustorius estaurius	< 5%

PROJECT MANAGER	MEC LABORATORY	PROTOCOL
Dr. Paul Krause	Tiburon 15 deg. room	ASTM 1997

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY

N = normal; LOE= lose of equilibrium; Q = quiescent; SUR= surfacing; DC = discoloration; OB = on bottom; J = jumper; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 04Aug98 TECHNICIAN #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 05Aug98 TECHNICIAN #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 06Aug98 TECHNICIAN #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 07Aug98 TECHNICIAN #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.-cadmium	0	mg/L	1	8	8	0	N	8	0	N	8	0	N	8	0	N
			2	8	8	0	N	8	0	N	8	0	N	8	0	N
			3													
			4													
			5													
Ref.Tox.-cadmium	1.6	mg/L	1	8	8	0	2SUR	7	1	2SUR	7	0	1SUR	7	0	N
			2	8	8	0	1SUR	8	0	N	8	0	N	7	0	1NB
			3													
			4													
			5													
Ref.Tox.-cadmium	3.2	mg/L	1	8	8	0	1Q	8	0	N	8	0	N	8	0	N
			2	8	8	0	1Q	7	1	1SUR	7	0	N	7	0	N
			3													
			4													
			5													
Ref.Tox.-cadmium	6.4	mg/L	1	8	8	0	1SUR	8	0	1SUR	6	2	1Q	6	0	2T
			2	8	8	0	1SUR	8	0	1SUR	8	0	N	8	0	N
			3													
			4													
			5													
Ref.Tox.-cadmium	12.8	mg/L	1	8	7	1	1Q	6	1	1SUR/2Q	5	1	1Q	5	0	2Q
			2	8	8	0	2Q	8	0	1SUR/1Q	7	1	N	6	1	1Q
			3													
			4													
			5													
Ref.Tox.-cadmium	.	mg/L	1													
			2													
			3													
			4													
			5													

Acute Amphipod Test-96 Hr Survival

Start Date:	8/3/98	Test ID:	719-19eerf	Sample ID:	REF-Ref Toxicant
End Date:	8/7/98	Lab ID:	CAMEC-MEC Analytical Sys	Sample Type:	CDCL-Cadmium chloride
Sample Date:	8/3/98	Protocol:	ASTM 87	Test Species:	Ee-E.estuarius
Comments:					

Conc-ug/L	1	2
D-Control	1.0000	1.0000
1.6	0.8750	0.8750
3.2	1.0000	0.8750
6.4	0.7500	1.0000
12.8	0.6250	0.7500

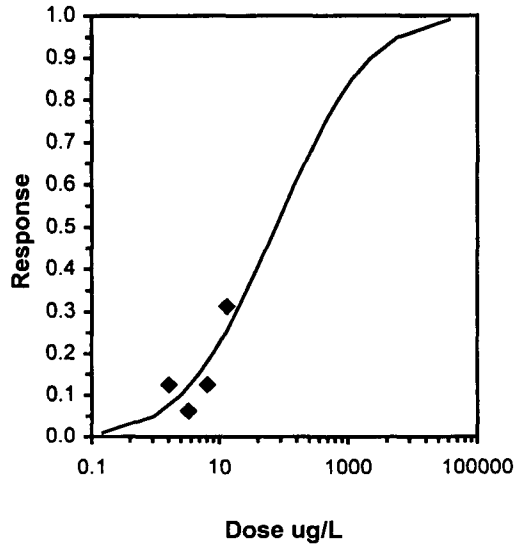
Conc-ug/L	Mean	N-Mean		Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	1.39309	0	16	16	2			0	16
1.6	0.8750	0.8750	1.20943	2	14	16	2	0.2419	0.0500	2	16
3.2	0.9375	0.9375	1.30126	1	15	16	2	0.5000	0.0500	1	16
6.4	0.8750	0.8750	1.22014	2	14	16	2	0.2419	0.0500	2	16
*12.8	0.6875	0.6875	0.97947	5	11	16	2	0.0217	0.0500	5	16

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	6.4	12.8	9.05097	

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	0.86361	0.59166	-0.296	2.02326	0	1.66704	5.99148	0.43	1.87348	1.15793	3
Intercept	3.38204	0.47439	2.45225	4.31184							
TSCR											

Point	Probits	ug/L	95% Fiducial Limits
EC01	2.674	0.15126	
EC05	3.355	0.9308	
EC10	3.718	2.45207	
EC15	3.964	4.71372	
EC20	4.158	7.92397	
EC25	4.326	12.3729	
EC40	4.747	38.0298	
EC50	5.000	74.728	
EC60	5.253	146.839	
EC75	5.674	451.332	
EC80	5.842	704.731	
EC85	6.036	1184.68	
EC90	6.282	2277.36	
EC95	6.645	5999.45	
EC99	7.326	36917.8	



MEC ANALYTICAL SYSTEMS, INC.

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE	L.A. River	Eohaustorius estaurius	Tiburon 15 deg. room	ASTM 1997

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	~~30Jul98~~ Aug03 1998	1500	03Aug98	1500

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	15±2	30±2	> 5.0	< 4.0	Bodega Seawater	N.A.	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	0	mg/L	0	All	20.0	8.0	2.0	15.4	2.0	28.0	21.0	8.0	SB		
Ref.Tox.-cadmium	0	mg/L	4	1	3.0	8.6	15.0	15.3	15.0	29.0	4.0	8.0	SC/CL		
				2	3.0	8.6		14.9		29.0	4.0	8.0	SC/CL		
				3											
				4											
				5											
Ref.Tox.-cadmium	1.6	mg/L	0	All	20.0	8.0	2.0	15.3	2.0	28.0	21.0	8.1			
Ref.Tox.-cadmium	1.6	mg/L	4	1	3.0	8.5	2.0	14.9	2.0	29.0	4.0	8.0			
				2	3.0	8.6		14.7		29.0	4.0	8.0			
				3											
				4											
				5											
Ref.Tox.-cadmium	3.2	mg/L	0	All	20.0	8.1	2.0	15.3	2.0	28.0	21.0	8.1			
Ref.Tox.-cadmium	3.2	mg/L	4	1	3.0	8.2	2.0	14.7	2.0	29.0	4.0	8.0	SC/CL		
				2	3.0	8.1		14.7		29.0	4.0	8.0	SC/CL		
				3											
				4											
				5											
Ref.Tox.-cadmium	6.4	mg/L	0	All	20.0	8.2	2.0	15.2	2.0	28.0	21.0	8.1			
Ref.Tox.-cadmium	6.4	mg/L	4	1	3.0	8.1	2.0	14.7	2.0	29.0	4.0	8.0	SC/CL		
				2	3.0	8.1		14.6		29.0	4.0	8.0	SC/CL		
				3											
				4											
				5											
Ref.Tox.-cadmium	12.8	mg/L	0	All	20.0	8.2	2.0	15.2	2.0	28.0	21.0	8.1			
Ref.Tox.-cadmium	12.8	mg/L	4	1	3.0	7.9	2.0	14.5	2.0	29.0	4.0	8.0	SC/CL		
				2	3.0	8.0		14.5		28.0	4.0	8.0	SC/CL		
				3											
				4											
				5											
Ref.Tox.-cadmium	.	mg/L	0	All											
Ref.Tox.-cadmium	.	mg/L	4	1											
				2											
				3											
				4											
				5											

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
LACOE	L.A.River	E. eustorius	Tiburon Tiburon 15 degree room	

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-003	PK	03Aug98	1500	07Aug98	1500

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	15±2	30±2	> 5.0	< 4.0			cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 preserv.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	0	mg/L	0	All	020	8.0	002	~~28.5~~ 15.3	002	28	021	7.95			SB		
				1	~~7.7~~		~~15~~	~~16.4~~	~~15~~	~~28~~	~~21~~	~~8.05~~			SW		
Ref.Tox.-cadmium	0	mg/L	4	1	~~20~~ 2	8.16	15	15.3	15	29	21	8.01			~~SB~~ SB/CL		
				2	3	8.16		14.9		29	4	8.04			SW/CL		
Ref.Tox.-cadmium	~~2 mg/L~~		0	All	020	8.0	002	15.3	002	28	021	8.05					
				1	~~7.6~~		~~14.9~~		~~25~~		~~8.03~~						
Ref.Tox.-cadmium	1.6 ~~2 mg/L~~		4	1	~~20~~ 2	8.5	2	14.9	2	29	4	8.03					
				2	3	8.16		14.7		29	4	8.03					
Ref.Tox.-cadmium	~~4 mg/L~~		0	All	020	8.1	002	15.3	002	28	021	8.05					
				1	~~7.6~~			14.6		~~24~~		~~8.04~~					
Ref.Tox.-cadmium	3.2 ~~4 mg/L~~		4	1	~~20~~ 2	8.2	2	14.7	2	29	4	8.04			SB/CL		
				2	3	8.1		14.7		29	4	8.03			SB/CL		
Ref.Tox.-cadmium	~~8 mg/L~~		0	All	020	8.2	002	15.2	002	28	021	8.09					
				1	~~7.6~~			14.4		~~28~~		~~8.07~~					
Ref.Tox.-cadmium	6.4 ~~8 mg/L~~		4	1	~~20~~ 3	8.1	2	14.7	2	29	4	8.03			SB/CL		
				2	3	8.1		14.6		29	4	8.04			SB/CL		
Ref.Tox.-cadmium	~~16 mg/L~~		0	All	020	8.2	002	15.2	002	28	021	8.09					
				1	~~7.7~~			14.4		~~29~~		~~8.05~~					
Ref.Tox.-cadmium	12.8 ~~16 mg/L~~		4	1	~~20~~ 2	7.9	2	14.5	2	29	4	8.04			SB/CL		
				2	3	8.0		14.5		28	4	8.04			SB/CL		
Ref.Tox.-cadmium	.	mg/L	0	All													
				1													
Ref.Tox.-cadmium	.	mg/L	4	2													
				3													

10 DA. SOLID PHASE TEST DATA S. EET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	SPECIES	ACCLM.MORT.
LACOE		0719-003	E. eustorius	<5

PROJECT MANAGER	MEC LABORATORY	PROTOCOL
PK	Tiburon Tiburon 15 degree room	

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; DC = discoloration; LOE = loss of equilibrium; OB = on bottom; Q = quiescent; J = jumper; SUR = surfacing; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 08/04/98 TECHNICIAN SB #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 08/05/98 TECHNICIAN CL/SB #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 08/06/98 TECHNICIAN SB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 08/07/98 TECHNICIAN CL #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.-cadmium	0	mg/L	1	8	8	0	N	8	0	N	8	0	N	8	0	N
			2	8	8	0	N	8	0	N	8	0	N	8	0	N
			3													
			A													
			B													
Ref.Tox.-cadmium	1.6 ~~2 mg/L~~		1	8	8	0	2SUR	7	1	2SUR	7	0	1SUR	7	0	N
			2		8	0	1SUR	8	0	N	8	0	N	7	0	1NB
			3													
			A													
			B													
Ref.Tox.-cadmium	3.2 ~~4 mg/L~~		1		8	0	1Q	8	0	N	8	0	N	8	0	N
			2		8	0	1Q	7	1	1SUR	7	0	N	7	0	N
			3													
			A													
			B													
Ref.Tox.-cadmium	6.4 ~~8 mg/L~~		1		8	0	1SUR	8	0	1SUR	6	2	1Q	6	0	2T
			2		8	0	1SUR	8	0	1SUR	8	0	N	8	0	N
			3													
			A													
			B													
Ref.Tox.-cadmium	12.8 ~~16 mg/L~~		1		*~~8~~ 7	0 1	1Q	6	1	1SUR 2Q	5	1	1Q	5	0	2Q
			2		8	0	2Q	8	0	1SUR 1Q	7	1	N	6	1	1Q
			3													
			A													
			B													
Ref.Tox.-cadmium	~~mg/L~~		1													
			2													
			3													
			A													
			B													

*SB @ 8/4/98

10 DAY SOLID PHASE TEST
INTERACTIVE DATA SETUP

GENERAL

CLIENT:	AOEC - L. A.
PROJECT:	L. A. River
MEC JOB NUMBER:	0719-019
PROJECT MANAGER:	Dr. Paul Krause
TEST SPECIES:	*Eohaustorius estaurius*
TEST PROTOCOL:	ASTM 97/USCOE91
MEC LABORATORY:	Tiburon
TEST LOCATION:	15 deg. room
TEST START DATE:	05Aug98
TEMP. RECORDER#:	E
DILUTION WATER BATCH:	Bodega Seawater
FEEDING INFORMATION:	none
WATER RENEWAL INFO:	*none*

FIELD SAMPLE

DATE RECEIVED AT MEC:	22Jul98
SAMPLE STORAGE:	4 Degrees Celsius - dark
SAMPLE TREATMENT:	*press sieved (1.0 mm)*
TEST CHAMBER:	1 L mason jars
EXPOSURE VOLUME:	*2 cm sediment/ 900 mL water*
REFERENCE TOXICANT:	cadmium
REF. TOX. MATERIAL:	*cadmium chloride*

REFTOX CONC *(mg/ L)*

0
2
4
8
16
32

	CLIENT SAMPLE ID	MEC SAMPLE ID
1	Reference	T980722.02
2	Site 2 Top	T980722.03
3	Site 2 Bottom	T980722.04
4	.	.
5	.	.
6	.	.
7	.	.
8	.	.
9	.	.
10	.	.
11	.	.
12	.	.
13	.	.
14	.	.
15	.	.
16	.	.
17	.	.
18	.	.
19	.	.
20	.	.
21	.	.
22	.	.
23	.	.
24	.	.
25	.	.
26	.	.
27	.	.
28	.	.
29	.	.
30	.	.
31	.	.
32	.	.
33	.	.
34	.	.
35	.	.

CONTROL ID	MEC CONTROL ID
Control A	T980804
.	.
.	.
.	.
.	.

10 DAY SOLID PHASE TEST DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
AOEC - L. A.	L. A. River	0719-019	Dr. Paul Krause	Tiburon 15 deg. room	ASTM 97/USCOE91

GENERAL TEST INFORMATION

SPECIES: *Eohaustorius estaurius*		
SUPPLIER: Northwest Aquatics		ORGANISM BATCH NO.:
DATE RECEIVED: 04Aug98	TIME RECEIVED: 1100	ARRIVAL VIA: UPS
QUANITY ORDERED:	AGE: Juvenile	SPECIES CODE: EE080498
GENERAL CONDITION: Rec dry. Upon receipt, containers filled 30 ppt.		

SAMPLE STORAGE: 4 Degrees Celsius - dark
SEDIMENT TREATMENT: press sieved (1.0 mm)
CONTROL SEDIMENT ID: T980804.01
CONTROL SEDIMENT SUPPLIER: Northwest Aquatics
TEST CHAMBERS: 1 L mason jars

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
04Aug98	1100	7.9	15.0	26.0	7.4	NA			NA	NA	NA	ARRIVAL	SB
	1400		15.5	34.0	8.0								

ACCLIMATION MORTALITY: #VALUE!

10 DAY SOLID PHASE TEST

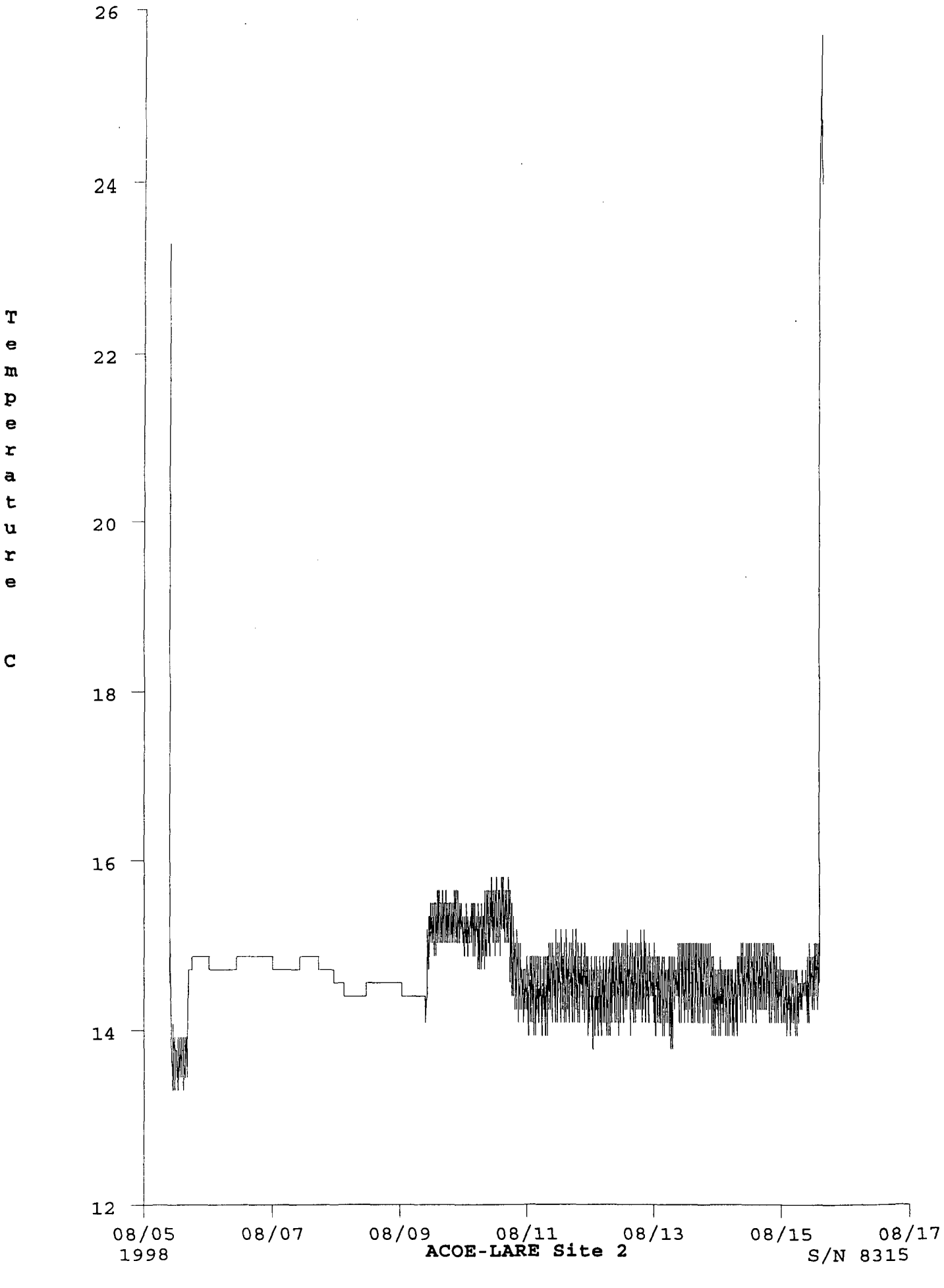
MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB No.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
AOEC - L. A.	L. A. River	0719-019	Dr. Paul Krause	Tiburon 15 deg. room	ASTM 97/USCOE91

RANDOMIZATION WORKSHEET

SORTED BY CLIENT/ MEC ID			
CLIENT ID	MEC ID	REP	JAR#
Control A	T980804	1	1
Control A	T980804	2	2
Control A	T980804	3	3
Control A	T980804	4	4
Control A	T980804	5	5
Reference	T980722.02	1	6
Reference	T980722.02	2	7
Reference	T980722.02	3	8
Reference	T980722.02	4	9
Reference	T980722.02	5	10
Site 2 Top	T980722.03	1	11
Site 2 Top	T980722.03	2	12
Site 2 Top	T980722.03	3	13
Site 2 Top	T980722.03	4	14
Site 2 Top	T980722.03	5	15
Site 2 Bottom	T980722.04	1	16
Site 2 Bottom	T980722.04	2	17
Site 2 Bottom	T980722.04	3	18
Site 2 Bottom	T980722.04	4	19
Site 2 Bottom	T980722.04	5	20

SORTED BY JAR NUMBER			
CLIENT ID	MEC ID	REP	JAR#


26
24
22
20
18
16
14
12
Temperature C
08/05
1998
08/07
08/09
08/11
08/13
08/15
08/17
ACOE-LARE Site 2
S/N 8315

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
AOEC - L. A.	L. A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM 97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	05Aug98	1600	15Aug98	1340

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Seawater	E

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
Control A / T980804	0	1	1	20.0	8.1	2.0	15.8	2.0	28.0	21.0	8.0	16.0	0.30		N.T.			CL			
		2	2	20.0	8.1	2.0	18.8	2.0	28.0	21.0	8.0							CL			
		3	3	20.0	8.1	2.0	18.8	2.0	28.0	21.0	8.0							CL			
		4	4	20.0	8.1	2.0	15.5	2.0	28.0	21.0	8.0							CL			
		5	5	20.0	8.1	2.0	15.5	2.0	28.0	21.0	8.0							CL			
Control A / T980804	1	1	1	20.0	7.8	15.0	15.6	15.0	28.0	21.0	8.1	16.0	<.10					SB			
Control A / T980804	2	2	2	20.0	8.7	2.0	15.2	2.0	29.0	4.0	8.0	16.0	0.36					CL/MJB			
Control A / T980804	3	3	3	20.0	7.9	2.0	15.7	2.0	29.0	4.0	8.2	16.0	0.18					MJB			
Control A / T980804	4	4	4	20.0	8.2	2.0	15.8	2.0	29.0	4.0	8.2	16.0	0.22					MJB			
Control A / T980804	5	5	5	20.0	7.7	2.0	15.9	2.0	29.0	4.0	8.0	16.0	0.24		N. T.			CL			
Control A / T980804	6	1	1	3.0	7.8	2.0	15.9	2.0	30.0	4.0	8.0	16.0	<0.10					CL			
Control A / T980804	7	2	2	3.0	8.3	2.0	15.9	2.0	30.0	4.0	8.0	16.0	<0.10					CL			
Control A / T980804	8	3	3	20.0	10.3	2.0	15.9	2.0	28.0	21.0	7.5	16.0	<0.10					SLN/SC			
Control A / T980804	9	4	4	20.0	8.4	2.0	15.6	2.0	30.0	4.0	8.0	16.0	0.26					CL			
Control A / T980804	10	1	1	20.0	8.2	2.0	15.4	2.0	30.0	4.0	8.1	16.0	<0.10		N.T.			MJB			
		2	2	20.0	8.2	2.0	15.6	2.0	30.0	4.0	8.1	16.0	<0.10		N.T.			MJB			
		3	3	20.0	7.9	2.0	15.6	2.0	29.0	4.0	8.2	16.0	<0.10		N.T.			MJB			
		4	4	20.0	7.9	2.0	15.8	2.0	30.0	4.0	8.1	16.0	0.18		N.T.			MJB			
		5	5	20.0	8.0	2.0	15.7	2.0	30.0	4.0	8.1	16.0	<0.10		N.T.			MJB			

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
AOEC - L. A.	L. A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM 97/USCOE91
MEC JOB NUMBER	**PROJECT MANAGER**	**TEST START DATE** / **TIME**	**TEST END DATE**	**TIME**
0719-019	Dr. Paul Krause	05Aug98 / 1600	15Aug98	1340

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Seawater	E

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
Reference / T980722.02	0	1	6	20.0	8.0	2.0	15.7	2.0	28.0	21.0	8.0	16.0	0.39		N.T.			CL			
		2	7	20.0	8.0	2.0	15.9	2.0	28.0	21.0	8.0							CL			
		3	8	20.0	8.1	2.0	15.8	2.0	28.0	21.0	8.0							CL			
		4	9	20.0	8.0	2.0	15.4	2.0	28.0	21.0	8.0							CL			
		5	10	20.0	7.9	2.0	15.5	2.0	28.0	21.0	8.1							CL			
Reference / T980722.02	1	1	6	20.0	7.8	18.0	15.4	18.0	29.0	21.0	8.1	16.0	0.51					SB			
Reference / T980722.02	2	2	7	20.0	8.8	2.0	15.8	3.0	29.0	4.0	8.1	16.0	0.75					CL/MJB			
Reference / T980722.02	3	3	8	20.0	7.8	2.0	15.9	3.0	29.0	4.0	8.2	16.0	0.10					MJB			
Reference / T980722.02	4	4	9	20.0	8.1	2.0	15.6	3.0	29.0	4.0	8.2	16.0	<0.10					MJB			
Reference / T980722.02	5	5	10	20.0	8.0	2.0	16.0	3.0	29.0	4.0	8.2	16.0	1.30		N.T.			CL			
Reference / T980722.02	6	1	6	3.0	7.9	2.0	15.3	3.0	29.0	4.0	8.2	16.0	1.45					CL			
Reference / T980722.02	7	2	7	3.0	8.0	2.0	15.5	3.0	30.0	4.0	8.1	16.0	1.21					CL			
Reference / T980722.02	8	3	8	20.0	10.5	2.0	15.4	3.0	30.0	21.0	7.9	16.0	1.18					SLN/SC			
Reference / T980722.02	9	4	9	20.0	8.8	2.0	15.4	3.0	31.0	21.0	8.2	16.0	2.05					CL			
Reference / T980722.02	10	1	6	20.0	8.2	2.0	15.6	3.0	30.0	4.0	8.3	16.0	1.29		N.T.			MJB			
		2	7	20.0	8.2	2.0	15.6	3.0	30.0	4.0	8.2	16.0	1.08		N.T.			MJB			
		3	8	20.0	8.1	2.0	15.7	3.0	30.0	4.0	8.2	16.0	0.91		N.T.			MJB			
		4	9	20.0	8.0	2.0	15.6	3.0	30.0	4.0	8.3	16.0	1.16		N.T.			MJB			
		5	10	20.0	8.1	2.0	15.9	3.0	30.0	4.0	8.2	16.0	0.74		N.T.			MJB			

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
AOEC - L. A.	L. A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM 97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	05Aug98	1600	15Aug98	1340

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L) > 5.0	TEMP (C) 15±2	SALINITY (ppt) 30±2	pH 8.0±0.5	NH3 (mg/L) < 4.0		DILUTION WATER BATCH Bodega Seawater				TEMP.RECDR./HOBO# E		

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
Site 2 Bottom / T980722.04	0	1	16	20.0	7.6	2.0	15.5	2.0	28.0	21.0	7.7	16.0	0.14	16.00	11.00			CL			
		2	17	20.0	7.8	2.0	15.3	2.0	28.0	21.0	7.7							CL			
		3	18	20.0	7.8	2.0	15.2	2.0	28.0	21.0	7.7							CL			
		4	19	20.0	7.8	2.0	15.4	2.0	28.0	21.0	7.7							CL			
		5	20	20.0	7.6	2.0	15.2	2.0	28.0	21.0	7.7							CL			
Site 2 Bottom / T980722.04	1	1	16	20.0	7.6	15.0	15.3	15.0	28.0	21.0	8.1	16.0	0.61					SB			
Site 2 Bottom / T980722.04	2	2	17	20.0	8.5	2.0	15.3	2.0	29.0	4.0	8.0	16.0	1.57					CL/MJB			
Site 2 Bottom / T980722.04	3	3	18	20.0	7.9	2.0	16.4	2.0	29.0	4.0	8.1	16.0	0.37					MJB			
Site 2 Bottom / T980722.04	4	4	19	20.0	8.0	2.0	15.6	2.0	29.0	4.0	8.2	16.0	0.18					MJB			
Site 2 Bottom / T980722.04	5	5	20	20.0	8.1	2.0	16.0	2.0	29.0	4.0	8.1	16.0	1.77	16.00	5.20			CL			
Site 2 Bottom / T980722.04	6	1	16	3.0	7.3	2.0	15.0	2.0	30.0	4.0	8.1	16.0	0.37					CL			
Site 2 Bottom / T980722.04	7	2	17	3.0	7.9	2.0	15.0	2.0	30.0	4.0	8.1	16.0	0.96					CL			
Site 2 Bottom / T980722.04	8	3	18	20.0	7.6	2.0	15.0	2.0	30.0	21.0	8.0	16.0	0.12					SLN/SC			
Site 2 Bottom / T980722.04	9	4	19	20.0	8.6	2.0	15.2	2.0	29.0	21.0	8.0	16.0	0.24					CL			
Site 2 Bottom / T980722.04	10	1	16	20.0	8.3	2.0	15.4	2.0	30.0	4.0	8.0	16.0	0.48	16.00	7.28			MJB			
		2	17	20.0	8.1	2.0	15.6	2.0	30.0	4.0	8.0	16.0	0.37					MJB			
		3	18	20.0	8.4	2.0	15.6	2.0	30.0	4.0	8.1	16.0	0.56					MJB			
		4	19	20.0	8.4	2.0	15.8	2.0	30.0	4.0	8.0	16.0	0.86					MJB			
		5	20	20.0	8.2	2.0	15.7	2.0	30.0	4.0	8.0	16.0	0.32					MJB			

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
AOEC - L. A.	L. A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM 97/USCOE91
MEC JOB NUMBER	**PROJECT MANAGER**	**TEST START DATE** / **TIME**	**TEST END DATE**	**TIME**
0719-019	Dr. Paul Krause	05Aug98 / 1600	15Aug98	1340

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Seawater	E

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN			WATER RENEWAL
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				
Site 2 Top / T980722.03	0	1	11	20.0	7.8	2.0	15.4	2.0	28.0	21.0	7.7	16.0	0.36	16.00	9.70			CL			
		2	12	20.0	7.8	2.0	15.7	2.0	28.0	21.0	7.8							CL			
		3	13	20.0	7.7	2.0	15.7	2.0	28.0	21.0	7.7							CL			
		4	14	20.0	7.6	2.0	15.4	2.0	28.0	21.0	7.8							CL			
		5	15	20.0	7.6	2.0	15.5	2.0	28.0	21.0	7.9							CL			
Site 2 Top / T980722.03	1	1	11	20.0	7.7	18.0	15.6	18.0	28.0	21.0	8.0	16.0	0.94					SB			
Site 2 Top / T980722.03	2	2	12	20.0	8.5	2.0	15.8	2.0	29.0	4.0	7.9	16.0	1.03					CL/MJB			
Site 2 Top / T980722.03	3	3	13	20.0	7.6	2.0	16.2	2.0	29.0	4.0	8.2	16.0	1.07					MJB			
Site 2 Top / T980722.03	4	4	14	20.0	7.7	2.0	15.7	2.0	29.0	4.0	8.2	16.0	0.91					MJB			
Site 2 Top / T980722.03	5	5	15	20.0	8.0	2.0	16.4	2.0	29.0	4.0	8.0	16.0	1.02		NT			CL			
Site 2 Top / T980722.03	6	1	11	3.0	7.3	2.0	15.0	2.0	29.0	4.0	8.1	16.0	1.54					CL			
Site 2 Top / T980722.03	7	2	12	3.0	7.7	2.0	15.2	2.0	30.0	4.0	8.0	16.0	1.74					CL			
Site 2 Top / T980722.03	8	3	13	20.0	10.4	2.0	15.5	2.0	29.0	21.0	8.0	16.0	0.99					SLN/SC			
Site 2 Top / T980722.03	9	4	14	20.0	8.5	2.0	15.4	2.0	30.0	4.0	8.2	16.0	2.05					CL			
Site 2 Top / T980722.03	10	1	11	20.0	7.9	2.0	15.6	2.0	30.0	4.0	8.2	16.0	0.96	16.00	5.14			MJB			
		2	12	20.0	7.9	2.0	15.6	2.0	30.0	4.0	8.2	16.0	1.11					MJB			
		3	13	20.0	8.1	2.0	15.8	2.0	30.0	4.0	8.2	16.0	1.05					MJB			
		4	14	20.0	8.1	2.0	15.8	2.0	29.0	4.0	8.2	16.0	0.84					MJB			
		5	15	20.0	8.2	2.0	15.6	2.0	30.0	4.0	8.2	16.0	0.79					MJB			

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
AOEC - L. A.	L. A. River	0719-019	Dr. Paul Krause	Tiburon 15 deg. room	ASTM 97/USCOE91	Eohaustorius estaurius	<5

ENDPOINT DATA & OBERSERVATIONS

				DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7		DAY 8		DAY 9		DAY 10				
				DATE 06Aug98		DATE 07Aug98		DATE 08Aug98		DATE 09Aug98		DATE 10Aug98		DATE 11Aug98		DATE 12Aug98		DATE 13Aug98		DATE 14Aug98		DATE 15Aug98				
				TECHNICIAN SB		TECHNICIAN CL		TECHNICIAN MSB		TECHNICIAN MSB		TECHNICIAN CL		TECHNICIAN CL		TECHNICIAN CL		TECHNICIAN CL		TECHNICIAN CL		TECHNICIAN MSB/CL				
CLIENT/ MEC ID	REP	JAR #	INITIA #	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	#DEAD	#SURF.	NUMBER REMAINING		
Control A / T980804	1	1	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19		
	2	2	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19		
	3	3	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20		
	4	4	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20		
	5	5	20	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	14	14		
Reference / T980722.02	1	6	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	18		
	2	7	20	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	20	20		
	3	8	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	18		
	4	9	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	19	19		
	5	10	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17		
Site 2 Top / T980722.03	1	11	20	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	5	5		
	2	12	20	0	3	0	6	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	8	8		
	3	13	20	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14		
	4	14	20	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6	6		
	5	15	20	0	3	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	10	10		
Site 2 Bottom / T980722.04	1	16	20	0	0	0	4	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	20	20		
	2	17	20	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	20	20		
	3	18	20	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	20	20		
	4	19	20	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	17	17		
	5	20	20	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	18	18		

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

Eohaustorius estuarius ACOE - L. A. L. A. River

WATER QUALITY

CLIENT SAMPLE ID	MEC SAMPLE ID	DISS.OXYGEN (mg/L)			DISS.OXYGEN (%SAT)	TEMPERATURE (°C)			SALINITY (ppt)			pH			OVERLYING NH_3 (mg/L)			INTER. NH_3 (mg/L)		
		Mean	Min	Max	Mean	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Ref.Tox.-cadmium	Ref.Tox.-cadmium	8.0	7.6	8.4	95.2	15.1	14.9	15.2	28.0	27.0	29.0	8.0	7.9	8.0	#DIV/0!	0.00	0.00			
Control A	T980804	8.2	7.7	10.3	99.8	16.0	15.2	18.8	29.0	28.0	30.0	8.0	7.5	8.2	0.25	0.18	0.36	#DIV/0!	0.00	0.00
Reference	T980722.02	8.2	7.8	10.5	99.5	15.6	15.3	16.0	29.2	28.0	31.0	8.1	7.9	8.3	1.01	0.10	2.05	#DIV/0!	0.00	0.00
Site 2 Top	T980722.03	8.0	7.3	10.4	96.7	15.6	15.0	16.4	29.0	28.0	30.0	8.0	7.7	8.2	1.09	0.36	2.05	7.42	5.14	9.70
Site 2 Bottom	T980722.04	8.0	7.3	8.6	96.0	15.4	15.0	16.4	29.1	28.0	30.0	8.0	7.7	8.2	0.59	0.12	1.77	7.83	5.20	11.00

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

ACOE - L. A. L. A. River

Eohaustorius estuarius

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	ENDPOINTS INITIAL	FINAL NO. ALIVE	% SURVIVAL	MEAN SURVIVAL
Ref.Tox.-cadmium	Ref.Tox.-cadmium	0 mg/L	1	10	10	100.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	0 mg/L	2	10	10	100.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	0 mg/L	3	10	10	100.0	100.0
Ref.Tox.-cadmium	Ref.Tox.-cadmium	0 mg/L	4				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	0 mg/L	5				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	2 mg/L	1	10	10	100.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	2 mg/L	2	10	10	100.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	2 mg/L	3	10	10	100.0	100.0
Ref.Tox.-cadmium	Ref.Tox.-cadmium	2 mg/L	4				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	2 mg/L	5				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	4 mg/L	1	10	10	100.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	4 mg/L	2	10	9	90.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	4 mg/L	3	10	10	100.0	96.7
Ref.Tox.-cadmium	Ref.Tox.-cadmium	4 mg/L	4				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	4 mg/L	5				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	8 mg/L	1	10	9	90.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	8 mg/L	2	10	10	100.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	8 mg/L	3	10	7	70.0	86.7
Ref.Tox.-cadmium	Ref.Tox.-cadmium	8 mg/L	4				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	8 mg/L	5				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	16 mg/L	1	10	8	80.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	16 mg/L	2	10	6	60.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	16 mg/L	3	10	7	70.0	70.0
Ref.Tox.-cadmium	Ref.Tox.-cadmium	16 mg/L	4				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	16 mg/L	5				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	32 mg/L	1	10	0	0.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	32 mg/L	2	10	0	0.0	
Ref.Tox.-cadmium	Ref.Tox.-cadmium	32 mg/L	3	10	0	0.0	0.0
Ref.Tox.-cadmium	Ref.Tox.-cadmium	32 mg/L	4				
Ref.Tox.-cadmium	Ref.Tox.-cadmium	32 mg/L	5				

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 10-Day solid phase test

ACOE - L. A. L. A. River

Eohaustorius estuarius

ENDPOINTS

CLIENT SAMPLE ID	MEC SAMPLE ID	CONCENTRATION	REP	INITIAL	FINAL NO. ALIVE	% SURVIVAL	MEAN SURVIVAL	
Control A	T980804		1	20	19	95.0		
Control A	T980804		2	20	19	95.0		
Control A	T980804		3	20	20	100.0	92.0	
Control A	T980804		4	20	20	100.0		
Control A	T980804		5	20	14	70.0		
Reference	T980722.02		1	20	18	90.0		
Reference	T980722.02		2	20	20	100.0		
Reference	T980722.02		3	20	18	90.0	92.0	
Reference	T980722.02		4	20	19	95.0		
Reference	T980722.02		5	20	17	85.0		
Site 2 Top	T980722.03		1	20	5	25.0		
Site 2 Top	T980722.03		2	20	8	40.0		
Site 2 Top	T980722.03		3	20	14	70.0	43.0	
Site 2 Top	T980722.03		4	20	6	30.0		
Site 2 Top	T980722.03		5	20	10	50.0		
Site 2 Bottom	T980722.04		1	20	20	100.0		
Site 2 Bottom	T980722.04		2	20	20	100.0		
Site 2 Bottom	T980722.04		3	20	20	100.0	95.0	
Site 2 Bottom	T980722.04		4	20	17	85.0		
Site 2 Bottom	T980722.04		5	20	18	90.0		

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE-L. A.	L.A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	05Aug98	1600	15Aug98	1340

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Seawater	E

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN	FEEDING		WATER
				meter	mg/L	meter	°C	meter	ppt	meter	unit	meter	mg/L	meter	mg/L	meter	mg/L		am	pm	RENEWAL
Control A / T980804	0	1	1	20	8.1	2	15.8	2	28	21	8.03	16	0.30		N.T.*			CL			
		2	2		8.1		15.8		28		8.03										
		3	3		8.1		15.8		28		8.04										
		4	4		8.1		15.5		28		8.04										
		5	5		8.1		15.5		28		8.00										
Control A / T980804	1	1	1	20	7.8	15	15.6	15	28	21	8.05	16	<.10					SCS			
Control A / T980804	2	2	2	20	8.7	2	15.2	2	29	4	8.04	16	0.36					CL/MSB			
Control A / T980804	3	3	3	20	7.9	2	15.7	2	29	4	8.15	16	0.18					MSB			
Control A / T980804	4	4	4	20	8.2	2	15.8	2	29	4	8.19	16	0.22					MSB			
Control A / T980804	5	5	5	20	7.7	2	15.9	2	29	4	8.04	16	0.24		N.T.			CL			
Control A / T980804	6	1	1	3	7.8	2	15.9	2	30	4	8.04	16	<0.10					CL			
Control A / T980804	7	2	2	3	8.3	2	15.9	2	30	4	8.02	16	<0.10					CL			
Control A / T980804	8	3	3	20	10.3	2	15.9	2	28	21	7.53	16	<0.10					SCN/SC			
Control A / T980804	9	4	4	20	8.4	2	15.6	2	30	4	8.04	16	0.26					CL			
Control A / T980804	10	1	1	20	8.2	2	15.4	2	30	4	8.11	16	<0.10		N.T.			MSB			
		2	2		8.2		15.6		30		8.08		<0.10								
		3	3		7.9		15.6		29		8.15		<0.10								
		4	4		7.9		15.8		30		8.12		0.18								
		5	5		8.0	2	15.7	2	30	4	8.10	16	<0.10		N.T.			MSB			

*CL 8/6/98

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1311196

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE-L. A.	L.A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	05Aug98	1600	15Aug98	1340

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Seawater	E

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN	FEEDING		WATER
				meter	mg/L	meter	°C	meter	ppt	meter	unit	meter	mg/L	meter	mg/L	meter	mg/L		am	pm	RENEWAL
Reference / T980722.02	0	1	6	20	8.0	2	15.7	2	28	21	8.03	16	0.39		N.T.			CL			
		2	7		8.0		15.9		28		8.03										
		3	8		8.1		15.8		28		7.98										
		4	9		8.0		15.4		28		8.01										
		5	10		7.9		15.5		28		8.05										
Reference / T980722.02	1	1	6	20	7.8	15	15.4	15	29	21	8.13	16	0.51					SB			
Reference / T980722.02	2	2	7	20	8.8	2	15.8	2	29	4	8.09	16	0.75					CL/MSB			
Reference / T980722.02	3	3	8	20	7.8	2	15.9	2	29	4	8.23	16	0.10					MSB			
Reference / T980722.02	4	4	9	20	8.1	2	15.6	2	29	4	8.18	16	<0.10					MSB			
Reference / T980722.02	5	5	10	20	8.0	2	16.0	2	29	4	8.15	16	1.30	16	~~5.41~~			CL			
Reference / T980722.02	6	1	6	3	7.9	2	15.3	2	29	4	8.15	16	1.45					CL			
Reference / T980722.02	7	2	7	3	8.0	2	15.5	2	30	4	8.13	16	1.21					CL			
Reference / T980722.02	8	3	8	20	10.5	2	15.4	2	30	21	7.92	16	1.18					SCM/SC			
Reference / T980722.02	9	4	9	20	8.8	2	15.4	2	31	21	8.21	16	2.05					CL			
Reference / T980722.02	10	1	6	20	8.2	2	15.6	2	30	4	8.31	16	1.29		N.T.			MSB			
		2	7		8.2		15.6		30		8.19		1.08								
		3	8		8.1		15.7		30		8.24		0.91								
		4	9		8.0		15.6		30		8.26		1.16								
		5	10	20	8.1	2	15.9	2	30	4	8.17	16	0.74		N.T.			MSB			

131200

*CL 8/10/98 (A)

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE-L. A.	L.A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	05Aug98	1600	15Aug98	1340

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Seawater	E

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN	FEEDING		WATER
				meter	mg/L	meter	°C	meter	ppt	meter	unit	meter	mg/L	meter	mg/L	meter	mg/L		am	pm	RENEWAL
Site 2 Top / T980722.03	0	1	11	20	7.8	2	15.4	2	28	21	7.72	16	0.36	16	9.7			CL			
		2	12		7.8		15.7		28		7.79										
		3	13		7.7		15.7		28		7.68										
		4	14		7.6		15.4		28		7.79										
		5	15		7.6		15.5		28		7.88										
Site 2 Top / T980722.03	1	1	11	20	7.7	15	15.6	15	28	4	8.04	16	0.94					SG			
Site 2 Top / T980722.03	2	2	12	20	8.5	2	15.8	2	29	4	7.90	16	1.03					CL/MSB			
Site 2 Top / T980722.03	3	3	13	20	7.6	2	16.2	2	29	4	8.16	16	1.07					MSB			
Site 2 Top / T980722.03	4	4	14	20	7.7	2	15.7	2	29	4	8.23	16	0.91					MSB			
Site 2 Top / T980722.03	5	5	15	20	8.0	2	16.4	2	29	4	8.03	16	1.02		NT			CL			
Site 2 Top / T980722.03	6	1	11	3	7.3	2	15.0	2	29	4	8.09	16	1.54					CL			
Site 2 Top / T980722.03	7	2	12	3	7.7	2	15.2	2	30	4	8.01	16	1.74					CL			
Site 2 Top / T980722.03	8	3	13	20	10.4	2	15.5	2	29	4	7.95	16	0.99					SLN/SG			
Site 2 Top / T980722.03	9	4	14	20	8.5	2	15.4	2	30	4	8.17	16	2.05					CL			
Site 2 Top / T980722.03	10	1	11	20	7.9	2	15.6	2	30	4	8.17	16	0.96	16	5.14			MSB			
		2	12		7.9		15.6		30		8.21		1.11								
		3	13		8.1		15.8		30		8.16		1.05								
		4	14		8.1		15.8		29		8.24		0.84								
		5	15	20	8.2	2	15.6	2	30	4	8.21	16	0.79					MSB			

1312012

10 DAY SOLID PHASE TEST DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE-L. A.	L.A. River	*Eohaustorius estaurius*	Tiburon 15 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	05Aug98	1600	15Aug98	1340

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALINITY (ppt)	pH	NH3 (mg/L)		DILUTION WATER BATCH	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5	< 4.0		Bodega Seawater	E

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN	FEEDING		WATER
				meter	mg/L	meter	°C	meter	ppt	meter	unit	meter	mg/L	meter	mg/L	meter	mg/L		am	pm	RENEWAL
Site 2 Bottom / T980722.04	0	1	16	20	7.6	2	15.5	2	28	21	7.69	16	0.14	16	11.0			CL			
		2	17		7.9		15.3		28		7.71										
		3	18		7.8		15.2		28		7.73										
		4	19		7.8		15.4		28		7.72										
		5	20		7.6		15.2		28		7.65										
Site 2 Bottom / T980722.04	1	1	16	20	7.14	15	15.3	15	28	21	8.05	16	0.101					SB			
Site 2 Bottom / T980722.04	2	2	17	20	8.5	2	15.3	2	29	4	8.01	16	1.57					CL/MSB			
Site 2 Bottom / T980722.04	3	3	18	20	7.9	2	16.4	2	29	4	8.13	16	0.37					MSB			
Site 2 Bottom / T980722.04	4	4	19	20	8.0	2	15.6	2	29	4	8.20	16	0.18					MSB			
Site 2 Bottom / T980722.04	5	5	20	20	8.1	2	16.0	2	29	4	8.07	16	1.77	16	5.20			CL			
Site 2 Bottom / T980722.04	6	1	16	3	7.3	2	15.0	2	30	4	8.05	16	0.37					CL			
Site 2 Bottom / T980722.04	7	2	17	3	7.9	2	15.0	2	30	4	8.08	16	0.96					CL			
Site 2 Bottom / T960722.04	8	3	18	20	7.6	2	15.0	2	30	21	7.98	16	0.12					SCW/SC			
Site 2 Bottom / T960722.04	9	4	19	20	8.6	2	15.2	2	29	4	8.04	16	0.24					CL			
Site 2 Bottom / T980722.04	10	1	16	20	8.3	2	15.4	2	30	4	8.04	16	0.48	16	7.88			MSB			
		2	17		8.1		15.6		30		7.98		0.37								
		3	18		8.4		15.6		30		8.06		0.56								
		4	19		8.4		15.8		30		8.01		0.86								
		5	20	20	8.2	2	15.7	2	30	4	7.96	16	0.32					MSB			

131202

10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	PROJECT MAN.	MEC LABORATORY	PROTOCOL	SPECIES	ACCLM.MORT.
ACOE-L. A.	L.A. River	0719-019	Dr. Paul Krause	Tiburon 15 deg. room	ASTM97/USCOE91	Eohaustorius estaurius	<5

SURVIVAL DATA

CLIENT/ MEC ID	REP	JAR #	INITIAL #	DAY 1 DATE 08/06/98 TECHNICIAN SB #DEAD	DAY 1 #SURF.	DAY 2 DATE 08/07/98 TECHNICIAN CL #DEAD	DAY 2 #SURF.	DAY 3 DATE 08/08/98 TECHNICIAN MSB #DEAD	DAY 3 #SURF.	DAY 4 DATE 08/09/98 TECHNICIAN MSB #DEAD	DAY 4 #SURF.	DAY 5 DATE 08/10/98 TECHNICIAN CL #DEAD	DAY 5 #SURF.	DAY 6 DATE 08/11/98 TECHNICIAN CL #DEAD	DAY 6 #SURF.	DAY 7 DATE 08/12/98 TECHNICIAN CL #DEAD	DAY 7 #SURF.	DAY 8 DATE 08/13/98 TECHNICIAN CL #DEAD	DAY 8 #SURF.	DAY 9 DATE 08/14/98 TECHNICIAN CL #DEAD	DAY 9 #SURF.	DAY 10 DATE 08/15/98 TECHNICIAN MSB/CL #DEAD	DAY 10 #SURF.	NUMBER REMAINING Relief
Control A / T980804	1	1	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		+8	19
	2	2	20									0	0										19	19
	3	3	20									0	0										20	20
	4	4	20									0	0										20	20
	5	5	20									1	1										14	14
Reference / T980722.02	1	6	20	0	0	0	0					0	0	0	0								18	18
	2	7	20									0	1										20	20
	3	8	20									0	0										18	18
	4	9	20									0	0									1	19	19
	5	10	20									0	0										17	17
Site 2 Top / T980722.03	1	11	20	0	2	0	0					0	0	0	2	0	0					5→	5	5
	2	12	20	0	3	0	6					0	0	0	0	1	2						8	8
	3	13	20	0	2	0	0					0	0	0	0	0	0						14	14
	4	14	20	0	1	0	1		0			0	1	0	0	0	0						6	6
	5	15	20	0	3	0	2		1		0	0	1	0	0	0	0						10	10
Site 2 Bottom / T980722.04	1	16	20	0	0	0	4		0		1	0	0	0	2	0	0						20	20
	2	17	20			0	0		0		1	0	0	0	0	0	1						20	20
	3	18	20			0	4		0		0	0	0	0	1	0	0						20	20
	4	19	20			0	1		1		0	0	0	0	1	0	0		0			1	17	17
	5	20	20			0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0		18	18
. / .	1																							
	2																							
	3																							
	4																							
	5																							
. / .	1																							
	2																							
	3																							
	4																							
	5																							

131203

10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
AOEC - L. A.	L. A. River	Eohaustorius estaurius	Tiburon 15 deg. room	ASTM 97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	05Aug98	1200	09Aug98	1300

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	15±2	30±2	> 5.0	< 4.0	Bodega Seawater	E	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	0	mg/L	0	All	20.0	8.2	2.0	14.9	2.0	28.0	21.0	7.9	SB	None	None
Ref.Tox.-cadmium	0	mg/L	4	1	20.0	8.1	2.0	15.1	2.0	28.0	4.0	7.9	MJB	None	None
				2	20.0	8.3	2.0	15.1	2.0	28.0	4.0	8.0	MJB	None	None
				3	20.0	8.0	2.0	15.1	2.0	28.0	4.0	8.0	MJB	None	None
				4											
Ref.Tox.-cadmium	2	mg/L	0	All	20.0	8.3	2.0	15.0	2.0	28.0	21.0	7.9	SB	None	None
Ref.Tox.-cadmium	2	mg/L	4	1	20.0	8.1	2.0	15.2	2.0	29.0	4.0	8.0	MJB	None	None
				2	20.0	8.4	2.0	15.1	2.0	28.0	4.0	8.0	MJB	None	None
				3	20.0	8.0	2.0	15.2	2.0	29.0	4.0	8.0	MJB	None	None
				4											
Ref.Tox.-cadmium	4	mg/L	0	All	20.0	8.4	2.0	15.0	2.0	28.0	21.0	7.9	SB	None	None
Ref.Tox.-cadmium	4	mg/L	4	1	20.0	7.9	2.0	15.1	2.0	29.0	4.0	8.0	MJB	None	None
				2	20.0	7.9	2.0	15.2	2.0	28.0	4.0	8.0	MJB	None	None
				3	20.0	7.6	2.0	15.2	2.0	28.0	4.0	8.0	MJB	None	None
				4											
Ref.Tox.-cadmium	8	mg/L	0	All	20.0	8.2	2.0	15.0	2.0	28.0	21.0	7.9	SB	None	None
Ref.Tox.-cadmium	8	mg/L	4	1	20.0	7.8	2.0	15.2	2.0	28.0	4.0	8.0	MJB	None	None
				2	20.0	7.7	2.0	15.2	2.0	28.0	4.0	8.0	MJB	None	None
				3	20.0	7.7	2.0	15.1	2.0	28.0	4.0	8.0	MJB	None	None
				4											
Ref.Tox.-cadmium	16	mg/L	0	All	20.0	8.3	2.0	15.0	2.0	28.0	21.0	8.0	SB	None	None
Ref.Tox.-cadmium	16	mg/L	4	1	20.0	7.8	2.0	15.0	2.0	27.0	4.0	8.0	MJB	None	None
				2	20.0	7.7	2.0	15.1	2.0	28.0	4.0	8.0	MJB	None	None
				3	20.0	7.7	2.0	15.1	2.0	28.0	4.0	8.0	MJB	None	None
				4											
Ref.Tox.-cadmium	32	mg/L	0	All	20.0	8.2	2.0	14.9	2.0	27.0	21.0	8.0	SB		
Ref.Tox.-cadmium	32	mg/L	4	1											
				2											
				3											
				4											

10 DAY SOLID PHASE TEST DATA SHEET 3 - REF TOX

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NO.	SPECIES	ACCLM.MORT.
AOEC - L. A.	L. A. River	0719-019	Eohaustorius estaurius	<5

PROJECT MANAGER	MEC LABORATORY	PROTOCOL
Dr. Paul Krause	Tiburon 15 deg. room	ASTM 97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; LOE = loss of equilibrium; Q = quiescent; SUR = surfacing; DC = discoloration; OB = on bottom; J = jumper; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 06Aug98 TECHNICIAN SB #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 07Aug98 TECHNICIAN CL #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 08Aug98 TECHNICIAN MSB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 09Aug98 TECHNICIAN MSB #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.-cadmium	0	mg/L	1	10	10	0	5SUR	10	0	N	10	0	N	10	0	N
			2	10	10	0	1SUR	10	0	N	10	0	N	10	0	N
			3	10	10	0	1SUR	10	0	N	10	0	N	10	0	N
			4													
			5													
Ref.Tox.-cadmium	2	mg/L	1	10	10	0	3SUR	10	0	N	10	0	N	10	0	N
			2	10	10	0	2SUR	10	0	N	10	0	N	10	0	N
			3	10	10	0	2SUR	10	0	N	10	0	N	10	0	N
			4													
			5													
Ref.Tox.-cadmium	4	mg/L	1	10	10	0	1SUR	10	0	4SUR	10	0	N	10	0	N
			2	10	10	0	2S/1Q	10	0	N	10	0	N	9	1	N
			3	10	10	0	3SUR/1Q	10	0	N	10	0	N	10	0	N
			4													
			5													
Ref.Tox.-cadmium	8	mg/L	1	10	10	0	4SUR	10	0	2SUR	9	1	Q	9	0	Q
			2	10	10	0	5SUR	10	0	2SUR	10	0	Q	10	0	Q
			3	10	10	0	3SUR/1Q	9	1	1SUR	8	1	Q	7	0	Q
			4													
			5													
Ref.Tox.-cadmium	16	mg/L	1	10	10	0	1SUR/1Q	10	0	1SUR	10	0	Q	8	2	Q
			2	10	10	0	1SUR	8	2	1SUR	8	0	Q	6	2	Q
			3	10	10	0	1SUR	10	0	2SUR	10	0	Q	7	3	Q
			4													
			5													
Ref.Tox.-cadmium	32	mg/L	1	10	10	0	3SUR	7	3	N/Q	0	7		0		
			2	10	10	0	5SUR/1Q	8	2	N/Q	0	8		0		
			3	10	10	0	1SUR/1Q	8	2	N/Q	0	8		0		
			4													
			5													

Acute Amphipod Test-96 Hr Survival

Start Date:	8/5/98	Test ID:	719-19eerf	Sample ID:	REF-Ref Toxicant
End Date:	8/9/98	Lab ID:	CAMEC-MEC Analytical	Sample Type:	CDCL-Cadmium chloride
Sample Date:	9/5/98	Protocol:	ASTM 87	Test Species:	Ee-E.estuarius
Comments:					

Conc-mg/L	1	2	3
D-Control	1.0000	1.0000	1.0000
2	1.0000	1.0000	1.0000
4	1.0000	0.9000	1.0000
8	0.9000	1.0000	0.7000
16	0.8000	0.6000	0.7000
32	0.0000	0.0000	0.0000

Conc-mg/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	30	30	3			0	30
2	1.0000	1.0000	0	30	30	3	1.0000	0.0500	0	30
4	0.9667	0.9667	1	29	30	3	0.5000	0.0500	1	30
8	0.8667	0.8667	4	26	30	3	0.0562	0.0500	4	30
*16	0.7000	0.7000	9	21	30	3	0.0010	0.0500	9	30
*32	0.0000	0.0000	30	0	30	3	0.0000	0.0500	30	30

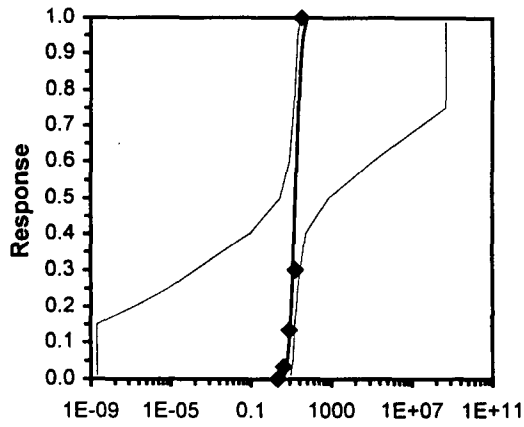
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	8	16	11.3137	

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	4.15306	1.27496	0.09558	8.21055	0	12.1133	7.81472	7.0E-03	1.20144	0.24079	6
Intercept	0.01034	1.53559	-4.8766	4.89728							
TSCR											

Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	4.37813	2.1E-09	9.14153
EC05	3.355	6.38827	2.1E-09	11.6789
EC10	3.718	7.81378	2.1E-09	13.6411
EC15	3.964	8.95122	2.1E-09	15.4926
EC20	4.158	9.97218	1.5E-07	17.593
EC25	4.326	10.9404	7.5E-06	20.3337
EC40	4.747	13.8178	0.08394	52.0825
EC50	5.000	15.9016	2.81905	744.972
EC60	5.253	18.2997	7.95579	126806
EC75	5.674	23.1126	13.1362	4.9E+08
EC80	5.842	25.3567	14.645	4.9E+08
EC85	6.036	28.2488	16.2556	4.9E+08
EC90	6.282	32.3609	18.1763	4.9E+08
EC95	6.645	39.5821	20.9819	4.9E+08
EC99	7.326	57.7555	26.5605	4.9E+08

Significant heterogeneity detected (p = 7.01E-03)



Laboratory Mean (mg/L)

LC50 = 15.6 ± 3.0

NOEC = 4.81 ± 2.13

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10 DAY SOLID PHASE TEST DATA SHEET 2 - REF TOX WQ

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES	MEC LABORATORY	PROTOCOL
ACOE-L. A.	L.A. River	Eohaustorius estaurius	Tiburon 15 deg. room	ASTM97/USCOE91

MEC JOB NUMBER	PROJECT MANAGER	TEST START DATE	TIME	TEST END DATE	TIME
0719-019	Dr. Paul Krause	05Aug98	1200	09Aug98	1300

WATER QUALITY DATA

TEST CONDITIONS	TEMP (C)	SAL (ppt)	DO (mg/L)	NH3 (mg/L)	DILTN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT	LOT NO.	96-HR LC50
	15±2	30±2	> 5.0	< 4.0	Bodega Seawater	B	cadmium chloride	cadmium		

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVER. NH3 preserv.	OVER. NH3 mg/L	TECHNICIAN	FEEDING am	FEEDING pm
Ref.Tox.-cadmium	0	mg/L	0	All	20	8.2	2	14.9	2	28	21	7.88			SM	None	
Ref.Tox.-cadmium	0	mg/L	4	1	20	8.1	2	15.1	2	28	4	7.92			MSB		
				2	20	8.3	2	15.1	2	28	4	7.96					
				3	20	8.	2	15.1	2	28	4	7.98					
Ref.Tox.-cadmium	2	mg/L	0	All	20	8.3	2	15.0	2	29	21	7.93			SM	None	
Ref.Tox.-cadmium	2	mg/L	4	1	20	8.1	2	15.2	2	29	4	8.00			MSB		
				2	20	8.4	2	15.1	2	28	4	8.01					
				3	20	8.0	2	15.2	2	29	4	7.99					
Ref.Tox.-cadmium	4	mg/L	0	All	20	8.4	2	15.0	2	28	21	7.94			SM	None	
Ref.Tox.-cadmium	4	mg/L	4	1	20	7.9	2	15.1	2	29	4	7.98			MSB		
				2	20	7.9	2	15.2	2	28	4	8.00					
				3	20	7.6	2	15.2	2	28	4	7.97					
Ref.Tox.-cadmium	8	mg/L	0	All	20	8.2	2	15.0	2	28	21	7.94			SM	None	
Ref.Tox.-cadmium	8	mg/L	4	1	20	7.8	2	15.2	2	28	4	7.96			MSB		
				2	20	7.7	2	15.2	2	28	4	7.95					
				3	20	7.7	2	15.1	2	28	4	7.97					
Ref.Tox.-cadmium	16	mg/L	0	All	20	8.3	2	15.0	2	28	21	7.97			SM	None	
Ref.Tox.-cadmium	16	mg/L	4	1	20	7.8	2	15.0	2	27	4	7.98			MSB		
				2	20	7.8	2	15.1	2	28	4	8.01					
				3	20	7.9	2	15.1	2	28	4	8.01					
Ref.Tox.-cadmium	32	mg/L	0	All	20	8.2	2	14.9	2	27	4	7.97			SM		
Ref.Tox.-cadmium	32	mg/L	4	1													
				2													
				3													

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10 DAY SOLID PHASE TEST DATA SHEET 3

MEC ANALYTICAL SYSTEMS, INC.

SPECIES	ACCLM.MORT.
Eohaustorius estaurius	<5

CLIENT	PROJECT	MEC JOB NO.	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
ACOE-L. A.	L.A. River	0719-019	Dr. Paul Krause	Tiburon 15 deg. room	ASTM97/USCOE91

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal; DC = discoloration
LOE= loss of equilibrium; OB = on bottom
Q = quiescent; J = jumper
SUR= surfacing; NB = no body

CLIENT/ MEC ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 08/06/98 TECHNICIAN SB #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 08/07/98 TECHNICIAN CL #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 08/08/98 TECHNICIAN MSB #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 08/09/98 TECHNICIAN MSB #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.-cadmium	0	mg/L	1	10	10	0	5 SUR	10	0	N	10		N	10		N
			2	10	10	0	1 SUR	10	0	N	10			10		
			3	10	10	0	1 SUR	10	0	N	10			10		
			4													
			5													
Ref.Tox.-cadmium	2	mg/L	1	10	10	0	3 SUR	10	0	N	10			10		
			2	10	10	0	2 SUR	10	0	N	10			10		
			3	10	10	0	2 SUR	10	0	N	10			10		
			4													
			5													
Ref.Tox.-cadmium	4	mg/L	1	10	10	0	1 SUR	10	0	4 SUR	10			10		
			2	10	10	0	2 SUR 1 Q	10	0	N	10		N	9	1	N
			3	10	10	0	3 SUR 1 Q	10	0	N	10		N	10		N
			4													
			5													
Ref.Tox.-cadmium	8	mg/L	1	10	10	0	4 SUR	10	0	2 SUR	9	1	Q	9		Q
			2	10	10	0	5 SUR	10	0	2 SUR	10		Q	10		Q
			3	10	10	0	3 SUR 1 Q	9	1	1 SUR	8	1	Q	7	1	Q
			4													
			5													
Ref.Tox.-cadmium	16	mg/L	1	10	10	0	1 SUR 1 Q	10	0	1 SUR	10		Q	8	2	Q
			2	10	10	0	1 SUR	8	2	1 SUR	8		Q	6	2	
			3	10	10	0	1 SUR	10	0	2 SUR	10		Q	7	3	
			4													
			5													
Ref.Tox.-cadmium	32	mg/L	1	10	10	0	3 SUR	*7	3	2/Q	0	7				
			2	10	10	0	5 SUR 1 Q	8	2	2/Q	0	8				
			3	10	10	0	1 SUR 1 Q	8	2	2/Q	0	8				
			4													
			5													

*CL 8/7/98 (A)

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APPENDIX F

Tissue Bioaccumulation Test

28 DAY BIOACCUMULATION
INTERACTIVE DATA SETUP

GENERAL

CLIENT:	LA ACOE
PROJECT:	LA River Estuary
MEC JOB NUMBER:	0719-019
PROJECT MANAGER:	Krause/ Green
TEST SPECIES:	*Macoma nasuta*
TEST SPECIES 2 (SAME CHAMBER):	*Nephtys caecoides*
TEST PROTOCOL:	USEPA/USCOE 1991
MEC LABORATORY:	San Diego Harbor
TEST LOCATION:	
TEST START DATE:	22Jul98
TEMP. RECORDER#:	119281
WATER DESCRIPTION:	*SD Harbor, 16 µm filtered; uv-sterilized*
FEEDING INFORMATION:	none
WATER RENEWAL INFO:	Flow Through

FIELD SAMPLE

DATE RECEIVED AT MEC:	17Jul98
SAMPLE STORAGE:	4 Degrees Celsius - dark
SAMPLE TREATMENT:	*none*
TEST CHAMBER:	fiberglass trays with noncontaminating covers
EXPOSURE VOLUME:	4 cm sediment/800 mL

	CLIENT SAMPLE ID	MEC SAMPLE ID
1	Control	C980716.02
2	Reference	C980716.03
3	1 Top	1 Top
4	1 Bottom	
5	2 Top	
6	2 Bottom	
7	3 Comp	
8		
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28 DAY BIOACCUMULATION DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	0719-019	Krause/ Green	San Diego Harbor	USEPA/USCOE 1991

GENERAL TEST INFORMATION

SPECIES 1: *Macoma nasuta*		
SUPPLIER: Kim Siewers		ORGANISM BATCH NO,: KS3702
DATE RECEIVED: 17Jul98	TIME RECEIVED: 1100	ARRIVAL VIA: Fed Ex
QUANITY ORDERED: 850	AGE: Adults	SPECIES CODE: 41
GENERAL CONDITION: Good		

SAMPLE STORAGE: 4 Degrees Celsius - dark
SEDIMENT TREATMENT: none
CONTROL SEDIMENT ID:
CONTROL SEDIMENT SUPPLIER: Brezina
TEST CHAMBERS: fiberglass trays with noncontamin

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
17Jul98										1	849	ARRIVAL	
										0	849		
										3	846		
										1	845		

ACCLIMATION MORTALITY: 0%

28 DAY BIOACCUMULATION DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	0719-019	Krause/ Green	San Diego Harbor	USEPA/USCOE 1991

GENERAL TEST INFORMATION

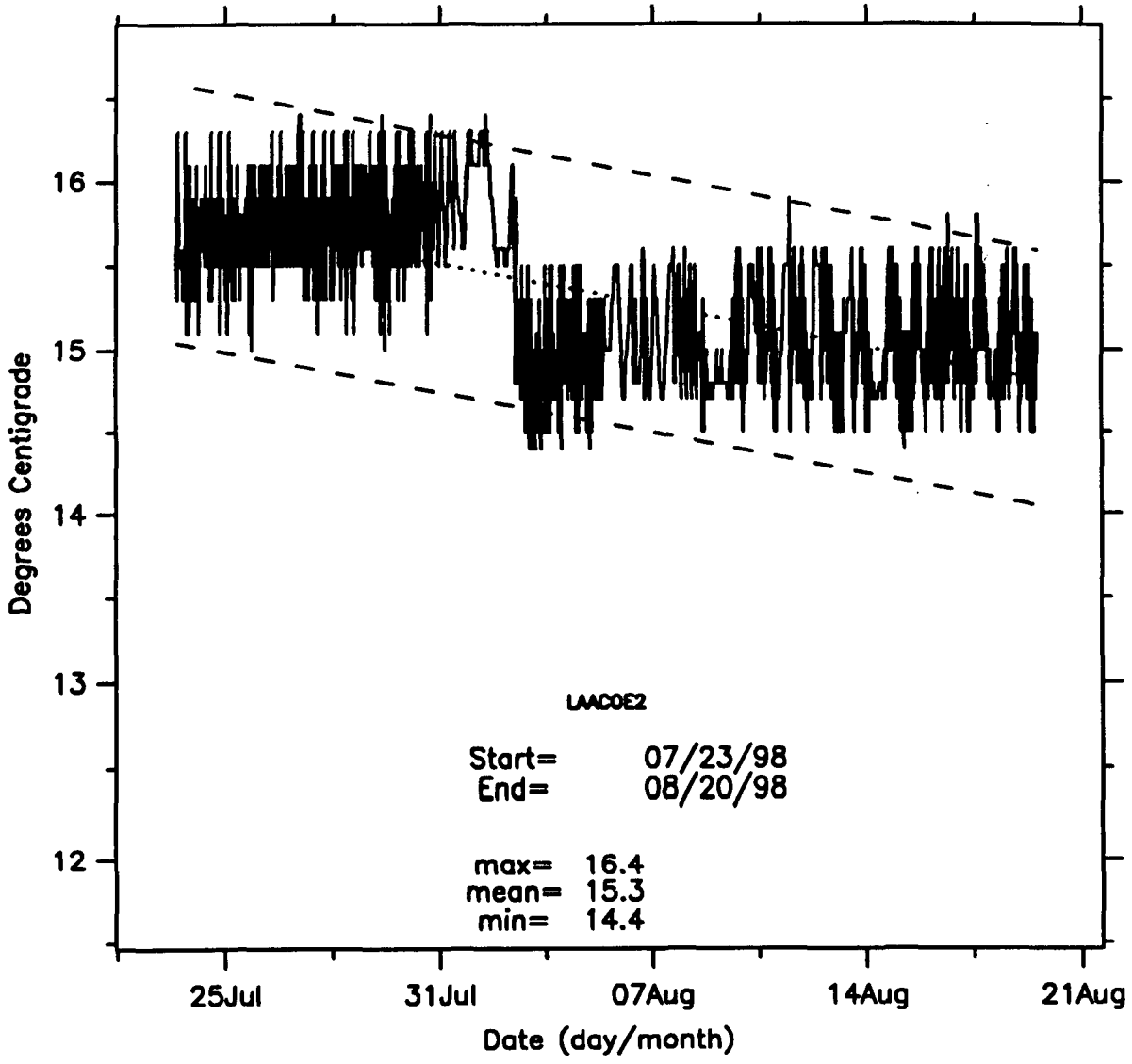
SPECIES 1: *Nephtys caecoides*		
SUPPLIER: Brezina		ORGANISM BATCH NO,: JB9782
DATE RECEIVED: 17Jul98	TIME RECEIVED: 1105	ARRIVAL VIA: Fed Ex
QUANITY ORDERED: 3000	AGE: Adults	SPECIES CODE: 39
GENERAL CONDITION: Good		

SAMPLE STORAGE: 4 Degrees Celsius - dark	
SEDIMENT TREATMENT: none	
CONTROL SEDIMENT ID:	
CONTROL SEDIMENT SUPPLIER: Brezina	
TEST CHAMBERS: fiberglass trays with noncontamin	

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
17Jul98										0	3000	ARRIVAL	
										0	3000		
										15	2985		
										0	2985		

ACCLIMATION MORTALITY: 1%



Test Temperature Recorded At 5 Minute Intervals

(dotted line = predicted mean temperature, dashed line = 95% confidence bounds)

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN			FLOW sec/50cc
Control / C980716.02	0	1		4.0	7.7	4.0	15.6	4.0	32.9	7.0	7.7								###	900	8
		2		4.0	7.6	4.0	15.8	4.0	33.1	7.0	7.8								###	900	8
		3		4.0	7.6	4.0	15.7	4.0	33.0	7.0	7.8									900	8
		4		4.0	7.6	4.0	15.3	4.0	33.0	7.0	7.8									900	8
		5		4.0	7.6	4.0	15.5	4.0	33.0	7.0	7.9									900	8
Control / C980716.02	1	1		4.0	7.6	4.0	15.8	4.0	33.0	7.0	8.0									820	8
Control / C980716.02	2	2		4.0	7.4	4.0	16.0	4.0	33.1	7.0	8.0									954	8
Control / C980716.02	3	3		4.0	7.5	4.0	16.0	4.0	33.0	7.0	8.1									936	8
Control / C980716.02	4	4		4.0	7.6	4.0	16.0	4.0	33.1	7.0	7.9									900	8
Control / C980716.02	5	5		4.0	7.4	4.0	16.3	4.0	32.9	7.0	7.9									815	8
Control / C980716.02	6	1		4.0	7.6	4.0	16.0	4.0	32.9	7.0	8.0									910	8
Control / C980716.02	7	2		4.0	7.7	4.0	16.2	4.0	33.0	7.0	8.1									1740	8
Control / C980716.02	8	3		4.0	7.5	4.0	15.7	4.0	32.9	7.0	8.1									1710	8
Control / C980716.02	9	4		4.0	7.8	4.0	16.0	4.0	32.9	7.0	8.0									1030	8
Control / C980716.02	10	5		4.0	7.8	4.0	15.8	4.0	32.9	7.0	8.1									1000	8
Control / C980716.02	11	1		4.0	7.7	4.0	15.9	4.0	32.9	7.0	8.1									900	8
Control / C980716.02	12	2		4.0	7.8	4.0	15.0	4.0	32.8	7.0	8.0									1115	8
Control / C980716.02	13	3		4.0	7.7	4.0	15.3	4.0	32.8	7.0	7.9									900	8

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN		FLOW sec/50cc
Control / C980716.02	14	4		4.0	7.8	4.0	15.1	4.0	32.8	7.0	8.1								820	8
Control / C980716.02	15	5		4.0	7.9	4.0	15.4	4.0	32.9	7.0	8.1								820	8
Control / C980716.02	16	1		4.0	7.8	4.0	15.1	4.0	33.0	7.0	8.1								1320	8
Control / C980716.02	17	2		4.0	7.7	4.0	15.3	4.0	33.0	7.0	8.0								930	8
Control / C980716.02	18	3		4.0	7.8	4.0	15.3	4.0	33.1	7.0	8.1								1630	8
Control / C980716.02	19	4		4.0	7.8	4.0	15.9	4.0	33.0	7.0	8.1								815	8
Control / C980716.02	20	5		4.0	7.6	4.0	15.7	4.0	33.0	7.0	8.0								850	8
Control / C980716.02	21	1		4.0	7.8	4.0	15.1	4.0	33.0	7.0	8.1								820	8
Control / C980716.02	22	2		4.0	7.9	4.0	15.1	4.0	32.9	7.0	8.1								900	8
Control / C980716.02	23	3		4.0	7.6	4.0	15.2	4.0	33.0	7.0	8.0								830	8
Control / C980716.02	24	4		4.0	7.6	4.0	15.1	4.0	32.8	7.0	8.1								1615	8
Control / C980716.02	25	5		4.0	7.7	4.0	15.6	4.0	32.8	7.0	8.0								1130	8
Control / C980716.02	26	1		4.0	7.8	4.0	15.3	4.0	32.9	7.0	8.0								830	8
Control / C980716.02	27	2		4.0	7.6	4.0	15.8	4.0	32.8	7.0	7.9								830	8
Control / C980716.02	28	3		4.0		4.0		4.0		7.0									800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: *Macoma nasuta* INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	SPECIES 2 (SAME CHAMBER): *Nephtys caecoides* INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
Control / C980716.02	25/Rep	24	25	24	25	24	75/Rep	68	69	63	70	63

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN		FLOW sec/50cc
Reference / C980716.03	0	1		4.0	7.6	4.0	15.4	4.0	32.9	7.0	7.9								900	8
		2		4.0	7.6	4.0	15.3	4.0	33.1	7.0	7.9								900	8
		3		4.0	7.6	4.0	15.4	4.0	33.1	7.0	7.9								900	8
		4		4.0	7.6	4.0	15.4	4.0	33.0	7.0	7.9								900	8
		5		4.0	7.5	4.0	15.5	4.0	33.0	7.0	7.9								900	8
Reference / C980716.03	1	1		4.0	7.9	4.0	15.7	4.0	33.0	7.0	8.0								820	8
Reference / C980716.03	2	2		4.0	7.7	4.0	16.1	4.0	33.1	7.0	8.1								954	8
Reference / C980716.03	3	3		4.0	7.4	4.0	16.0	4.0	32.7	7.0	8.1								936	8
Reference / C980716.03	4	4		4.0	7.7	4.0	16.1	4.0	33.0	7.0	7.9								900	8
Reference / C980716.03	5	5		4.0	7.7	4.0	16.3	4.0	32.9	7.0	7.9								815	8
Reference / C980716.03	6	1		4.0	7.5	4.0	16.0	4.0	33.0	7.0	7.9								910	8
Reference / C980716.03	7	2		4.0	7.7	4.0	15.7	4.0	33.0	7.0	8.1								1735	8
Reference / C980716.03	8	3		4.0	7.6	4.0	16.0	4.0	33.0	7.0	8.2								1720	8
Reference / C980716.03	9	4		4.0	7.9	4.0	15.6	4.0	32.9	7.0	8.1								1030	8
Reference / C980716.03	10	5		4.0	7.8	4.0	15.9	4.0	32.9	7.0	8.1								1000	8
Reference / C980716.03	11	1		4.0	7.8	4.0	15.9	4.0	32.7	7.0	8.1								900	8
Reference / C980716.03	12	2		4.0	7.8	4.0	14.9	4.0	32.8	7.0	8.0								1115	8
Reference / C980716.03	13	3		4.0	7.7	4.0	15.2	4.0	32.8	7.0	7.9								900	8

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		FLOW
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			sec/50cc
Reference / C980716.03	14	4		4.0	7.8	4.0	15.3	4.0	32.8	7.0	8.1								820	8
Reference / C980716.03	15	5		4.0	7.8	4.0	15.1	4.0	32.9	7.0	8.1								820	8
Reference / C980716.03	16	1		4.0	7.8	4.0	15.3	4.0	32.9	7.0	8.1								1320	8
Reference / C980716.03	17	2		4.0	7.8	4.0	15.2	4.0	32.2	7.0	8.0								930	8
Reference / C980716.03	18	3		4.0	7.4	4.0	15.6	4.0	33.0	7.0	8.0								1630	8
Reference / C980716.03	19	4		4.0	7.9	4.0	15.2	4.0	33.0	7.0	8.1								815	8
Reference / C980716.03	20	5		4.0	7.7	4.0	15.3	4.0	32.8	7.0	8.0								850	8
Reference / C980716.03	21	1		4.0	7.7	4.0	15.3	4.0	33.1	7.0	8.1								820	8
Reference / C980716.03	22	2		4.0	7.8	4.0	15.1	4.0	32.9	7.0	8.1								900	8
Reference / C980716.03	23	3		4.0	7.8	4.0	15.1	4.0	32.9	7.0	8.1								830	8
Reference / C980716.03	24	4		4.0	7.7	4.0	15.2	4.0	33.0	7.0	7.9								1615	8
Reference / C980716.03	25	5		4.0	7.6	4.0	15.8	4.0	32.8	7.0	8.0								1130	8
Reference / C980716.03	26	1		4.0	7.8	4.0	15.1	4.0	33.0	7.0	8.0								830	8
Reference / C980716.03	27	2		4.0	7.8	4.0	15.2	4.0	32.9	7.0	7.9								830	8
Reference / C980716.03	28	3		4.0	7.7	4.0	15.2	4.0	33.0	7.0	7.9								800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
Reference / C980716.03	25	25	23	24	24	26	75	75	68	72	75	67

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN		FLOW sec/50cc
1 Top / 1 Top	0	1		4.0	7.4	4.0	15.5	4.0	33.1	4.0	7.9								900	8
		2		4.0	7.5	4.0	15.4	4.0	33.0	4.0	8.0								900	8
		3		4.0	7.5	4.0	15.4	4.0	33.0	4.0	7.9								900	8
		4		4.0	7.4	4.0	15.5	4.0	33.0	4.0	7.9								900	8
		5		4.0	7.5	4.0	15.5	4.0	33.0	4.0	7.9								900	8
1 Top / 1 Top	1	1		4.0	7.8	4.0	15.7	4.0	33.0	4.0	8.0								820	8
1 Top / 1 Top	2	2		4.0	7.7	4.0	16.1	4.0	33.1	7.0	8.1								954	8
1 Top / 1 Top	3	3		4.0	7.7	4.0	16.0	4.0	33.1	7.0	8.1								936	8
1 Top / 1 Top	4	4		4.0	7.7	4.0	16.1	4.0	33.0	7.0	7.9								900	8
1 Top / 1 Top	5	5		4.0	7.8	4.0	16.7	4.0	33.0	7.0	7.9								815	8
1 Top / 1 Top	6	1		4.0	7.7	4.0	16.2	4.0	32.9	7.0	8.0								910	8
1 Top / 1 Top	7	2		4.0	7.3	4.0	16.1	4.0	33.0	7.0	8.0								1730	8
1 Top / 1 Top	8	3		4.0	7.6	4.0	16.1	4.0	33.0	7.0	8.2								1720	8
1 Top / 1 Top	9	4		4.0	7.9	4.0	15.9	4.0	32.9	7.0	8.3								1030	8
1 Top / 1 Top	10	5		4.0	7.6	4.0	16.3	4.0	32.9	7.0	8.1								1000	8
1 Top / 1 Top	11	1		4.0	7.3	4.0	15.8	4.0	32.4	7.0	8.1								900	8
1 Top / 1 Top	12	2		4.0	7.6	4.0	15.1	4.0	32.7	7.0	8.0								1115	8
1 Top / 1 Top	13	3		4.0	7.6	4.0	15.2	4.0	32.8	7.0	8.0								900	8

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)		WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5			3D Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		FLOW
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			sec/50cc
1 Top / 1 Top	14	4		4.0	7.6	4.0	15.3	4.0	32.9	7.0	8.1								800	8
1 Top / 1 Top	15	5		4.0	7.3	4.0	15.4	4.0	32.9	7.0	8.1								820	8
1 Top / 1 Top	16	1		4.0	7.6	4.0	15.1	4.0	33.0	7.0	8.1								1320	8
1 Top / 1 Top	17	2		4.0	7.4	4.0	15.3	4.0	33.0	7.0	7.9								930	8
1 Top / 1 Top	18	3		4.0	7.6	4.0	15.4	4.0	33.0	7.0	8.0								1630	8
1 Top / 1 Top	19	4		4.0	8.0	4.0	15.4	4.0	33.1	7.0	8.1								815	8
1 Top / 1 Top	20	5		4.0	7.6	4.0	15.3	4.0	33.0	7.0	8.0								850	8
1 Top / 1 Top	21	1		4.0	7.6	4.0	15.1	4.0	33.0	7.0	8.1								820	8
1 Top / 1 Top	22	2		4.0	7.6	4.0	15.5	4.0	33.0	7.0	8.0								900	8
1 Top / 1 Top	23	3		4.0	7.8	4.0	15.0	4.0	33.0	7.0	8.2								830	8
1 Top / 1 Top	24	4		4.0	7.6	4.0	15.1	4.0	32.9	7.0	8.0								1615	8
1 Top / 1 Top	25	5		4.0	7.6	4.0	15.5	4.0	32.9	7.0	8.0								1130	8
1 Top / 1 Top	26	1		4.0	7.8	4.0	15.1	4.0	33.0	7.0	8.0								830	8
1 Top / 1 Top	27	2		4.0	7.8	4.0	15.2	4.0	33.0	7.0	8.0								830	8
1 Top / 1 Top	28	3		4.0	7.6	4.0	15.1	4.0	32.9	7.0	7.9								800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
1 Top / 1 Top	25	24	24	24	24	24	75	56	67	60	58	67

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN		FLOW sec/50cc
1 Bottom / .	0	1		4.0	7.4	4.0	15.5	4.0	33.0	7.0	7.9								900	8
		2		4.0	7.4	4.0	15.5	4.0	33.0	7.0	7.9								900	8
		3		4.0	7.4	4.0	15.5	4.0	33.0	7.0	7.9								900	8
		4		4.0	7.3	4.0	15.5	4.0	33.1	7.0	8.0								900	8
		5		4.0	7.4	4.0	15.6	4.0	33.1	7.0	7.9								900	8
1 Bottom / .	1	1		4.0	7.6	4.0	15.8	4.0	33.0	7.0	8.0								820	8
1 Bottom / .	2	2		4.0	7.7	4.0	16.0	4.0	33.1	7.0	8.0								954	8
1 Bottom / .	3	3		4.0	7.4	4.0	16.0	4.0	32.3	7.0	8.0								936	8
1 Bottom / .	4	4		4.0	7.5	4.0	16.0	4.0	32.9	7.0	7.9								900	8
1 Bottom / .	5	5		4.0	7.6	4.0	16.1	4.0	32.9	7.0	8.0								815	8
1 Bottom / .	6	1		4.0	7.4	4.0	16.1	4.0	32.7	7.0	8.0								910	8
1 Bottom / .	7	2		4.0	7.6	4.0	15.8	4.0	33.1	7.0	8.1								1735	8
1 Bottom / .	8	3		4.0	7.6	4.0	16.0	4.0	33.1	7.0	8.1								1720	8
1 Bottom / .	9	4		4.0	7.9	4.0	16.0	4.0	32.9	7.0	8.1								1030	8
1 Bottom / .	10	5		4.0	7.8	4.0	15.9	4.0	32.9	7.0	8.1								1000	8
1 Bottom / .	11	1		4.0	7.1	4.0	15.9	4.0	32.9	7.0	8.1								900	8
1 Bottom / .	12	2		4.0	7.7	4.0	15.2	4.0	32.8	7.0	8.0								1115	8
1 Bottom / .	13	3		4.0	7.8	4.0	15.2	4.0	32.8	7.0	8.0								900	8

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		FLOW
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			sec/50cc
1 Bottom / .	14	4		4.0	7.6	4.0	15.2	4.0	32.9	7.0	8.1								800	8
1 Bottom / .	15	5		4.0	7.6	4.0	15.3	4.0	32.9	7.0	8.1								820	8
1 Bottom / .	16	1		4.0	7.6	4.0	15.1	4.0	32.7	7.0	8.1								1320	8
1 Bottom / .	17	2		4.0	7.7	4.0	15.4	4.0	33.0	7.0	8.0								930	8
1 Bottom / .	18	3		4.0	7.9	4.0	15.4	4.0	33.0	7.0	8.1								1630	8
1 Bottom / .	19	4		4.0	7.7	4.0	15.3	4.0	33.0	7.0	8.1								815	8
1 Bottom / .	20	5		4.0	7.4	4.0	15.7	4.0	32.9	7.0	8.0								850	8
1 Bottom / .	21	1		4.0	7.6	4.0	15.0	4.0	33.1	7.0	8.0								820	8
1 Bottom / .	22	2		4.0	7.8	4.0	15.2	4.0	32.3	7.0	8.1								900	8
1 Bottom / .	23	3		4.0	7.7	4.0	15.2	4.0	32.8	7.0	8.3								830	8
1 Bottom / .	24	4		4.0	7.4	4.0	15.2	4.0	32.9	7.0	8.0								1615	8
1 Bottom / .	25	5		4.0	7.6	4.0	15.9	4.0	32.8	7.0	7.9								1130	8
1 Bottom / .	26	1		4.0	7.8	4.0	15.1	4.0	32.2	7.0	8.1								830	8
1 Bottom / .	27	2		4.0	7.8	4.0	15.5	4.0	32.9	7.0	8.0								830	8
1 Bottom / .	28	3		4.0	7.7	4.0	15.2	4.0	32.9	7.0	7.9								800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
1 Bottom / .	25	25	25	24	25	24	75	60	63	54	75	61

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)		WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5			SD Harbor; 16 µm filtered, uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		FLOW
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			sec/50cc
2 Top / .	0	1		4.0	7.3	4.0	15.7	4.0	33.1	7.0	7.7								900	8
		2			7.4		15.6		33.1		7.9								900	8
		3			7.4		15.7		33.0		7.7								900	8
		4			7.4		15.6		32.9		7.8								900	8
		5			7.4		15.7		33.0		7.9								900	8
2 Top / .	1	1		4.0	7.8	4.0	16.0	4.0	33.0	7.0	8.0								820	8
2 Top / .	2	2		4.0	7.6	4.0	15.9	4.0	33.1	7.0	8.0								954	8
2 Top / .	3	3		4.0	7.7	4.0	16.1	4.0	33.0	7.0	8.0								936	8
2 Top / .	4	4		4.0	7.5	4.0	16.0	4.0	33.1	7.0	7.7								900	8
2 Top / .	5	5		4.0	7.7	4.0	16.0	4.0	33.0	7.0	8.0								815	8
2 Top / .	6	1		4.0	7.4	4.0	16.0	4.0	33.0	7.0	7.9								910	8
2 Top / .	7	2		4.0	7.7	4.0	15.6	4.0	33.0	7.0	8.1								1730	8
2 Top / .	8	3		4.0	7.7	4.0	15.7	4.0	33.0	7.0	8.1								1715	8
2 Top / .	9	4		4.0	7.8	4.0	15.6	4.0	33.0	7.0	8.1								1030	8
2 Top / .	10	5		4.0	7.5	4.0	16.0	4.0	32.9	7.0	8.0								1000	8
2 Top / .	11	1		4.0	7.1	4.0	16.1	4.0	32.7	7.0	8.1								800	8
2 Top / .	12	2		4.0	7.6	4.0	15.3	4.0	32.8	7.0	8.1								1115	8
2 Top / .	13	3		4.0	7.6	4.0	15.1	4.0	32.8	7.0	7.9								900	8

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN. (ppt)	pH	NH3 (mg/L)		WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5			SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		FLOW
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			sec/50cc
2 Top / .	14	4		4.0	7.7	4.0	15.1	4.0	32.8	7.0	8.1								820	8
2 Top / .	15	5		4.0	7.8	4.0	15.2	4.0	32.9	7.0	8.2								820	8
2 Top / .	16	1		4.0	7.6	4.0	15.3	4.0	33.0	7.0	8.1								1320	8
2 Top / .	17	2		4.0	7.7	4.0	15.3	4.0	33.0	7.0	8.0								930	8
2 Top / .	18	3		4.0	7.7	4.0	15.5	4.0	33.1	7.0	8.1								1630	8
2 Top / .	19	4		4.0	7.7	4.0	15.2	4.0	33.0	7.0	8.1								815	8
2 Top / .	20	5		4.0	7.5	4.0	15.2	4.0	33.0	7.0	8.1								850	8
2 Top / .	21	1		4.0	7.5	4.0	15.3	4.0	33.0	7.0	8.0								820	8
2 Top / .	22	2		4.0	7.8	4.0	15.1	4.0	33.0	7.0	8.1								900	8
2 Top / .	23	3		4.0	7.8	4.0	15.1	4.0	32.9	7.0	8.1								830	8
2 Top / .	24	4		4.0	7.5	4.0	15.3	4.0	32.9	7.0	8.0								1615	8
2 Top / .	25	5		4.0	7.5	4.0	15.7	4.0	32.9	7.0	8.0								1130	8
2 Top / .	26	1		4.0	7.6	4.0	15.1	4.0	32.9	7.0	7.9								830	8
2 Top / .	27	2		4.0	7.3	4.0	15.3	4.0	32.9	7.0	8.0								830	8
2 Top / .	28	3		4.0	7.5	4.0	14.9	4.0	32.9	7.0	7.9								800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
2 Top / .	25	23	24	24	25	23	75	67	57	68	/	68

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)		WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5			SD Harbor; 16 µm filtered, uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		FLOW
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			sec/50cc
2 Bottom / .	0	1		4.0	7.3	4.0	15.6	4.0	33.0	7.0	7.9								900	8
		2		4.0	7.5	4.0	15.6	4.0	33.0	7.0	7.8								900	8
		3		4.0	7.3	4.0	15.5	4.0	33.0	7.0	7.9								900	8
		4		4.0	7.4	4.0	15.5	4.0	32.9	7.0	7.9								900	8
		5		4.0	7.5	4.0	15.6	4.0	33.0	7.0	7.9								900	8
2 Bottom / .	1	1		4.0	7.7	4.0	16.3	4.0	33.0	7.0	8.1								820	8
2 Bottom / .	2	2		4.0	7.6	4.0	15.8	4.0	33.1	7.0	8.0								854	8
2 Bottom / .	3	3		4.0	7.6	4.0	16.1	4.0	33.0	7.0	7.9								936	8
2 Bottom / .	4	4		4.0	7.7	4.0	16.2	4.0	32.9	7.0	7.8								900	8
2 Bottom / .	5	5		4.0	7.7	4.0	16.0	4.0	33.1	7.0	8.0								815	8
2 Bottom / .	6	1		4.0	7.5	4.0	15.8	4.0	32.9	7.0	7.8								910	8
2 Bottom / .	7	2		4.0	7.5	4.0	15.7	4.0	33.0	7.0	8.0								1730	8
2 Bottom / .	8	3		4.0	7.6	4.0	15.7	4.0	33.0	7.0	8.2								1715	8
2 Bottom / .	9	4		4.0	7.8	4.0	15.6	4.0	32.9	7.0	8.1								1030	8
2 Bottom / .	10	5		4.0	7.7	4.0	15.9	4.0	32.9	7.0	8.1								1000	8
2 Bottom / .	11	1		4.0	7.6	4.0	15.9	4.0	32.9	7.0	8.1								900	8
2 Bottom / .	12	2		4.0	7.7	4.0	14.8	4.0	32.7	7.0	7.8								1115	8
2 Bottom / .	13	3		4.0	7.5	4.0	15.1	4.0	32.8	7.0	7.9								900	8

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor, 16 µm filtered, uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN		FLOW sec/50cc
2 Bottom / .	14	4		4.0	7.6	4.0	15.2	4.0	32.9	7.0	8.1								820	8
2 Bottom / .	15	5		4.0	7.7	4.0	15.3	4.0	32.9	7.0	8.1								820	8
2 Bottom / .	16	1		4.0	7.6	4.0	15.3	4.0	32.9	7.0	8.1								1320	8
2 Bottom / .	17	2		4.0		4.0		4.0		7.0									930	8
2 Bottom / .	18	3		4.0	7.8	4.0	15.5	4.0	33.0	7.0	8.1								1630	8
2 Bottom / .	19	4		4.0	7.7	4.0	15.3	4.0	33.1	7.0	8.1								815	8
2 Bottom / .	20	5		4.0	7.6	4.0	15.8	4.0	33.0	7.0	8.0								850	8
2 Bottom / .	21	1		4.0	7.6	4.0	15.3	4.0	32.8	7.0	8.0								820	8
2 Bottom / .	22	2		4.0	7.8	4.0	15.4	4.0	32.9	7.0	8.0								900	8
2 Bottom / .	23	3		4.0	7.8	4.0	15.1	4.0	33.0	7.0	8.0								830	8
2 Bottom / .	24	4		4.0	7.5	4.0	15.2	4.0	32.8	7.0	8.0								1615	8
2 Bottom / .	25	5		4.0	7.4	4.0	15.8	4.0	32.6	7.0	7.9								1130	8
2 Bottom / .	26	1		4.0	7.8	4.0	15.1	4.0	32.9	7.0	7.9								830	8
2 Bottom / .	27	2		4.0	7.8	4.0	15.2	4.0	33.0	7.0	8.1								830	8
2 Bottom / .	28	3		4.0	7.6	4.0	14.9	4.0	33.1	7.0	8.0								800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
2 Bottom / .	25	23	23	25	25	24	75	63	66	65	62	/

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN (ppt)	pH	NH3 (mg/L)		WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5			SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN		FLOW
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			sec/50cc
3 Comp / .	0	1		4.0	7.4	4.0	15.8	4.0	33.1	7.0	7.9								900	8
		2			7.4		15.6	4.0	33.1	7.0	7.9								900	8
		3			7.5		15.6	4.0	33.1	7.0	7.9								900	8
		4			7.5		15.6	4.0	33.1	7.0	7.9								900	8
		5			7.5		15.6	4.0	33.0	7.0	7.9								900	8
3 Comp / .	1	1		4.0	7.7	4.0	16.1	4.0	33.0	7.0	8.0								820	8
3 Comp / .	2	2		4.0	7.7	4.0	15.6	4.0	33.1	7.0	8.1								959	8
3 Comp / .	3	3		4.0	7.5	4.0	16.1	4.0	33.0	7.0	8.1								936	8
3 Comp / .	4	4		4.0	7.5	4.0	16.0	4.0	33.0	7.0	7.9								900	8
3 Comp / .	5	5		4.0	7.7	4.0	15.9	4.0	33.0	7.0	8.0								815	8
3 Comp / .	6	1		4.0	7.3	4.0	16.3	4.0	32.8	7.0	7.6								910	8
3 Comp / .	7	2		4.0	7.4	4.0	16.0	4.0	33.0	7.0	8.1								1740	8
3 Comp / .	8	3		4.0	7.6	4.0	15.6	4.0	32.9	7.0	8.2								1710	8
3 Comp / .	9	4		4.0	7.5	4.0	16.2	4.0	32.9	7.0	8.0								1030	8
3 Comp / .	10	5		4.0	7.7	4.0	16.1	4.0	32.9	7.0	8.1								1000	8
3 Comp / .	11	1		4.0	7.4	4.0	16.1	4.0	32.8	7.0	8.1								905	8
3 Comp / .	12	2		4.0	7.4	4.0	15.0	4.0	32.8	7.0	8.0								1115	8
3 Comp / .	13	3		4.0	7.5	4.0	15.5	4.0	32.7	7.0	7.9								900	8

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN (ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN		FLOW sec/50cc
3 Comp / .	14	4		4.0	7.6	4.0	15.1	4.0	32.9	7.0	8.1								820	8
3 Comp / .	15	5		4.0	7.6	4.0	15.1	4.0	32.9	7.0	8.1								820	8
3 Comp / .	16	1		4.0	7.4	4.0	15.2	4.0	32.9	7.0	8.0								1320	8
3 Comp / .	17	2		4.0	7.7	4.0	15.3	4.0	33.0	7.0	8.0								930	8
3 Comp / .	18	3		4.0	7.7	4.0	15.4	4.0	33.0	7.0	8.1								1630	8
3 Comp / .	19	4		4.0	7.4	4.0	15.6	4.0	33.0	7.0	8.0								815	8
3 Comp / .	20	5		4.0	7.6	4.0	15.2	4.0	33.0	7.0	8.1								850	8
3 Comp / .	21	1		4.0	7.3	4.0	15.4	4.0	33.0	7.0	7.9								820	8
3 Comp / .	22	2		4.0	7.5	4.0	15.2	4.0	33.0	7.0	8.1								900	8
3 Comp / .	23	3		4.0	7.4	4.0	15.4	4.0	33.0	7.0	7.9								830	8
3 Comp / .	24	4		4.0	7.5	4.0	14.9	4.0	33.0	7.0	8.1								1615	8
3 Comp / .	25	5		4.0	7.6	4.0	15.5	4.0	32.8	7.0	8.0								1130	8
3 Comp / .	26	1		4.0	7.4	4.0	15.1	4.0	33.0	7.0	7.9								830	8
3 Comp / .	27	2		4.0	7.7	4.0	15.6	4.0	33.0	7.0	8.0								830	8
3 Comp / .	28	3		4.0	7.6	4.0	14.9	4.0	33.0	7.0	8.0								800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
3 Comp / .	25	24	24	24	23	23	75	59	57	/	62	54

MEC ANALYTICAL SYSTEMS, INC.

Data summary of 28-day bioaccumulation test

Macoma nasuta *Nephtys caecoid* LA ACOE LA River Estuary

WATER QUALITY

CLIENT SAMPLE ID	MEC SAMPLE ID	DISS.OXYGEN (mg/L)			DISS.OXYGEN (%SAT)	TEMPERATURE (°C)			SALINITY (ppt)			pH			OVERLYING NH_3 (mg/L)			INTER. NH_3 (mg/L)			INTER. SULFIDE (mg/L)			Flow (mL/sec)		
		Mean	Min	Max	Mean	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	C980716.02	7.7	7.4	7.9	94.9	15.6	15.0	16.3	32.9	32.8	33.1	8.0	7.7	8.1	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	6.3	6.3	6.3
Reference	C980716.03	7.7	7.4	7.9	95.0	15.5	14.9	16.3	32.9	32.2	33.1	8.0	7.9	8.2	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	6.3	6.3	6.3
1 Top	1 Top	7.6	7.3	8.0	94.0	15.6	15.0	16.7	33.0	32.4	33.1	8.0	7.9	8.3	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	6.3	6.3	6.3
1 Bottom	.	7.6	7.1	7.9	93.8	15.6	15.0	16.1	32.9	32.2	33.1	8.0	7.9	8.3	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	6.3	6.3	6.3
2 Top	.	7.6	7.1	7.8	93.5	15.5	14.9	16.1	33.0	32.7	33.1	8.0	7.7	8.2	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	6.3	6.3	6.3
2 Bottom	.	7.6	7.3	7.8	94.0	15.5	14.8	16.3	32.9	32.6	33.1	8.0	7.8	8.2	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	6.3	6.3	6.3
3 Comp	.	7.5	7.3	7.7	93.0	15.6	14.9	16.3	33.0	32.7	33.1	8.0	7.6	8.2	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	6.3	6.3	6.3
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28 DAY BIOACCUMULATION DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	0719-019	Krause/ Green	San Diego Harbor	USEPA/USCOE 1991

GENERAL TEST INFORMATION

SPECIES 1: *Macoma nasuta*		SAMPLE STORAGE: 4 Degrees Celsius - dark
SUPPLIER: Kim Siewers	ORGANISM BATCH NO.: KS3702	SEDIMENT TREATMENT: none
DATE RECEIVED: 7/17/98	TIME RECEIVED: 11:00	ARRIVAL VIA: Fedex
QUANITY ORDERED: 450	AGE: Adults	SPECIES CODE: 91
GENERAL CONDITION: Good		CONTROL SEDIMENT ID:
		CONTROL SEDIMENT SUPPLIER: Brezina
		TEST CHAMBERS: fiberglass trays with noncontamin

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
7/17/98	1300		15			All			Cont	1		ARRIVAL	AM
7/18/98	1700		15			All			↓	0			AM
7/20/98	0900		15			All			↓	3			AM
7/22/98	1230		15.9	33.2		All				1			AM

ACCLIMATION MORTALITY: < 5%

28 DAY BIOACCUMULATION DATA SHEET 1

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	MEC JOB NUMBER	PROJECT MANAGER	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	0719-019	Krause/ Green	San Diego Harbor	USEPA/USCOE 1991

GENERAL TEST INFORMATION

SPECIES 1: *Nephtys caecoides*		
SUPPLIER: Brezina	ORGANISM BATCH NO.: JB 9782	
DATE RECEIVED: 7/17/98	TIME RECEIVED: 11:05	ARRIVAL VIA: Fedex
QUANITY ORDERED: 3000	AGE: Adults	SPECIES CODE: 39
GENERAL CONDITION: Good		

SAMPLE STORAGE: 4 Degrees Celsius - dark	
SEDIMENT TREATMENT: none	
CONTROL SEDIMENT ID:	
CONTROL SEDIMENT SUPPLIER: Brezina	
TEST CHAMBERS: fiberglass trays with noncontamin	

ACCLIMATION/HOLDING CONDITIONS

DATE	TIME	D.O. mg/L	TEMP °C	SALINITY ppt	pH	TUB NUMBER	FEED am	FEED pm	WATER CHANGE	NUMBER DEAD	NUMBER REMAIN	NOTES	TECHN.
7/17/98	13:00		15						Cont	0		ARRIVAL	AM
7/18/98	17:00		15						↓	0			AM
7/20/98	0940		15						"	≈15			AM
7/22/98	12:30		15.8	33.2					"	0			AM

ACCLIMATION MORTALITY: < 5%

AMMONIA ANALYSIS

Day 0 +028

Project LA Estuary Organism _____

~~PRE-TEST~~ / INITIAL / FINAL (circle one)

OVERLYING / INTERSTITIAL (circle one)

Check before putting in animals

Bioaccum

Sample I.D.	Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Frozen (Y/N)
DAY 0						
1 Bot		7/23/98 BM	0.179	24.0	7/23/98 JL	N
2 Bot			0.132	23.5		
1 Top			0.142	23.8		
~~2 Top + Bot~~			~~0.198~~ 0.185	23.0		
3			0.137	23.3		
Cont			0.115	23.8		
Ref			0.112	23.5		
DAY 8						
1 Bot		8/20/98 MAL	0.000	23.3	9-10-98 W.H.	Y
2 Bot			~~0.000~~ 0.005	23.4		
1 Top			~~0.000~~ 0.002	23.3		
2 Top			0.000	23.3		
3			0.000	23.4		
Cont.			0.000	23.3		
Ref			0.000	23.4		

① IE W.H. 9-10-98

LA River Estuary
28 Day Bioaccumulation Test
Date: 8/20/18

Species: Macoma

Macoma	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Total	
Control	24	25	24	25	24	122	97.6
Reference	25	23	24	24	26	122	97.6
1 Top	24	24	24	24	24	120	96
1 Bott	25	25	24	25	24	123	98.4
2 Top	07 23	24	24	25	23	119	95.2
2 Bott	23	23	25	25	24	120	96.0
3	24	24	24	23	23	119	95.2

Species: Nephtys

75

Macoma	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Total	
Control	68	64	63	76	63	334	88.8
Reference	75	68	72	75	67	357	95.2
1 Top	56	64	68	58	67	313	83.5
1 Bott	60	63	54	75	61	313	83.5
2 Top	67	57	68	X	68	260	86.7 *
2 Bott	63	66	65	62	X	256	85.3 *
3	59	57	X	62	54	232	77.3 *

Control = Reference [illegible]

Depuration Start Date/Time: 16:10 8/20/18
Depuration End Date/Time: 14:30 8/21/18

95

Technicians: AM, MN, JS [illegible]

X* - Only 4 Reps. Short of worms to start test. % Survival based on 4 Reps of 75.

28 DAY BIOACCUM' ATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991

MEC JOB NUMBER	PROJECT MANAGER	SPECIES 2 (SAME CHAMBER)	TEST START DATE	TEST END DATE
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN (ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Control / C980716.02	0	1	1	4	7.66	4	~~[illegible]~~ 15.6 ①	4	32.9	7	7.7	L	0.115					MG/DS	7/22	0900	8
		2	9	↓	7.6	↓	15.8	↓	33.1	↓	7.8							↓	↓	↓	8
		3	28		7.6		15.7		33.0		7.8										8
		4	11		7.6		15.3		33.0		7.8										8
		5	25		7.6		15.5		33.0		7.9										8
Control / C980716.02	1	1	1	4	7.6	4	15.8	4	32.0	7	8.0							MN	7/24	820	8
Control / C980716.02	2	2	9	4	7.4	4	16.0	4	33.1	7	8.0							MN	7/25	954	8
Control / C980716.02	3	3	28	4	7.5	4	16.0	4	33.0	7	8.1							AM	7/26	0936	8
Control / C980716.02	4	4	11	4	7.6	4	16.0	4	33.1	7	7.9							AM	7/27	0940	8
Control / C980716.02	5	5	25	4	7.4	4	16.3	4	32.9	7	7.9							MN	7/28	0815	8
Control / C980716.02	6	1	1	4	7.6	4	16.0	4	32.9	7	8.0							AM/DS	7/29	0910	8
Control / C980716.02	7	2	9	4	~~7.5~~ ③ 7.7	4	~~16.0~~ ③ 16.2	4	33.0	7	~~8.0~~ ③ 8.1	X	X					MAI	7/30	1740	8
Control / C980716.02	8	3	28	4	7.5	4	15.7	4	32.9	7	8.1							MAI	7/31	1710	8
Control / C980716.02	9	4	11	4	7.8	4	16.0	4	32.9	7	8.0							DS/MN	8/1	1030	8
Control / C980716.02	10	5	25	4	7.8	4	15.8	4	32.9	7	8.1							MN	8/2	1000	8
Control / C980716.02	11	1	1	4	7.7	4	15.9	4	32.9	7	8.1							AM	8/3	0940	9
Control / C980716.02	12	2	9	4	7.8	4	15.0	4	32.8	7	8.0							DS	8/4	1115	8
Control / C980716.02	13	3	28	4	7.7	4	15.3	4	32.8	7	7.9							DS	8/5	0900	8

①MR 7/23/98 MG

# of Clams used/tank ~~28~~ 25 @ 10:00am

7/?/98 2[illegible] RE W[illegible]URV

28 DAY BIOACCUMULATION DATA SHEET 2

ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98.	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Control / C980716.02	14	4	11	4	7.8	4	15.1	4	32.8	7	8.1							DS	8/6	0820	8
Control / C980716.02	15	5	25	4	7.9	4	15.4	4	32.9	7	8.1							MW	8/7	820	8
Control / C980716.02	16	1	1	4	7.8	4	15.1	4	33.0	7	8.1							DS	8/8	1320	8
Control / C980716.02	17	2	9	4	7.7	4	15.3	4	33.0	7	8.0							AM	8/9	0930	8
Control / C980716.02	18	3	28	4	7.8	4	15.3	4	33.1	7	8.1							MW	8/10	1630	8
Control / C980716.02	19	4	11	4	7.8	4	15.4	4	33.0	7	8.1							MW	8/11	0815	8
Control / C980716.02	20	5	25	4	7.6	4	15.7	4	33.0	7	8.0							DS	8/12	0950	8
Control / C980716.02	21	1	1	4	7.8	4	15.1	4	33.0	7	8.1							DS	8/13	0820	8
Control / C980716.02	22	2	9	4	7.9	4	15.1	4	32.9	7	8.1							AM	8/14	0940	8
Control / C980716.02	23	3	28	4	7.6	4	15.2	4	33.0	7	8.0							AM	8/15	0820	4
Control / C980716.02	24	4	11	4	7.6	4	15.1	4	32.8	7	8.1							DS	8/16	1615	8
Control / C980716.02	25	5	25	4	7.7	4	15.6	4	32.8	7	8.0							DS	8/17	1120	8
Control / C980716.02	26	1	1	4	7.8	4	15.3	4	32.9	7	8.0							AM	8/18	0830	8
Control / C980716.02	27	2	9	4	7.6	4	15.8	4	32.8	7	7.9							MW	8/19	0830	8
Control / C980716.02	28	3	28	4		4		4		7		L	0.000					MW/SMW	8/20	0800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
Control / C980716.02	25/Rep						75/Rep					

DIE 8/18/er AM

28 DAY BIOACCUM' ATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Reference / C980716.03	0	1	13	4	7.6	4	15.4	4	32.9	7	7.9	[illegible]	0.112					MG / DS	7/23	0900	8
		2	18	↓	7.6	↓	15.3	↓	33.1	↓	7.9							↓	↓	↓	8
		3	2	↓	7.6	↓	15.4	↓	33.1	↓	7.9							↓	↓	↓	8
		4	30	↓	7.6	↓	15.4	↓	33.0	↓	7.9							↓	↓	↓	8
		5	22	↓	7.5	↓	15.5	↓	33.0	↓	7.9							↓	↓	↓	4
Reference / C980716.03	1	1	13	4	7.9	4	15.7	4	33.0	7	8.0							MN	7/24	820	8
Reference / C980716.03	2	2	18	4	7.7	4	16.1	4	33.1	7	8.1							MN	7/25	959	8
Reference / C980716.03	3	3	2	4	7.4	4	16.0	4	32.7	7	8.1							AM	7/26	0936	8
Reference / C980716.03	4	4	30	4	7.7	4	16.1	4	33.0	7	7.9							AM	7/27	0900	8
Reference / C980716.03	5	5	22	4	7.7	4	16.3	4	32.9	7	7.9							MN	7/28	815	8
Reference / C980716.03	6	1	13	4	7.5	4	16.0	4	33.0	7	7.9							AM/MN	7/29	0910	8
Reference / C980716.03	7	2	18	4	7.7	4	15.7	4	33.0	7	8.1	X	X					MAI	7/30	1735	8
Reference / C980716.03	8	3	2	4	7.6	4	16.0	4	33.0	7	8.2							MAI	7/31	1720	8
Reference / C980716.03	9	4	30	4	7.9	4	15.6	4	32.9	7	8.1							DS/MN	8/1	1030	8
Reference / C980716.03	10	5	22	4	7.8	4	15.9	4	32.9	7	8.1							MN	8/2	1000	8
Reference / C980716.03	11	1	13	4	7.8	4	15.9	4	32.7	7	8.1*							AM	8/3	0900	8
Reference / C980716.03	12	2	18	4	7.8	4	14.9	4	32.8	7	8.0							DS	8/4	1115	8
Reference / C980716.03	13	3	2	4	7.7	4	15.2	4	32.8	7	7.9							DS	8/5	0900	8

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Reference / C980716.03	14	4	30	4	7.8	4	15.3	4	32.8	7	8.1							DS	8/6	0820	8
Reference / C980716.03	15	5	22	4	7.8	4	15.1	4	32.9	7	8.1							MW	8/7	820	8
Reference / C980716.03	16	1	13	4	7.8	4	15.3	4	32.9	7	8.1							DS	8/8	1320	8
Reference / C980716.03	17	2	18	4	7.8	4	15.2	4	32.2	7	8.0							AM	8/9	0930	4
Reference / C980716.03	18	3	2	4	7.4	4	15.6	4	33.0	7	8.0							MW	8/10	1630	8
Reference / C980716.03	19	4	30	4	7.9	4	15.2	4	33.0	7	8.1							MW	8/11	0815	8
Reference / C980716.03	20	5	22	4	7.7	4	15.3	4	32.8	7	8.0							DS	8/12	0850	8
Reference / C980716.03	21	1	13	4	7.7	4	15.3	4	33.1	7	8.1							DS	8/13	0820	8
Reference / C980716.03	22	2	18	4	7.8	4	15.1	4	32.9	7	8.1							AM	8/14	0900	8
Reference / C980716.03	23	3	2	4	7.8	4	15.1	4	32.9	7	8.1							AM	8/15	0830	8
Reference / C980716.03	24	4	30	4	7.7	4	15.2	4	33.0	7	7.9							DS	8/16	165	8
Reference / C980716.03	25	5	22	4	7.6	4	15.8	4	32.8	7	8.0							DS	8/17	1130	8
Reference / C980716.03	26	1	13	4	7.8	4	15.1	4	33.0	7	8.0							AM	8/18	0820	8
Reference / C980716.03	27	2	18	4	7.8	4	15.2	4	32.9	7	7.9							MW	8/19	0830	8
Reference / C980716.03	28	3	2	4	7.7	4	15.2	4	33.0	7	7.9	K	0.000					MW/JMW	8/20	0800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
Reference / C980716.03												

28 DAY BIOACCUM[illegible] ATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Area 1 Top Comp / C980718.02-06,C980720.01 04T	0	1	12	4	7.4	4	15.5	4	33.1	4	7.9	L	0.142					MG/DS	7/23	0900	8
		2	31		7.5		15.4		33.0		8.0										8
		3	4		7.5		15.4		33.0		7.9										8
		4	19		7.4		15.5		33.0		7.9										8
		5	16		7.5		15.5		33.0		7.9										8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	1	1	12	4	7.8	4	15.7	4	33.0	7	8.0							MW	7/24	820	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	2	2	31	4	7.7	4	16.1	4	33.1	7	8.1							MW	7/25	959	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	3	3	4	4	7.7	4	16.0	4	33.1	7	8.1							AM	7/26	0936	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	4	4	19	4	7.7	4	16.1	4	33.0	7	7.9							AM	7/27	0900	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	5	5	16	4	7.8	4	16.1	4	33.0	7	7.9							MW	7/28	815	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	6	1	12	4	7.7	4	16.2	4	32.9	7	8.0							AM/MW	7/29	0910	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	7	2	31	4	7.3	4	16.0	4	33.0	7	8.0							MAI	7/30	1730	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	8	3	4	4	7.6	4	16.1	4	33.0	7	8.2							MAI	7/31	1720	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	9	4	19	4	7.6	4	15.9	4	32.9	7	8.3							DS/MN	8/1	1030	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	10	5	16	4	7.6	4	16.3	4	32.9	7	8.1							MW	8/2	1000	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	11	1	12	4	7.3	4	15.8	4	32.4	7	8.1							AM	8/3	0900	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	12	2	31	4	7.6	4	15.1	4	32.7	7	8.0							DS	8/4	1115	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	13	3	4	4	7.6	4	15.2	4	32.8	7	8.0							DS	8/5	0900	8

①WC 7.31.98 mr

28 DAY BIOACCUM' ATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Area 1 Top Comp / C980718.02-06,C980720.01-04T	14	4	19	4	7.6	4	15.3	4	32.9	7	8.1							DS	8/6	0800	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	15	5	16	4	7.3	4	15.4	4	32.9	7	8.1							MW	8/7	820	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	16	1	12	4	7.6	4	15.1	4	33.0	7	8.1							DS	8/8	1320	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	17	2	31	4	7.4	4	15.3	4	33.0	7	7.9							AM	8/9	0930	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	18	3	9	4	7.6	4	15.9	4	33.0	7	8.0							MW	8/10	1630	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	19	4	19	4	8.0	4	15.9	4	33.1	7	8.1							MW	8/11	0815	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	20	5	16	4	7.6	4	15.3	4	33.0	7	8.0							DS	8/12	0850	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	21	1	12	4	7.6	4	15.1	4	33.0	7	8.1							DS	8/13	0820	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	22	2	31	4	7.6	4	15.5	4	33.0	7	8.0							AM	8/14	0900	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	23	3	4	4	7.8	4	15.0	4	33.0	7	8.2							AM	8/15	0930	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	24	4	19	4	7.6	4	15.1	4	32.9	7	8.0							DS	8/16	1615	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	25	5	16	4	7.6	4	15.5	4	32.9	7	8.0							DS	8/17	1130	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	26	1	12	4	7.8	4	15.1	4	33.0	7	8.0							AM	8/18	0830	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	27	2	31	4	7.8	4	15.2	4	33.0	7	8.0							MW	8/19	0830	8
Area 1 Top Comp / C980718.02-06,C980720.01-04T	28	3	9	4	7.6	4	15.1	4	32.9	7	7.9	<	0.002					MW/JMW	8/20	0800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
Area 1 Top Comp / C980718.02-06,C980720.01-04T												

28 DAY BIOACCUMI ATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991

MEC JOB NUMBER	PROJECT MANAGER	SPECIES 2 (SAME CHAMBER)	TEST START DATE	TEST END DATE
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Area 1 Bot Comp / C980718.02-06,C980720.01 04B	0	1	5	4	7.4	4	15.5	4	33.0	7	7.9	&	0.179					DS/MG	7/23	0900	8
		2	15		7.4		15.5		33.0		7.9										8
		3	6		7.4		15.5		33.0		7.9										8
		4	14		7.3		15.5		33.1		8.0										8
		5	26	↓	7.4	↓	15.6	↓	33.1	↓	7.9							↓			8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	1	1	5	4	7.6	4	15.8	4	33.0	7	8.0							MN	7/24	820	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	2	2	15	4	7.7	4	16.0	4	33.1	7	8.0							MN	7/25	959	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	3	3	6	4	7.4	4	16.0	4	32.3	7	8.0							AM	7/26	0936	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	4	4	14	4	7.5	4	16.0	4	32.9	7	7.9							AM	7/27	0940	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	5	5	26	4	7.6	4	16.1	4	32.9	7	8.0							MN	7/28	0815	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	6	1	5	4	7.4	4	16.1	4	32.7	7	8.0							AM/MN	7/29	0910	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	7	2	15	4	7.6	4	15.8	4	33.1	7	8.1							MAI	7/30	1735	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	8	3	6	4	7.6	4	16.0	4	33.1	7	8.1							MAI	7/31	1720	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	9	4	14	4	7.9	4	16.0	4	32.9	7	8.1							DS/MN	8/1	1030	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	10	5	26	4	7.8	4	15.9	4	32.9	7	8.1							MN	8/2	0900	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	11	1	5	4	7.1	4	15.9	4	32.9	7	8.1							AM	8/3	0800	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	12	2	15	4	7.7	4	15.2	4	32.8	7	8.0							DS	8/4	1115	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	13	3	6	4	7.8	4	15.2	4	~~29.5~~ ① 32.8	7	8.0							DS/JMW	8/5	0900	8

① MR - 8-5-98 DB

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	14	4	14	4	7.6	4	15.2	4	32.9	7	8.1							DS	8/6	0800	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	15	5	26	4	7.6	4	15.3	4	32.9	7	8.1							MW	8/7	820	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	16	1	5	4	7.6	4	15.1	4	32.7	7	8.1							DS	8/8	1320	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	17	2	15	4	7.7	4	15.4	4	33.0	7	8.0							AM	8/9	0930	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	18	3	6	4	7.9	4	15.4	4	33.0	7	8.1							MW	8/10	1630	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	19	4	14	4	7.7	4	15.3	4	33.0	7	8.1							MW	8/11	0815	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	20	5	26	4	7.4	4	15.7	4	32.9	7	8.0							DS	8/12	0850	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	21	1	5	4	7.6	4	15.0	4	33.1	7	8.0							DS	8/13	0820	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	22	2	15	4	7.8	4	15.2	4	32.3	7	8.1							AM	8/14	0900	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	23	3	6	4	7.7	4	15.2	4	32.8	7	8.3							AM	8/15	0830	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	24	4	14	4	7.4	4	15.2	4	32.9	7	8.0							DS	8/16	1615	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	25	5	26	4	7.6	4	15.9	4	32.8	7	7.9							DS	8/17	1120	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	26	1	5	4	7.4	4	15.1	4	32.2	7	8.1							AM	8/18	0830	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	27	2	15	4	7.8	4	15.5	4	32.9	7	8.0							MW	8/19	0830	8
Area 1 Bot Comp / C980718.02-06,C980720.01-04B	28	3	6	4	7.7	4	15.2	4	32.9	7	7.9	✗	0.000					MW/JM	8/20	0800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: *Macoma nasuta*						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
Area 1 Bot Comp / C980718.02-06,C980720.01-04B												

28 DAY BIOACCUM[illegible]ATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991

MEC JOB NUMBER	PROJECT MANAGER	SPECIES 2 (SAME CHAMBER)	TEST START DATE	TEST END DATE
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN (ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP. RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Area 2 Top Comp / C980716.12-18,C980717.02T	0	1	26	4	7.3	4	15.7	4	33.1	7	7.7	[illegible]	0.185					DS/MG	7/23	0900	8
		2	23		7.4		15.6		33.1		7.9										8
		3	7		7.4		15.7		33.0		7.7										8
		4 ① MG	33		7.4		15.6		32.9		7.8										8
		5	24		7.4		15.7		33.0		7.9										8
Area 2 Top Comp / C980716.12-18,C980717.02T	1	1	20	4	7.8	4	16.0	4	33.0	7	8.0							MN	7/24	820	8
Area 2 Top Comp / C980716.12-18,C980717.02T	2	2	23	4	7.6	4	15.9	4	33.1	7	8.0							MN	7/25	954	8
Area 2 Top Comp / C980716.12-18,C980717.02T	3	3	7	4	7.7	4	16.1	4	33.0	7	8.0							AM	7/26	0936	8
Area 2 Top Comp / C980716.12-18,C980717.02T	4	4	33	4	7.5	4	16.0	4	33.1	7	7.7							AM	7/27	0900	8
Area 2 Top Comp / C980716.12-18,C980717.02T	5	5	24	4	7.7	4	16.0	4	33.0	7	8.0							MN	7/28	895	8
Area 2 Top Comp / C980716.12-18,C980717.02T	6	1	20	4	7.4	4	16.0	4	33.0	7	7.9							AM/DS	7/29	0910	8
Area 2 Top Comp / C980716.12-18,C980717.02T	7	2	23	4	7.7	4	15.6	4	33.0	7	8.1							MAI	7/30	1730	8
Area 2 Top Comp / C980716.12-18,C980717.02T	8	3	7	4	7.7	4	15.7	4	33.0	7	8.1							MAI	7/31	1715	8
Area 2 Top Comp / C980716.12-18,C980717.02T	9	4	33	4	7.8	4	15.6	4	33.0	7	8.1							DS/MN	8/1	1030	8
Area 2 Top Comp / C980716.12-18,C980717.02T	10	5	24	4	7.5	4	16.0	4	32.9	7	8.0							MN	8/2	1000	8
Area 2 Top Comp / C980716.12-18,C980717.02T	11	1	20	4	7.1	4	16.1	4	32.7	7	8.1							AM	8/3	0800	8
Area 2 Top Comp / C980716.12-18,C980717.02T	12	2	23	4	7.6	4	15.3	4	32.8	7	8.1							DS	8/4	1115	8
Area 2 Top Comp / C980716.12-18,C980717.02T	13	3	7	4	7.6	4	15.1	4	32.8	7	7.9							DS	8/5	0900	8

① No Nephtys put in Rep 4 7-23-98 MG

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor, 16 µm filtered, uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O.		TEMP		SALINITY		pH		OVERLY. NH3		INTER. NH3		INTER. SULFIDE		TECHNICIAN	Date	Time	FLOW
				meter	mg/L	meter	°C	meter	ppt	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L				sec/50cc
Area 2 Top Comp / C980716.12-18,C980717.02T	14	4	33	4	7.7	4	15.1	4	32.8	7	8.1							DS	8/6	0820	8
Area 2 Top Comp / C980716.12-18,C980717.02T	15	5	24	4	7.8	4	15.2	4	32.9	7	8.2							MW	8/7	820	8
Area 2 Top Comp / C980716.12-18,C980717.02T	16	1	20	4	7.6	4	15.3	4	33.0	7	8.1							DS	8/8	1320	8
Area 2 Top Comp / C980716.12-18,C980717.02T	17	2	23	4	7.7	4	15.3	4	33.0	7	8.0							AM	8/9	0930	8
Area 2 Top Comp / C980716.12-18,C980717.02T	18	3	7	4	7.7	4	15.5	4	33.1	7	8.1							MW	8/10	1630	8
Area 2 Top Comp / C980716.12-18,C980717.02T	19	4	33	4	7.7	4	15.2	4	33.0	7	8.1							MW	8/11	825	8
Area 2 Top Comp / C980716.12-18,C980717.02T	20	5	24	4	7.5	4	15.2	4	33.0	7	8.1							DS	8/12	0850	8
Area 2 Top Comp / C980716.12-18,C980717.02T	21	1	20	4	7.5	4	15.3	4	33.0	7	8.0							DS	8/13	0820	8
Area 2 Top Comp / C980716.12-18,C980717.02T	22	2	23	4	7.4	4	15.1	4	33.0	7	8.1							AM	8/14	0900	4
Area 2 Top Comp / C980716.12-18,C980717.02T	23	3	7	4	7.8	4	15.1	4	32.9	7	8.1							AM	8/15	0830	8
Area 2 Top Comp / C980716.12-18,C980717.02T	24	4	33	4	7.5	4	15.3	4	32.9	7	8.0							DS	8/16	1605	8
Area 2 Top Comp / C980716.12-18,C980717.02T	25	5	24	4	7.5	4	15.7	4	32.9	7	8.0							DS	8/17	1130	8
Area 2 Top Comp / C980716.12-18,C980717.02T	26	1	20	4	7.6	4	15.1	4	32.9	7	7.9							AM	8/18	0830	8
Area 2 Top Comp / C980716.12-18,C980717.02T	27	2	23	4	7.3	4	15.3	4	32.9	7	8.0							MW	8/19	0830	8
Area 2 Top Comp / C980716.12-18,C980717.02T	28	3	7	4	7.5	4	14.9	4	32.9	7	7.9	<	0.000					MW/JM	8/20	0800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
Area 2 Top Comp / C980716.12-18,C980717.02T												

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Area 2 Bot Comp / C980716.12-18,C980717.02B	0	1	21	4	7.3	4	15.6	4	33.0	7	7.9							DS/MG	7/23	0900	8
		2	34		7.5		15.6		33.0		7.8										8
		3	8		7.3		15.5		33.0		7.9	JL	0.132								8
		4	27		7.4		15.5		32.9		7.9										8
		5 ①	35		7.5		15.6		33.0		7.9										8
Area 2 Bot Comp / C980716.12-18,C980717.02B	1	1	21	4	7.7	4	16.3	4	33.0	7	8.1							MW	7/24	820	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	2	2	34	4	7.6	4	15.8	4	33.1	7	8.0							MW	7/25	859	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	3	3	8	4	7.6	4	16.1	4	33.0	7	7.9							AM	7/26	0936	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	4	4	27	4	7.7	4	16.2	4	32.9	7	7.8							AM	7/27	0840	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	5	5	35	4	7.7	4	16.0	4	33.1	7	8.0							MW	7/28	845	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	6	1	21	4	7.5	4	15.8	4	32.9	7	7.8							AM/MW	7/29	0910	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	7	2	34	4	7.5	4	15.7	4	33.0	7	8.0							MAI	7/30	1730	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	8	3	8	4	7.6	4	15.7	4	33.0	7	8.2							MAI	7/31	1715	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	9	4	27	4	7.8	4	15.6	4	32.9	7	8.1							DS/MW	8/1	1030	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	10	5	35	4	7.7	4	15.9	4	32.9	7	8.1							MW	8/2	1000	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	11	1	21	4	7.6	4	15.9	4	32.9	7	8.1							AM	8/3	0900	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	12	2	34	4	7.7	4	14.8	4	32.7	7	7.8							DS	8/4	1115	8
Area 2 Bot Comp / C980716.12-18,C980717.02B	13	3	8	4	7.5	4	15.1	4	32.8	7	7.9							DS/JMW	8/5	0900	8

① No Nephtys put in Rep 5 7/23/98 MG

28 DAY BIOACCUMULATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS: DO (mg/L) > 5.0 | TEMP (C) 15±2 | SALIN. (ppt) 30±2 | pH 8.0±0.5 | NH3 (mg/L) | WATER DESCRIPTION: SD Harbor, 16 µm filtered, uv-sterilized | TEMP.RECDR./HOBO# 119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Area 2 Bot. Comp / C980716.12-18,C980717.02B	14	4	27	4	7.6	4	15.2	4	32.9	7	8.1							DS	8/6	0820	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	15	5	35	4	7.7	4	15.3	4	32.9	7	8.1							MW	8/7	820	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	16	1	21	4	7.6	4	15.3	4	32.9	7	8.1							DS	8/8	1320	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	17	2	34	4	D	4	D	4	D	7	D							AM	8/9	0930	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	18	3	8	4	7.8	4	15.5	4	33.0	7	8.1							MW	8/10	1630	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	19	4	27	4	7.7	4	15.3	4	33.1	7	8.1							MW	8/11	0815	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	20	5	35	4	7.6	4	15.8	4	33.0	7	8.0							DS	8/12	0850	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	21	1	21	4	7.6	4	15.3	4	32.8	7	8.0							DS	8/13	0820	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	22	2	34	4	7.8	4	15.4	4	32.9	7	8.0							AM	8/14	0900	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	23	3	8	4	7.8	4	15.1	4	33.0	7	8.0							AM	8/15	0920	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	24	4	27	4	7.5	4	15.2	4	32.8	7	8.0							DS	8/16	1615	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	25	5	35	4	7.4	4	15.8	4	32.6	7	7.9							DS	8/17	1130	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	26	1	21	4	7.8	4	15.1	4	32.9	7	7.9							AM	8/18	0830	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	27	2	34	4	7.8	4	15.2	4	33.0	7	8.1							MW	8/19	0830	8
Area 2 Bot. Comp / C980716.12-18,C980717.02B	28	3	8	4	7.6	4	14.9	4	33.1	7	8.0	K	0.005					MW/JMW	8/20	0800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
Area 2 Bot Comp / C980716.12-18,C980717.02B												

D No Reads 8/19/98

28 DAY BIOACCUM' ATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor; 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Area 3 Comp / C980716.04-11 Comp	0	1	29		7.4		15.8	4	33.1	7	7.9								7/23	0900	8
		2	3110		7.4		15.4		33.1		7.9	Je	0.137								8
		3 ①	32		7.5		15.6		33.1		7.9										8
		4	3		7.5		15.6		33.1		7.9										8
		5	17		7.5		15.4		33.0		7.9										9
Area 3 Comp / C980716.04-11 Comp	1	1	29	4	7.7	4	16.1	4	33.0	7	8.0							MW	7/24	820	8
Area 3 Comp / C980716.04-11 Comp	2	2	10	4	7.7	4	15.6	4	33.1	7	8.1							MW	7/25	959	8
Area 3 Comp / C980716.04-11 Comp	3	3	32	4	7.5	4	16.1	4	33.0	7	8.1							AM	7/26	0926	8
Area 3 Comp / C980716.04-11 Comp	4	4	3	4	7.5	4	16.0	4	33.0	7	7.9							AM	7/27	0840	8
Area 3 Comp / C980716.04-11 Comp	5	5	17	4	7.7	4	15.9	4	33.0	7	8.0							MW	7/28	0815	8
Area 3 Comp / C980716.04-11 Comp	6	1	29	4	7.3	4	16.3	4	32.8	7	7.6							AM/DS	7/29	0940	9
Area 3 Comp / C980716.04-11 Comp	7	2	10	4	7.4	4	16.0	4	33.0	7	8.1							MAI	7/30	1740	8
Area 3 Comp / C980716.04-11 Comp	8	3	32	4	7.6	4	15.6	4	32.9	7	8.2							MAI	7/31	1710	8
Area 3 Comp / C980716.04-11 Comp	9	4	3	4	7.5	4	16.2	4	32.9	7	8.0							DS/MW	8/1	1030	8
Area 3 Comp / C980716.04-11 Comp	10	5	17	4	7.7	4	16.1	4	32.9	7	8.1							MW	8/2	1000	8
Area 3 Comp / C980716.04-11 Comp	11	1	29	4	7.4	4	16.1	4	32.8	7	8.1							AM	8/3	0820	8
Area 3 Comp / C980716.04-11 Comp	12	2	10	4	7.4	4	15.0	4	32.8	7	8.0							DS	8/4	1115	8
Area 3 Comp / C980716.04-11 Comp	13	3	32	4	7.5	4	15.5	4	32.7	7	7.9							DS	8/5	0900	8

① Ranout of Nephtys, none in samRep 3 MG 7-23-98

28 DAY BIOACCUM' ATION DATA SHEET 2

MEC ANALYTICAL SYSTEMS, INC.

CLIENT	PROJECT	SPECIES 1	MEC LABORATORY	PROTOCOL
LA ACOE	LA River Estuary	*Macoma nasuta*	San Diego Harbor 15 deg. room	USEPA/USCOE 1991
MEC JOB NUMBER	**PROJECT MANAGER**	**SPECIES 2 (SAME CHAMBER)**	**TEST START DATE**	**TEST END DATE**
0719-019	Krause/ Green	*Nephtys caecoides*	22Jul98	19Aug98

WATER QUALITY DATA

TEST CONDITIONS	DO (mg/L)	TEMP (C)	SALIN.(ppt)	pH	NH3 (mg/L)	WATER DESCRIPTION	TEMP.RECDR./HOBO#
	> 5.0	15±2	30±2	8.0±0.5		SD Harbor, 16 µm filtered; uv-sterilized	119281

CLIENT/MEC ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	OVERLY. NH3 Techn.	OVERLY. NH3 mg/L	INTER. NH3 Techn.	INTER. NH3 mg/L	INTER. SULFIDE Techn.	INTER. SULFIDE mg/L	TECHNICIAN	Date	Time	FLOW sec/50cc
Area 3 Comp / C980716.04-11 Comp	14	4	3	4	7.6	4	15.1	4	32.9	7	8.1							DS	8/6	0820	8
Area 3 Comp / C980716.04-11 Comp	15	5	17	4	7.6	4	15.1	4	32.9	7	8.1							MW	8/7	820	8
Area 3 Comp / C980716.04-11 Comp	16	1	29	4	7.4	4	15.2	4	32.9	7	8.0							DS	8/8	1320	8
Area 3 Comp / C980716.04-11 Comp	17	2	10	4	7.7	4	15.3	4	33.0	7	8.0							AM	8/9	0925	8
Area 3 Comp / C980716.04-11 Comp	18	3	32	4	7.7	4	15.4	4	33.0	7	8.1							MW	8/10	1630	8
Area 3 Comp / C980716.04-11 Comp	19	4	3	4	7.4	4	15.6	4	33.0	7	8.0							MW	8/11	0815	8
Area 3 Comp / C980716.04-11 Comp	20	5	17	4	7.6	4	15.2	4	33.0	7	8.1							DS	8/12	0800	8
Area 3 Comp / C980716.04-11 Comp	21	1	29	4	7.3	4	15.4	4	33.0	7	7.9							DS	8/13	0820	8
Area 3 Comp / C980716.04-11 Comp	22	2	10	4	7.5	4	15.2	4	33.0	7	8.1							AM	8/14	0900	8
Area 3 Comp / C980716.04-11 Comp	23	3	32	4	7.4	4	15.4	4	33.0	7	7.9							AM	8/15	0825	8
Area 3 Comp / C980716.04-11 Comp	24	4	3	4	7.5	4	14.9	4	33.0	7	8.1							DS	8/16	1645	8
Area 3 Comp / C980716.04-11 Comp	25	5	17	4	7.6	4	15.5	4	32.8	7	8.0							DS	8/17	1130	8
Area 3 Comp / C980716.04-11 Comp	26	1	29	4	7.4	4	15.1	4	33.0	7	7.9							AM	8/18	0830	8
Area 3 Comp / C980716.04-11 Comp	27	2	10	4	7.7	4	15.6	4	33.0	7	8.0							MW	8/19	0820	8
Area 3 Comp / C980716.04-11 Comp	28	3	32	4	7.6	4	14.9	4	33.0	7	8.0	JL	0.000					MW/JMW	8/20	0800	8

SURVIVAL DATA

CLIENT/MEC ID	SPECIES 1: Macoma nasuta						SPECIES 2 (SAME CHAMBER): Nephtys caecoides					
	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.	INITIAL #	REP 1 SURV.	REP 2 SURV.	REP 3 SURV.	REP 4 SURV.	REP 5 SURV.
Area 3 Comp / C980716.04-11 Comp												

APPENDIX G

Tissue Chemistry

Pacific Treatment
Analytical Services, Inc.

4340 Viewridge Avenue, Suite A • San Diego, CA 92123
(619) 560-7717 • Fax (619) 560-7763
Analytical Chemistry Laboratory

September 8, 1998

MEC Analytical Systems, Inc.
Attn: Dr. Paul Krause
98 Main Street, Suite #428
Tiburon, California 94920

Project Name/No.: LARE/ACOE
Laboratory Log No.: 1688-98
Date Received: 08/24/98
Sample Matrix: Thirty clam tissue samples and twenty-seven worm tissue
PO No.: 0719-019

Please find the following enclosures for the above referenced project identified:

1) Analytical Report
2) QA/QC Report
3) Cooler Receipt Form
4) Chain of Custody Form

Comment: EPA 948.15 (AOAC) was performed by subcontract laboratory, results enclosed.

.....***Certificate of Analysis***.....

Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. Date of extraction, date of analysis, detection limits and dilution factor are reported for each compound analyzed. All samples were analyzed within the method required holding time from sample collection.

A cooler receipt form is utilized upon receipt of sample(s) at PTAS. This helps ensure sample integrity from start to finish.

Data for each analytical method was evaluated by assessing the following QA/QC functions, as applicable to the methodology:

- Quality Control Standard
- Surrogate Percent Recovery
- Laboratory Control Sample (LCS) percent recoveries for all analyses,
- Matrix Spike Recovery/Matrix Spike Duplicate Recovery (MSR & MSDR) and/or
- Relative Percent Difference (RPD from MSR & MSDR).

I certify that this data report is in compliance both technically and for completeness. Release of the data contained in this hardcopy data report has been authorized by the following signature.

Janis Columbo
Vice President/Laboratory Director

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
ANALYSIS METHOD: EPA 7471
ANALYSIS: MERCURY

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE DIGESTED: 08/26/98
DATE ANALYZED: 08/27/98
MATRIX: CLAM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-1	0.02	1	0.02
REFERENCE REP 2	1688-98-2	0.02	1	0.07
REFERENCE REP 3	1688-98-3	0.02	1	0.02
REFERENCE REP 4	1688-98-4	0.02	1	< 0.02
REFERENCE REP 5	1688-98-5	0.02	1	0.02
1 TOP REP 1	1688-98-6	0.02	1	0.02
1 TOP REP 2	1688-98-7	0.02	1	0.02
1 TOP REP 3	1688-98-8	0.02	1	0.02
1 TOP REP 4	1688-98-9	0.02	1	< 0.02
1 TOP REP 5	1688-98-10	0.02	1	0.02
BOTTOM REP 1	1688-98-11	0.02	1	< 0.02
BOTTOM REP 2	1688-98-12	0.02	1	0.02
BOTTOM REP 3	1688-98-13	0.02	1	0.02
BOTTOM REP 4	1688-98-14	0.02	1	0.02
BOTTOM REP 5	1688-98-15	0.02	1	< 0.02
2 TOP REP 1	1688-98-16	0.02	1	0.03
2 TOP REP 2	1688-98-17	0.02	1	0.03
2 TOP REP 3	1688-98-18	0.02	1	0.03
2 TOP REP 4	1688-98-19	0.02	1	0.03
2 TOP REP 5	1688-98-20	0.02	1	0.02
2 TOP REP 5 (DUP.)	1688-98-20 (DUP.)	0.02	1	0.02
2 BOTTOM REP 1	1688-98-21	0.02	1	< 0.02
2 BOTTOM REP 2	1688-98-22	0.02	1	0.03
2 BOTTOM REP 3	1688-98-23	0.02	1	0.03
2 BOTTOM REP 4	1688-98-24	0.02	1	0.03
2 BOTTOM REP 5	1688-98-25	0.02	1	0.03
3 COMP REP 1	1688-98-26	0.02	1	0.03
3 COMP REP 2	1688-98-27	0.02	1	0.02
3 COMP REP 3	1688-98-28	0.02	1	0.03
3 COMP REP 4	1688-98-29	0.02	1	0.03
3 COMP REP 5	1688-98-30	0.02	1	< 0.02

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/25-26/98
ANALYSIS METHOD:	EPA 7471	DATE ANALYZED:	08/27/98
ANALYSIS:	MERCURY	MATRIX:	WORM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-31	0.02	1	< 0.02
REFERENCE REP 2	1688-98-32	0.02	1	< 0.02
REFERENCE REP 3	1688-98-33	0.02	1	< 0.02
REFERENCE REP 4	1688-98-34	0.02	1	< 0.02
REFERENCE REP 5	1688-98-35	0.02	1	< 0.02
1 TOP REP 1	1688-98-36	0.02	1	< 0.02
1 TOP REP 2	1688-98-37	0.02	1	< 0.02
1 TOP REP 3	1688-98-38	0.02	1	< 0.02
1 TOP REP 4	1688-98-39	0.02	1	< 0.02
1 TOP REP 5	1688-98-40	0.02	1	< 0.02
BOTTOM REP 1	1688-98-41	0.02	1	< 0.02
BOTTOM REP 2	1688-98-42	0.02	1	< 0.02
BOTTOM REP 3	1688-98-43	0.02	1	< 0.02
BOTTOM REP 4	1688-98-44	0.02	1	< 0.02
BOTTOM REP 5	1688-98-45	0.02	1	< 0.02
2 TOP REP 1	1688-98-46	0.02	1	< 0.02
2 TOP REP 2	1688-98-47	0.02	1	< 0.02
2 TOP REP 3	1688-98-48	0.02	1	< 0.02
2 TOP REP 5	1688-98-50	0.02	1	< 0.02
2 BOTTOM REP 1	1688-98-51	0.02	1	< 0.02
2 BOTTOM REP 2	1688-98-52	0.02	1	< 0.02
2 BOTTOM REP 3	1688-98-53	0.02	1	< 0.02
2 BOTTOM REP 4	1688-98-54	0.02	1	< 0.02
3 COMP REP 1	1688-98-56	0.02	1	< 0.02
3 COMP REP 2	1688-98-57	0.02	1	< 0.02
3 COMP REP 3	1688-98-59	0.02	1	< 0.02
3 COMP REP 4	1688-98-60	0.02	1	< 0.02

DF = DILUTION FACTOR

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
ANALYSIS METHOD: EPA 3050/6020 M
ANALYSIS: CADMIUM

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE DIGESTED: 08/26-27/98
DATE ANALYZED: 08/27-28/98
MATRIX: CLAM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-1	0.10	1	< 0.10
REFERENCE REP 2	1688-98-2	0.10	1	< 0.10
REFERENCE REP 3	1688-98-3	0.10	1	< 0.10
REFERENCE REP 4	1688-98-4	0.10	1	< 0.10
REFERENCE REP 5	1688-98-5	0.10	1	< 0.10
1 TOP REP 1	1688-98-6	0.10	1	< 0.10
1 TOP REP 2	1688-98-7	0.10	1	< 0.10
1 TOP REP 3	1688-98-8	0.10	1	< 0.10
1 TOP REP 4	1688-98-9	0.10	1	< 0.10
1 TOP REP 5	1688-98-10	0.10	1	< 0.10
BOTTOM REP 1	1688-98-11	0.10	1	< 0.10
BOTTOM REP 2	1688-98-12	0.10	1	< 0.10
BOTTOM REP 3	1688-98-13	0.10	1	< 0.10
BOTTOM REP 4	1688-98-14	0.10	1	< 0.10
BOTTOM REP 5	1688-98-15	0.10	1	< 0.10
2 TOP REP 1	1688-98-16	0.10	1	< 0.10
2 TOP REP 2	1688-98-17	0.10	1	< 0.10
2 TOP REP 3	1688-98-18	0.10	1	< 0.10
2 TOP REP 4	1688-98-19	0.10	1	< 0.10
2 TOP REP 5	1688-98-20	0.10	1	< 0.10
2 TOP REP 5 (DUP.)	1688-98-20 (DUP.)	0.10	1	< 0.10
2 BOTTOM REP 1	1688-98-21	0.10	1	< 0.10
2 BOTTOM REP 2	1688-98-22	0.10	1	0.12
2 BOTTOM REP 3	1688-98-23	0.10	1	< 0.10
2 BOTTOM REP 4	1688-98-24	0.10	1	< 0.10
2 BOTTOM REP 5	1688-98-25	0.10	1	< 0.10
3 COMP REP 1	1688-98-26	0.10	1	< 0.10
3 COMP REP 2	1688-98-27	0.10	1	< 0.10
3 COMP REP 3	1688-98-28	0.10	1	< 0.10
3 COMP REP 4	1688-98-29	0.10	1	< 0.10
3 COMP REP 5	1688-98-30	0.10	1	< 0.10
3 COMP REP 5 (DUP.)	1688-98-30 (DUP.)	0.10	1	< 0.10

DF = DILUTION FACTOR

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/25-27/98
ANALYSIS METHOD:	EPA 3050/6020 M	DATE ANALYZED:	08/27-09/03/98
ANALYSIS:	CADMIUM	MATRIX:	WORM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-31	0.10	1	< 0.10
REFERENCE REP 2	1688-98-32	0.10	1	0.11
REFERENCE REP 3	1688-98-33	0.10	1	< 0.10
REFERENCE REP 3 (DUP.)	1688-98-33 (DUP.)	0.10	1	< 0.10
REFERENCE REP 4	1688-98-34	0.10	1	< 0.10
REFERENCE REP 5	1688-98-35	0.10	1	< 0.10
1 TOP REP 1	1688-98-36	0.10	1	0.11
1 TOP REP 2	1688-98-37	0.10	1	0.11
1 TOP REP 3	1688-98-38	0.10	1	< 0.10
1 TOP REP 4	1688-98-39	0.10	1	0.14
1 TOP REP 5	1688-98-40	0.10	1	0.11
BOTTOM REP 1	1688-98-41	0.10	1	< 0.10
BOTTOM REP 2	1688-98-42	0.10	1	0.10
BOTTOM REP 3	1688-98-43	0.10	1	< 0.10
BOTTOM REP 4	1688-98-44	0.10	1	0.11
BOTTOM REP 5	1688-98-45	0.10	1	< 0.10
2 TOP REP 1	1688-98-46	0.10	1	< 0.10
2 TOP REP 2	1688-98-47	0.10	1	< 0.10
2 TOP REP 3	1688-98-48	0.10	1	< 0.10
2 TOP REP 5	1688-98-50	0.10	1	< 0.10
2 BOTTOM REP 1	1688-98-51	0.10	1	< 0.10
2 BOTTOM REP 2	1688-98-52	0.10	1	0.12
2 BOTTOM REP 3	1688-98-53	0.10	1	< 0.10
2 BOTTOM REP 4	1688-98-54	0.10	1	0.11
3 COMP REP 1	1688-98-56	0.10	1	0.12
3 COMP REP 2	1688-98-57	0.10	1	< 0.10
3 COMP REP 3	1688-98-59	0.10	1	0.10
3 COMP REP 4	1688-98-60	0.10	1	< 0.10

DF = DILUTION FACTOR

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/26-27/98
ANALYSIS METHOD:	EPA 3050/6020 M	DATE ANALYZED:	08/27-28/98
ANALYSIS:	CHROMIUM	MATRIX:	CLAM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-1	0.10	1	0.47
REFERENCE REP 2	1688-98-2	0.10	1	0.53
REFERENCE REP 3	1688-98-3	0.10	1	0.49
REFERENCE REP 4	1688-98-4	0.10	1	0.40
REFERENCE REP 5	1688-98-5	0.10	1	0.42
1 TOP REP 1	1688-98-6	0.10	1	0.43
1 TOP REP 2	1688-98-7	0.10	1	0.44
1 TOP REP 3	1688-98-8	0.10	1	0.35
1 TOP REP 4	1688-98-9	0.10	1	0.45
1 TOP REP 5	1688-98-10	0.10	1	0.38
BOTTOM REP 1	1688-98-11	0.10	1	0.40
BOTTOM REP 2	1688-98-12	0.10	1	1.2
BOTTOM REP 3	1688-98-13	0.10	1	0.41
BOTTOM REP 4	1688-98-14	0.10	1	0.42
BOTTOM REP 5	1688-98-15	0.10	1	0.38
2 TOP REP 1	1688-98-16	0.10	1	0.43
2 TOP REP 2	1688-98-17	0.10	1	0.45
2 TOP REP 3	1688-98-18	0.10	1	0.38
2 TOP REP 4	1688-98-19	0.10	1	1.1
2 TOP REP 5	1688-98-20	0.10	1	0.48
2 TOP REP 5 (DUP.)	1688-98-20 (DUP.)	0.10	1	0.38
2 BOTTOM REP 1	1688-98-21	0.10	1	0.47
2 BOTTOM REP 2	1688-98-22	0.10	1	0.39
2 BOTTOM REP 3	1688-98-23	0.10	1	0.46
2 BOTTOM REP 4	1688-98-24	0.10	1	0.43
2 BOTTOM REP 5	1688-98-25	0.10	1	0.50
3 COMP REP 1	1688-98-26	0.10	1	0.60
3 COMP REP 2	1688-98-27	0.10	1	0.56
3 COMP REP 3	1688-98-28	0.10	1	0.57
3 COMP REP 4	1688-98-29	0.10	1	0.44
3 COMP REP 5	1688-98-30	0.10	1	0.44
3 COMP REP 5 (DUP.)	1688-98-30 (DUP.)	0.10	1	0.43

DF = DILUTION FACTOR

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
ANALYSIS METHOD: EPA 3050/6020 M
ANALYSIS: CHROMIUM

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE DIGESTED: 08/25-27/98
DATE ANALYZED: 08/27-09/03/98
MATRIX: WORM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-31	0.10	1	0.10
REFERENCE REP 2	1688-98-32	0.10	1	< 0.10
REFERENCE REP 3	1688-98-33	0.10	1	< 0.10
REFERENCE REP 3 (DUP.)	1688-98-33 (DUP.)	0.10	1	< 0.10
REFERENCE REP 4	1688-98-34	0.10	1	< 0.10
REFERENCE REP 5	1688-98-35	0.10	1	< 0.10
1 TOP REP 1	1688-98-36	0.10	1	< 0.10
1 TOP REP 2	1688-98-37	0.10	1	< 0.10
1 TOP REP 3	1688-98-38	0.10	1	< 0.10
1 TOP REP 4	1688-98-39	0.10	1	< 0.10
1 TOP REP 5	1688-98-40	0.10	1	< 0.10
BOTTOM REP 1	1688-98-41	0.10	1	< 0.10
BOTTOM REP 2	1688-98-42	0.10	1	< 0.10
BOTTOM REP 3	1688-98-43	0.10	1	< 0.10
BOTTOM REP 4	1688-98-44	0.10	1	< 0.10
BOTTOM REP 5	1688-98-45	0.10	1	< 0.10
2 TOP REP 1	1688-98-46	0.10	1	< 0.10
2 TOP REP 2	1688-98-47	0.10	1	< 0.10
2 TOP REP 3	1688-98-48	0.10	1	< 0.10
2 TOP REP 5	1688-98-50	0.10	1	< 0.10
2 BOTTOM REP 1	1688-98-51	0.10	1	0.38
2 BOTTOM REP 2	1688-98-52	0.10	1	0.22
2 BOTTOM REP 3	1688-98-53	0.10	1	0.25
2 BOTTOM REP 4	1688-98-54	0.10	1	0.46
3 COMP REP 1	1688-98-56	0.10	1	0.20
3 COMP REP 2	1688-98-57	0.10	1	0.19
3 COMP REP 3	1688-98-59	0.10	1	0.26
3 COMP REP 4	1688-98-60	0.10	1	0.20

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/26-27/98
ANALYSIS METHOD:	EPA 3050/6020 M	DATE ANALYZED:	08/27-28/98
ANALYSIS:	COPPER	MATRIX:	CLAM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-1	0.1	1	4.5
REFERENCE REP 2	1688-98-2	0.1	1	5.6
REFERENCE REP 3	1688-98-3	0.1	1	4.0
REFERENCE REP 4	1688-98-4	0.1	1	3.9
REFERENCE REP 5	1688-98-5	0.1	1	5.3
1 TOP REP 1	1688-98-6	0.1	1	5.0
1 TOP REP 2	1688-98-7	0.1	1	6.6
1 TOP REP 3	1688-98-8	0.1	1	5.4
1 TOP REP 4	1688-98-9	0.1	1	4.0
1 TOP REP 5	1688-98-10	0.1	1	4.3
BOTTOM REP 1	1688-98-11	0.1	1	5.8
BOTTOM REP 2	1688-98-12	0.1	1	4.6
BOTTOM REP 3	1688-98-13	0.1	1	5.5
BOTTOM REP 4	1688-98-14	0.1	1	10
BOTTOM REP 5	1688-98-15	0.1	1	12
2 TOP REP 1	1688-98-16	0.1	1	4.0
2 TOP REP 2	1688-98-17	0.1	1	7.2
2 TOP REP 3	1688-98-18	0.1	1	7.1
2 TOP REP 4	1688-98-19	0.1	1	6.0
2 TOP REP 5	1688-98-20	0.1	1	4.4
2 TOP REP 5 (DUP.)	1688-98-20 (DUP.)	0.1	1	5.0
2 BOTTOM REP 1	1688-98-21	0.1	1	4.6
2 BOTTOM REP 2	1688-98-22	0.1	1	2.9
2 BOTTOM REP 3	1688-98-23	0.1	1	4.6
2 BOTTOM REP 4	1688-98-24	0.1	1	4.5
2 BOTTOM REP 5	1688-98-25	0.1	1	4.2
3 COMP REP 1	1688-98-26	0.1	1	5.1
3 COMP REP 2	1688-98-27	0.1	1	8.7
3 COMP REP 3	1688-98-28	0.1	1	6.6
3 COMP REP 4	1688-98-29	0.1	1	4.2
3 COMP REP 5	1688-98-30	0.1	1	3.7
3 COMP REP 5 (DUP.)	1688-98-30 (DUP.)	0.1	1	3.9

DF = DILUTION FACTOR

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/25-27/98
ANALYSIS METHOD:	EPA 3050/6020 M	DATE ANALYZED:	08/27-09/03/98
ANALYSIS:	COPPER	MATRIX:	WORM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-31	0.1	1	1.9
REFERENCE REP 2	1688-98-32	0.1	1	1.3
REFERENCE REP 3	1688-98-33	0.1	1	1.6
REFERENCE REP 3 (DUP.)	1688-98-33 (DUP.)	0.1	1	1.4
REFERENCE REP 4	1688-98-34	0.1	1	1.4
REFERENCE REP 5	1688-98-35	0.1	1	1.4
1 TOP REP 1	1688-98-36	0.1	1	1.8
1 TOP REP 2	1688-98-37	0.1	1	2.0
1 TOP REP 3	1688-98-38	0.1	1	2.0
1 TOP REP 4	1688-98-39	0.1	1	1.6
1 TOP REP 5	1688-98-40	0.1	1	1.8
BOTTOM REP 1	1688-98-41	0.1	1	2.0
BOTTOM REP 2	1688-98-42	0.1	1	1.7
BOTTOM REP 3	1688-98-43	0.1	1	1.6
BOTTOM REP 4	1688-98-44	0.1	1	1.6
BOTTOM REP 5	1688-98-45	0.1	1	2.0
2 TOP REP 1	1688-98-46	0.1	1	1.6
2 TOP REP 2	1688-98-47	0.1	1	1.6
2 TOP REP 3	1688-98-48	0.1	1	1.6
2 TOP REP 5	1688-98-50	0.1	1	1.5
2 BOTTOM REP 1	1688-98-51	0.1	1	1.4
2 BOTTOM REP 2	1688-98-52	0.1	1	1.3
2 BOTTOM REP 3	1688-98-53	0.1	1	1.4
2 BOTTOM REP 4	1688-98-54	0.1	1	1.5
3 COMP REP 1	1688-98-56	0.1	1	1.7
3 COMP REP 2	1688-98-57	0.1	1	1.3
3 COMP REP 3	1688-98-59	0.1	1	1.4
3 COMP REP 4	1688-98-60	0.1	1	1.4

DF = DILUTION FACTOR

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/25-27/98
ANALYSIS METHOD:	EPA 3050/6020 M	DATE ANALYZED:	08/27-09/03/98
ANALYSIS:	LEAD	MATRIX:	WORM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-31	0.10	1	0.17
REFERENCE REP 2	1688-98-32	0.10	1	0.16
REFERENCE REP 3	1688-98-33	0.10	1	0.14
REFERENCE REP 3 (DUP.)	1688-98-33 (DUP.)	0.10	1	0.16
REFERENCE REP 4	1688-98-34	0.10	1	0.15
REFERENCE REP 5	1688-98-35	0.10	1	0.13
1 TOP REP 1	1688-98-36	0.10	1	0.19
1 TOP REP 2	1688-98-37	0.10	1	0.93
1 TOP REP 3	1688-98-38	0.10	1	0.20
1 TOP REP 4	1688-98-39	0.10	1	0.22
1 TOP REP 5	1688-98-40	0.10	1	0.18
BOTTOM REP 1	1688-98-41	0.10	1	0.28
BOTTOM REP 2	1688-98-42	0.10	1	0.31
BOTTOM REP 3	1688-98-43	0.10	1	0.24
BOTTOM REP 4	1688-98-44	0.10	1	0.25
BOTTOM REP 5	1688-98-45	0.10	1	0.19
2 TOP REP 1	1688-98-46	0.10	1	0.22
2 TOP REP 2	1688-98-47	0.10	1	0.18
2 TOP REP 3	1688-98-48	0.10	1	0.21
2 TOP REP 5	1688-98-50	0.10	1	0.16
2 BOTTOM REP 1	1688-98-51	0.10	1	0.32
2 BOTTOM REP 2	1688-98-52	0.10	1	0.29
2 BOTTOM REP 3	1688-98-53	0.10	1	0.59
2 BOTTOM REP 4	1688-98-54	0.10	1	0.32
3 COMP REP 1	1688-98-56	0.10	1	0.28
3 COMP REP 2	1688-98-57	0.10	1	0.19
3 COMP REP 3	1688-98-59	0.10	1	0.37
3 COMP REP 4	1688-98-60	0.10	1	0.17

DF = DILUTION FACTOR

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
ANALYSIS METHOD: EPA 3050/6020 M
ANALYSIS: LEAD

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE DIGESTED: 08/26-27/98
DATE ANALYZED: 08/27-28/98
MATRIX: CLAM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-1	0.1	1	0.39
REFERENCE REP 2	1688-98-2	0.1	1	0.44
REFERENCE REP 3	1688-98-3	0.1	1	0.35
REFERENCE REP 4	1688-98-4	0.1	1	0.36
REFERENCE REP 5	1688-98-5	0.1	1	0.40
1 TOP REP 1	1688-98-6	0.1	1	1.0
1 TOP REP 2	1688-98-7	0.1	1	0.96
1 TOP REP 3	1688-98-8	0.1	1	0.87
1 TOP REP 4	1688-98-9	0.1	1	0.83
1 TOP REP 5	1688-98-10	0.1	1	0.98
BOTTOM REP 1	1688-98-11	0.1	1	1.2
BOTTOM REP 2	1688-98-12	0.1	1	1.2
BOTTOM REP 3	1688-98-13	0.1	1	0.98
BOTTOM REP 4	1688-98-14	0.1	1	1.2
BOTTOM REP 5	1688-98-15	0.1	1	1.2
2 TOP REP 1	1688-98-16	0.1	1	0.98
2 TOP REP 2	1688-98-17	0.1	1	0.97
2 TOP REP 3	1688-98-18	0.1	1	1.1
2 TOP REP 4	1688-98-19	0.1	1	1.2
2 TOP REP 5	1688-98-20	0.1	1	1.2
2 TOP REP 5 (DUP.)	1688-98-20 (DUP.)	0.1	1	1.0
2 BOTTOM REP 1	1688-98-21	0.1	1	1.4
2 BOTTOM REP 2	1688-98-22	0.1	1	1.0
2 BOTTOM REP 3	1688-98-23	0.1	1	1.3
2 BOTTOM REP 4	1688-98-24	0.1	1	1.3
2 BOTTOM REP 5	1688-98-25	0.1	1	1.3
3 COMP REP 1	1688-98-26	0.1	1	1.2
3 COMP REP 2	1688-98-27	0.1	1	1.0
3 COMP REP 3	1688-98-28	0.1	1	1.1
3 COMP REP 4	1688-98-29	0.1	1	0.87
3 COMP REP 5	1688-98-30	0.1	1	0.81
3 COMP REP 5 (DUP.)	1688-98-30 (DUP.)	0.1	1	0.94

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE
DATE DIGESTED: 08/26-27/98
ANALYSIS METHOD: EPA 3050/6020 M
DATE ANALYZED: 08/27-28/98
ANALYSIS: NICKEL
MATRIX: CLAM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-1	0.10	1	1.0
REFERENCE REP 2	1688-98-2	0.10	1	0.94
REFERENCE REP 3	1688-98-3	0.10	1	1.0
REFERENCE REP 4	1688-98-4	0.10	1	1.1
REFERENCE REP 5	1688-98-5	0.10	1	1.1
1 TOP REP 1	1688-98-6	0.10	1	1.3
1 TOP REP 2	1688-98-7	0.10	1	1.2
1 TOP REP 3	1688-98-8	0.10	1	0.93
1 TOP REP 4	1688-98-9	0.10	1	1.1
1 TOP REP 5	1688-98-10	0.10	1	0.95
BOTTOM REP 1	1688-98-11	0.10	1	1.0
BOTTOM REP 2	1688-98-12	0.10	1	2.1
BOTTOM REP 3	1688-98-13	0.10	1	1.3
BOTTOM REP 4	1688-98-14	0.10	1	1.1
BOTTOM REP 5	1688-98-15	0.10	1	1.0
2 TOP REP 1	1688-98-16	0.10	1	1.2
2 TOP REP 2	1688-98-17	0.10	1	1.1
2 TOP REP 3	1688-98-18	0.10	1	1.0
2 TOP REP 4	1688-98-19	0.10	1	1.7
2 TOP REP 5	1688-98-20	0.10	1	1.1
2 TOP REP 5 (DUP.)	1688-98-20 (DUP.)	0.10	1	1.0
2 BOTTOM REP 1	1688-98-21	0.10	1	1.5
2 BOTTOM REP 2	1688-98-22	0.10	1	0.92
2 BOTTOM REP 3	1688-98-23	0.10	1	0.93
2 BOTTOM REP 4	1688-98-24	0.10	1	1.1
2 BOTTOM REP 5	1688-98-25	0.10	1	1.1
3 COMP REP 1	1688-98-26	0.10	1	1.4
3 COMP REP 2	1688-98-27	0.10	1	1.4
3 COMP REP 3	1688-98-28	0.10	1	1.2
3 COMP REP 4	1688-98-29	0.10	1	1.4
3 COMP REP 5	1688-98-30	0.10	1	1.2
3 COMP REP 5 (DUP.)	1688-98-30 (DUP.)	0.10	1	1.2

DF = DILUTION FACTOR

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/25-27/98
ANALYSIS METHOD:	EPA 3050/6020 M	DATE ANALYZED:	08/27-09/03/98
ANALYSIS:	NICKEL	MATRIX:	WORM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-31	0.10	1	0.51
REFERENCE REP 2	1688-98-32	0.10	1	0.49
REFERENCE REP 3	1688-98-33	0.10	1	0.70
REFERENCE REP 3 (DUP.)	1688-98-33 (DUP.)	0.10	1	0.54
REFERENCE REP 4	1688-98-34	0.10	1	0.38
REFERENCE REP 5	1688-98-35	0.10	1	0.33
1 TOP REP 1	1688-98-36	0.10	1	0.61
1 TOP REP 2	1688-98-37	0.10	1	0.51
1 TOP REP 3	1688-98-38	0.10	1	0.63
1 TOP REP 4	1688-98-39	0.10	1	0.38
1 TOP REP 5	1688-98-40	0.10	1	0.33
BOTTOM REP 1	1688-98-41	0.10	1	0.64
BOTTOM REP 2	1688-98-42	0.10	1	0.48
BOTTOM REP 3	1688-98-43	0.10	1	0.66
BOTTOM REP 4	1688-98-44	0.10	1	0.90
BOTTOM REP 5	1688-98-45	0.10	1	0.68
2 TOP REP 1	1688-98-46	0.10	1	0.62
2 TOP REP 2	1688-98-47	0.10	1	0.26
2 TOP REP 3	1688-98-48	0.10	1	0.52
2 TOP REP 5	1688-98-50	0.10	1	0.46
2 BOTTOM REP 1	1688-98-51	0.10	1	0.29
2 BOTTOM REP 2	1688-98-52	0.10	1	0.64
2 BOTTOM REP 3	1688-98-53	0.10	1	0.79
2 BOTTOM REP 4	1688-98-54	0.10	1	0.54
3 COMP REP 1	1688-98-56	0.10	1	0.67
3 COMP REP 2	1688-98-57	0.10	1	0.60
3 COMP REP 3	1688-98-59	0.10	1	0.90
3 COMP REP 4	1688-98-60	0.10	1	0.61

DF = DILUTION FACTOR

DUP. = DUPLICATE

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
ANALYSIS METHOD: EPA 3050/6020 M
ANALYSIS: ZINC

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE DIGESTED: 08/26-27/98
DATE ANALYZED: 08/27-28/98
MATRIX: CLAM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-1	0.1	1	29
REFERENCE REP 2	1688-98-2	0.1	1	23
REFERENCE REP 3	1688-98-3	0.1	1	21
REFERENCE REP 4	1688-98-4	0.1	1	24
REFERENCE REP 5	1688-98-5	0.1	1	28
1 TOP REP 1	1688-98-6	0.1	1	32
1 TOP REP 2	1688-98-7	0.1	1	27
1 TOP REP 3	1688-98-8	0.1	1	24
1 TOP REP 4	1688-98-9	0.1	1	25
1 TOP REP 5	1688-98-10	0.1	1	25
BOTTOM REP 1	1688-98-11	0.1	1	20
BOTTOM REP 2	1688-98-12	0.1	1	22
BOTTOM REP 3	1688-98-13	0.1	1	23
BOTTOM REP 4	1688-98-14	0.1	1	19
BOTTOM REP 5	1688-98-15	0.1	1	23
2 TOP REP 1	1688-98-16	0.1	1	30
2 TOP REP 2	1688-98-17	0.1	1	31
2 TOP REP 3	1688-98-18	0.1	1	20
2 TOP REP 4	1688-98-19	0.1	1	25
2 TOP REP 5	1688-98-20	0.1	1	23
2 TOP REP 5 (DUP.)	1688-98-20 (DUP.)	0.1	1	22
2 BOTTOM REP 1	1688-98-21	0.1	1	21
2 BOTTOM REP 2	1688-98-22	0.1	1	18
2 BOTTOM REP 3	1688-98-23	0.1	1	24
2 BOTTOM REP 4	1688-98-24	0.1	1	23
2 BOTTOM REP 5	1688-98-25	0.1	1	22
3 COMP REP 1	1688-98-26	0.1	1	25
3 COMP REP 2	1688-98-27	0.1	1	26
3 COMP REP 3	1688-98-28	0.1	1	34
3 COMP REP 4	1688-98-29	0.1	1	24
3 COMP REP 5	1688-98-30	0.1	1	25
3 COMP REP 5 (DUP.)	1688-98-30 (DUP.)	0.1	1	27

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/25-27/98
ANALYSIS METHOD:	EPA 3050/6020 M	DATE ANALYZED:	08/27-09/03/98
ANALYSIS:	ZINC	MATRIX:	WORM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-31	0.1	1	33
REFERENCE REP 2	1688-98-32	0.1	1	29
REFERENCE REP 3	1688-98-33	0.1	1	32
REFERENCE REP 3 (DUP.)	1688-98-33 (DUP.)	0.1	1	34
REFERENCE REP 4	1688-98-34	0.1	1	31
REFERENCE REP 5	1688-98-35	0.1	1	29
1 TOP REP 1	1688-98-36	0.1	1	35
1 TOP REP 2	1688-98-37	0.1	1	40
1 TOP REP 3	1688-98-38	0.1	1	38
1 TOP REP 4	1688-98-39	0.1	1	37
1 TOP REP 5	1688-98-40	0.1	1	36
BOTTOM REP 1	1688-98-41	0.1	1	36
BOTTOM REP 2	1688-98-42	0.1	1	31
BOTTOM REP 3	1688-98-43	0.1	1	36
BOTTOM REP 4	1688-98-44	0.1	1	36
BOTTOM REP 5	1688-98-45	0.1	1	32
2 TOP REP 1	1688-98-46	0.1	1	35
2 TOP REP 2	1688-98-47	0.1	1	32
2 TOP REP 3	1688-98-48	0.1	1	34
2 TOP REP 5	1688-98-50	0.1	1	31
2 BOTTOM REP 1	1688-98-51	0.1	1	34
2 BOTTOM REP 2	1688-98-52	0.1	1	33
2 BOTTOM REP 3	1688-98-53	0.1	1	32
2 BOTTOM REP 4	1688-98-54	0.1	1	41
3 COMP REP 1	1688-98-56	0.1	1	38
3 COMP REP 2	1688-98-57	0.1	1	29
3 COMP REP 3	1688-98-59	0.1	1	35
3 COMP REP 4	1688-98-60	0.1	1	28

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
ANALYSIS METHOD: EPA 3050/6020 M
ANALYSIS: ARSENIC

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE DIGESTED: 08/26-27/98
DATE ANALYZED: 08/27-28/98
MATRIX: CLAM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-1	0.1	1	2.2
REFERENCE REP 2	1688-98-2	0.1	1	2.3
REFERENCE REP 3	1688-98-3	0.1	1	2.3
REFERENCE REP 4	1688-98-4	0.1	1	2.4
REFERENCE REP 5	1688-98-5	0.1	1	2.5
1 TOP REP 1	1688-98-6	0.1	1	2.8
1 TOP REP 2	1688-98-7	0.1	1	2.3
1 TOP REP 3	1688-98-8	0.1	1	2.4
1 TOP REP 4	1688-98-9	0.1	1	2.4
1 TOP REP 5	1688-98-10	0.1	1	2.4
BOTTOM REP 1	1688-98-11	0.1	1	2.6
BOTTOM REP 2	1688-98-12	0.1	1	2.3
BOTTOM REP 3	1688-98-13	0.1	1	2.2
BOTTOM REP 4	1688-98-14	0.1	1	2.7
BOTTOM REP 5	1688-98-15	0.1	1	2.3
2 TOP REP 1	1688-98-16	0.1	1	2.6
2 TOP REP 2	1688-98-17	0.1	1	2.1
2 TOP REP 3	1688-98-18	0.1	1	2.1
2 TOP REP 4	1688-98-19	0.1	1	2.2
2 TOP REP 5	1688-98-20	0.1	1	2.1
2 TOP REP 5 (DUP.)	1688-98-20 (DUP.)	0.1	1	2.1
2 BOTTOM REP 1	1688-98-21	0.1	1	2.3
2 BOTTOM REP 2	1688-98-22	0.1	1	2.2
2 BOTTOM REP 3	1688-98-23	0.1	1	2.0
2 BOTTOM REP 4	1688-98-24	0.1	1	2.3
2 BOTTOM REP 5	1688-98-25	0.1	1	2.1
3 COMP REP 1	1688-98-26	0.1	1	2.4
3 COMP REP 2	1688-98-27	0.1	1	2.2
3 COMP REP 3	1688-98-28	0.1	1	2.3
3 COMP REP 4	1688-98-29	0.1	1	2.1
3 COMP REP 5	1688-98-30	0.1	1	2.3
3 COMP REP 5 (DUP.)	1688-98-30 (DUP.)	0.1	1	2.3

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.:	LARE/ACOE	DATE DIGESTED:	08/25-27/98
ANALYSIS METHOD:	EPA 3050/6020 M	DATE ANALYZED:	08/27-09/03/98
ANALYSIS:	ARSENIC	MATRIX:	WORM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-31	0.1	1	3.5
REFERENCE REP 2	1688-98-32	0.1	1	3.2
REFERENCE REP 3	1688-98-33	0.1	1	3.6
REFERENCE REP 3 (DUP.)	1688-98-33 (DUP.)	0.1	1	3.5
REFERENCE REP 4	1688-98-34	0.1	1	3.0
REFERENCE REP 5	1688-98-35	0.1	1	2.8
1 TOP REP 1	1688-98-36	0.1	1	3.3
1 TOP REP 2	1688-98-37	0.1	1	3.5
1 TOP REP 3	1688-98-38	0.1	1	3.5
1 TOP REP 4	1688-98-39	0.1	1	3.2
1 TOP REP 5	1688-98-40	0.1	1	3.1
BOTTOM REP 1	1688-98-41	0.1	1	3.6
BOTTOM REP 2	1688-98-42	0.1	1	2.9
BOTTOM REP 3	1688-98-43	0.1	1	3.4
BOTTOM REP 4	1688-98-44	0.1	1	3.1
BOTTOM REP 5	1688-98-45	0.1	1	3.3
2 TOP REP 1	1688-98-46	0.1	1	3.5
2 TOP REP 2	1688-98-47	0.1	1	3.1
2 TOP REP 3	1688-98-48	0.1	1	3.2
2 TOP REP 5	1688-98-50	0.1	1	3.1
2 BOTTOM REP 1	1688-98-51	0.1	1	3.0
2 BOTTOM REP 2	1688-98-52	0.1	1	2.7
2 BOTTOM REP 3	1688-98-53	0.1	1	2.5
2 BOTTOM REP 4	1688-98-54	0.1	1	3.1
3 COMP REP 1	1688-98-56	0.1	1	3.1
3 COMP REP 2	1688-98-57	0.1	1	2.8
3 COMP REP 3	1688-98-59	0.1	1	2.9
3 COMP REP 4	1688-98-60	0.1	1	2.9

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE DIGESTED: 08/26-27/98
DATE ANALYZED: 08/27-28/98
MATRIX: CLAM TISSUE

PROJECT NAME/No.: LARE/ACOE
ANALYSIS METHOD: EPA 3050/6020 M
ANALYSIS: SELENIUM

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-1	0.10	1	0.28
REFERENCE REP 2	1688-98-2	0.10	1	0.27
REFERENCE REP 3	1688-98-3	0.10	1	0.24
REFERENCE REP 4	1688-98-4	0.10	1	0.30
REFERENCE REP 5	1688-98-5	0.10	1	0.26
1 TOP REP 1	1688-98-6	0.10	1	0.26
1 TOP REP 2	1688-98-7	0.10	1	0.32
1 TOP REP 3	1688-98-8	0.10	1	0.34
1 TOP REP 4	1688-98-9	0.10	1	0.26
1 TOP REP 5	1688-98-10	0.10	1	0.27
BOTTOM REP 1	1688-98-11	0.10	1	0.37
BOTTOM REP 2	1688-98-12	0.10	1	0.33
BOTTOM REP 3	1688-98-13	0.10	1	0.28
BOTTOM REP 4	1688-98-14	0.10	1	0.33
BOTTOM REP 5	1688-98-15	0.10	1	0.32
2 TOP REP 1	1688-98-16	0.10	1	0.34
2 TOP REP 2	1688-98-17	0.10	1	0.36
2 TOP REP 3	1688-98-18	0.10	1	0.34
2 TOP REP 4	1688-98-19	0.10	1	0.33
2 TOP REP 5	1688-98-20	0.10	1	0.34
2 TOP REP 5 (DUP.)	1688-98-20 (DUP.)	0.10	1	0.39
2 BOTTOM REP 1	1688-98-21	0.10	1	0.18
2 BOTTOM REP 2	1688-98-22	0.10	1	0.20
2 BOTTOM REP 3	1688-98-23	0.10	1	0.24
2 BOTTOM REP 4	1688-98-24	0.10	1	0.27
2 BOTTOM REP 5	1688-98-25	0.10	1	0.21
3 COMP REP 1	1688-98-26	0.10	1	0.19
3 COMP REP 2	1688-98-27	0.10	1	0.23
3 COMP REP 3	1688-98-28	0.10	1	0.21
3 COMP REP 4	1688-98-29	0.10	1	0.16
3 COMP REP 5	1688-98-30	0.10	1	0.23
3 COMP REP 5 (DUP.)	1688-98-30 (DUP.)	0.10	1	0.23

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
ANALYSIS METHOD: EPA 3050/6020 M
ANALYSIS: SELENIUM

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE DIGESTED: 08/25-27/98
DATE ANALYZED: 08/27-09/03/98
MATRIX: WORM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-31	0.10	1	0.44
REFERENCE REP 2	1688-98-32	0.10	1	0.40
REFERENCE REP 3	1688-98-33	0.10	1	0.44
REFERENCE REP 3 (DUP.)	1688-98-33 (DUP.)	0.10	1	0.43
REFERENCE REP 4	1688-98-34	0.10	1	0.43
REFERENCE REP 5	1688-98-35	0.10	1	0.37
1 TOP REP 1	1688-98-36	0.10	1	0.52
1 TOP REP 2	1688-98-37	0.10	1	0.55
1 TOP REP 3	1688-98-38	0.10	1	0.43
1 TOP REP 4	1688-98-39	0.10	1	0.48
1 TOP REP 5	1688-98-40	0.10	1	0.41
BOTTOM REP 1	1688-98-41	0.10	1	0.47
BOTTOM REP 2	1688-98-42	0.10	1	0.42
BOTTOM REP 3	1688-98-43	0.10	1	0.52
BOTTOM REP 4	1688-98-44	0.10	1	0.51
BOTTOM REP 5	1688-98-45	0.10	1	0.51
2 TOP REP 1	1688-98-46	0.10	1	0.50
2 TOP REP 2	1688-98-47	0.10	1	0.41
2 TOP REP 3	1688-98-48	0.10	1	0.52
2 TOP REP 5	1688-98-50	0.10	1	0.51
2 BOTTOM REP 1	1688-98-51	0.10	1	0.46
2 BOTTOM REP 2	1688-98-52	0.10	1	0.52
2 BOTTOM REP 3	1688-98-53	0.10	1	0.53
2 BOTTOM REP 4	1688-98-54	0.10	1	0.61
3 COMP REP 1	1688-98-56	0.10	1	0.57
3 COMP REP 2	1688-98-57	0.10	1	0.50
3 COMP REP 3	1688-98-59	0.10	1	0.54
3 COMP REP 4	1688-98-60	0.10	1	0.46

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
ANALYSIS METHOD: EPA 3050/6020 M
ANALYSIS: SILVER

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE DIGESTED: 08/26-27/98
DATE ANALYZED: 08/27-28/98
MATRIX: CLAM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-1	0.10	1	< 0.10
REFERENCE REP 2	1688-98-2	0.10	1	< 0.10
REFERENCE REP 3	1688-98-3	0.10	1	< 0.10
REFERENCE REP 4	1688-98-4	0.10	1	< 0.10
REFERENCE REP 5	1688-98-5	0.10	1	< 0.10
1 TOP REP 1	1688-98-6	0.10	1	< 0.10
1 TOP REP 2	1688-98-7	0.10	1	< 0.10
1 TOP REP 3	1688-98-8	0.10	1	< 0.10
1 TOP REP 4	1688-98-9	0.10	1	< 0.10
1 TOP REP 5	1688-98-10	0.10	1	< 0.10
BOTTOM REP 1	1688-98-11	0.10	1	< 0.10
BOTTOM REP 2	1688-98-12	0.10	1	< 0.10
BOTTOM REP 3	1688-98-13	0.10	1	< 0.10
BOTTOM REP 4	1688-98-14	0.10	1	< 0.10
BOTTOM REP 5	1688-98-15	0.10	1	< 0.10
2 TOP REP 1	1688-98-16	0.10	1	< 0.10
2 TOP REP 2	1688-98-17	0.10	1	< 0.10
2 TOP REP 3	1688-98-18	0.10	1	< 0.10
2 TOP REP 4	1688-98-19	0.10	1	< 0.10
2 TOP REP 5	1688-98-20	0.10	1	< 0.10
2 TOP REP 5 (DUP.)	1688-98-20 (DUP.)	0.10	1	< 0.10
2 BOTTOM REP 1	1688-98-21	0.10	1	< 0.10
2 BOTTOM REP 2	1688-98-22	0.10	1	< 0.10
2 BOTTOM REP 3	1688-98-23	0.10	1	< 0.10
2 BOTTOM REP 4	1688-98-24	0.10	1	< 0.10
2 BOTTOM REP 5	1688-98-25	0.10	1	< 0.10
3 COMP REP 1	1688-98-26	0.10	1	< 0.10
3 COMP REP 2	1688-98-27	0.10	1	< 0.10
3 COMP REP 3	1688-98-28	0.10	1	< 0.10
3 COMP REP 4	1688-98-29	0.10	1	< 0.10
3 COMP REP 5	1688-98-30	0.10	1	< 0.10
3 COMP REP 5 (DUP.)	1688-98-30 (DUP.)	0.10	1	< 0.10

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
ANALYSIS METHOD: EPA 3050/6020 M
ANALYSIS: SILVER

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE DIGESTED: 08/25-27/98
DATE ANALYZED: 08/27-09/03/98
MATRIX: WORM TISSUE

SAMPLE ID	PTAS LOG #	REPORTING LIMITS PPM (MG/KG)	DF	RESULTS PPM (MG/KG)
REFERENCE REP 1	1688-98-31	0.10	1	< 0.10
REFERENCE REP 2	1688-98-32	0.10	1	< 0.10
REFERENCE REP 3	1688-98-33	0.10	1	< 0.10
REFERENCE REP 3 (DUP.)	1688-98-33 (DUP.)	0.10	1	< 0.10
REFERENCE REP 4	1688-98-34	0.10	1	< 0.10
REFERENCE REP 5	1688-98-35	0.10	1	< 0.10
1 TOP REP 1	1688-98-36	0.10	1	< 0.10
1 TOP REP 2	1688-98-37	0.10	1	< 0.10
1 TOP REP 3	1688-98-38	0.10	1	< 0.10
1 TOP REP 4	1688-98-39	0.10	1	< 0.10
1 TOP REP 5	1688-98-40	0.10	1	< 0.10
BOTTOM REP 1	1688-98-41	0.10	1	< 0.10
BOTTOM REP 2	1688-98-42	0.10	1	< 0.10
BOTTOM REP 3	1688-98-43	0.10	1	< 0.10
BOTTOM REP 4	1688-98-44	0.10	1	< 0.10
BOTTOM REP 5	1688-98-45	0.10	1	< 0.10
2 TOP REP 1	1688-98-46	0.10	1	< 0.10
2 TOP REP 2	1688-98-47	0.10	1	< 0.10
2 TOP REP 3	1688-98-48	0.10	1	< 0.10
2 TOP REP 5	1688-98-50	0.10	1	< 0.10
2 BOTTOM REP 1	1688-98-51	0.10	1	< 0.10
2 BOTTOM REP 2	1688-98-52	0.10	1	< 0.10
2 BOTTOM REP 3	1688-98-53	0.10	1	< 0.10
2 BOTTOM REP 4	1688-98-54	0.10	1	< 0.10
3 COMP REP 1	1688-98-56	0.10	1	< 0.10
3 COMP REP 2	1688-98-57	0.10	1	< 0.10
3 COMP REP 3	1688-98-59	0.10	1	< 0.10
3 COMP REP 4	1688-98-60	0.10	1	< 0.10

DF = DILUTION FACTOR
DUP. = DUPLICATE
REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: N/A
	DATE RECEIVED: N/A
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: METHOD BLANK	DATE ANALYZED: 09/01/98
SAMPLE ID: N/A	MATRIX: SOLID
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-1		DATE ANALYZED:	09/01/98
SAMPLE ID: REFERENCE REP 1		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**8.1**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-2		DATE ANALYZED:	09/01/98
SAMPLE ID: REFERENCE REP 2		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**6.7**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-3		DATE ANALYZED:	09/01/98
SAMPLE ID: REFERENCE REP 3		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**3.3**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-3 (DUPLICATE)		DATE ANALYZED:	09/01/98
SAMPLE ID: REFERENCE REP 3 (DUPLICATE)		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**5.3**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-4		DATE ANALYZED:	09/01/98
SAMPLE ID: REFERENCE REP 4		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**4.3**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-5		DATE ANALYZED:	09/01/98
SAMPLE ID: REFERENCE REP 5		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**8.8**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-6		DATE ANALYZED:	09/01/98
SAMPLE ID: 1 TOP REP 1		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-7		DATE ANALYZED:	09/02/98
SAMPLE ID: 1 TOP REP 2		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**2.2**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-8		DATE ANALYZED:	09/02/98
SAMPLE ID: 1 TOP REP 3		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**2.4**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-9		DATE ANALYZED:	09/02/98
SAMPLE ID: 1 TOP REP 4		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-10		DATE ANALYZED:	09/02/98
SAMPLE ID: 1 TOP REP 5		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-11		DATE ANALYZED:	09/02/98
SAMPLE ID: 1 BOTTOM REP 1		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-12		DATE ANALYZED:	09/02/98
SAMPLE ID: 1 BOTTOM REP 2		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-13		DATE ANALYZED:	09/02/98
SAMPLE ID: 1 BOTTOM REP 3		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: N/A
	DATE RECEIVED: N/A
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: METHOD BLANK	DATE ANALYZED: 09/03/98
SAMPLE ID: N/A	MATRIX: SOLID
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-14		DATE ANALYZED:	09/03/98
SAMPLE ID: 1 BOTTOM REP 4		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-15		DATE ANALYZED:	09/03/98
SAMPLE ID: 1 BOTTOM REP 5		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-16		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 TOP REP 1		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-17		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 TOP REP 2		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-17 (DUPLICATE)		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 TOP REP 2 (DUPLICATE)		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-18		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 TOP REP 3		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-19		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 TOP REP 4		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-20		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 TOP REP 5		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-21		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 BOTTOM REP 1		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-22		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 BOTTOM REP 2		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-23		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 BOTTOM REP 3		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-24		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 BOTTOM REP 4		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-25		DATE ANALYZED:	09/04/98
SAMPLE ID: 2 BOTTOM REP 5		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-26		DATE ANALYZED:	09/04/98
SAMPLE ID: 3 COMP REP 1		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-27	DATE ANALYZED: 09/04/98
SAMPLE ID: 3 COMP REP 2	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-28		DATE ANALYZED:	09/04/98
SAMPLE ID: 3 COMP REP 3		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-29		DATE ANALYZED:	09/04/98
SAMPLE ID: 3 COMP REP 4		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-30		DATE ANALYZED:	09/04/98
SAMPLE ID: 3 COMP REP 5		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	N/A
		DATE RECEIVED:	N/A
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: METHOD BLANK		DATE ANALYZED:	08/28/98
SAMPLE ID: N/A		MATRIX:	SOLID
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-31		DATE ANALYZED:	08/28/98
SAMPLE ID: REFERENCE REP 1		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**13.9**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-32		DATE ANALYZED:	08/28/98
SAMPLE ID: REFERENCE REP 2		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**5.9**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-33		DATE ANALYZED:	08/28/98
SAMPLE ID: REFERENCE REP 3		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**7.4**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-33 (DUPLICATE)		DATE ANALYZED:	08/28/98
SAMPLE ID: REFERENCE REP 3 (DUPLICATE)		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**13.5**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-34		DATE ANALYZED:	08/28/98
SAMPLE ID: REFERENCE REP 4		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**16.9**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-35		DATE ANALYZED:	08/28/98
SAMPLE ID: REFERENCE REP 5		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**12.3**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-36	DATE ANALYZED: 08/28/98
SAMPLE ID: 1 TOP REP 1	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-37		DATE ANALYZED:	08/28/98
SAMPLE ID: 1 TOP REP 2		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**3.3**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-38		DATE ANALYZED:	08/28/98
SAMPLE ID: 1 TOP REP 3		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**2.3**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-39	DATE ANALYZED: 08/28/98
SAMPLE ID: 1 TOP REP 4	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-40		DATE ANALYZED:	08/28/98
SAMPLE ID: 1 TOP REP 5		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**2.3**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-41		DATE ANALYZED:	08/28/98
SAMPLE ID: 1 BOTTOM REP 1		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-42	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 BOTTOM REP 2	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	**2**	**2.0**
4,4-DDE	**2**	**7.1**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-43		DATE ANALYZED:	08/29/98
SAMPLE ID: 1 BOTTOM REP 3		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**5.2**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-44	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 BOTTOM REP 4	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**10.4**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-45		DATE ANALYZED:	08/29/98
SAMPLE ID: 1 BOTTOM REP 5		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**5.2**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-46		DATE ANALYZED:	08/29/98
SAMPLE ID: 2 TOP REP 1		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	**2**	**2.1**
4,4-DDE	**2**	**5.1**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-47		DATE ANALYZED:	08/29/98
SAMPLE ID: 2 TOP REP 2		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**6.8**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-48		DATE ANALYZED:	08/29/98
SAMPLE ID: 2 TOP REP 3		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	2	< 2
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-50		DATE ANALYZED:	08/29/98
SAMPLE ID: 2 TOP REP 5		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**4.6**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-51	DATE ANALYZED: 08/29/98
SAMPLE ID: 2 BOTTOM REP 1	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	**2**	**3.4**
4,4-DDE	**2**	**9.8**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-52		DATE ANALYZED:	09/02/98
SAMPLE ID: 2 BOTTOM REP 2		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	**2**	**2.1**
4,4-DDE	**2**	**8.1**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-53	DATE ANALYZED: 09/02/98
SAMPLE ID: 2 BOTTOM REP 3	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	**2**	**2.3**
4,4-DDE	**2**	**5.6**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-54
SAMPLE ID: 2 BOTTOM REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 09/02/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**7.6**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-56		DATE ANALYZED:	09/02/98
SAMPLE ID: 3 COMP REP 1		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**4.5**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-57		DATE ANALYZED:	09/02/98
SAMPLE ID: 3 COMP REP 2		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**3.4**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-59	DATE ANALYZED: 09/02/98
SAMPLE ID: 3 COMP REP 3	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**4.4**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8080
ORGANOCHLORINE PESTICIDES AND PCBs

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-60		DATE ANALYZED:	09/02/98
SAMPLE ID: 3 COMP REP 4		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
ALDRIN	2	< 2
ALPHA-BHC	2	< 2
BETA-BHC	2	< 2
GAMMA-BHC	2	< 2
DELTA-BHC	2	< 2
CHLORDANE	20	< 20
4,4-DDD	2	< 2
4,4-DDE	**2**	**4.9**
4,4-DDT	2	< 2
DIELDRIN	2	< 2
ENDOSULFAN I	2	< 2
ENDOSULFAN II	2	< 2
ENDOSULFAN SULFATE	2	< 2
ENDRIN	2	< 2
ENDRIN ALDEHYDE	2	< 2
HEPTACHLOR	2	< 2
HEPTACHLOR EPOXIDE	2	< 2
METHOXYCHLOR	20	< 20
TOXAPHENE	25	< 25
AROCHLOR-1016	10	< 10
AROCHLOR-1221	10	< 10
AROCHLOR-1232	10	< 10
AROCHLOR-1242	10	< 10
AROCHLOR-1248	10	< 10
AROCHLOR-1254	10	< 10
AROCHLOR-1260	10	< 10

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: N/A
	DATE RECEIVED: N/A
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: METHOD BLANK	DATE ANALYZED: 08/29/98
SAMPLE ID: N/A	MATRIX: SOLID
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-1		DATE ANALYZED:	08/29/98
SAMPLE ID: REFERENCE REP 1		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.1**
DIBUTYLTIN	**1.0**	**1.2**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-2	DATE ANALYZED: 08/29/98
SAMPLE ID: REFERENCE REP 2	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.6**
DIBUTYLTIN	**1.0**	**1.2**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-3	DATE ANALYZED: 08/29/98
SAMPLE ID: REFERENCE REP 3	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-3 (DUPLICATE)	DATE ANALYZED: 08/29/98
SAMPLE ID: REFERENCE REP 3 (DUPLICATE)	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.0**
DIBUTYLTIN	**1.0**	**1.4**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-4	DATE ANALYZED: 08/29/98
SAMPLE ID: REFERENCE REP 4	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-5	DATE ANALYZED: 08/29/98
SAMPLE ID: REFERENCE REP 5	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.4**
DIBUTYLTIN	**1.0**	**1.1**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-6	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 TOP REP 1	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.8**
DIBUTYLTIN	**1.0**	**1.5**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-7	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 TOP REP 2	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.2**
DIBUTYLTIN	**1.0**	**1.7**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-8	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 TOP REP 3	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.5**
DIBUTYLTIN	**1.0**	**1.3**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-9	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 TOP REP 4	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.2**
DIBUTYLTIN	**1.0**	**1.3**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-10	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 TOP REP 5	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.7**
DIBUTYLTIN	**1.0**	**1.8**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-11	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 BOTTOM REP 1	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.5**
DIBUTYLTIN	**1.0**	**1.9**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/27/98
PTAS LOG #: 1688-98-12		DATE ANALYZED:	08/29/98
SAMPLE ID: 1 BOTTOM REP 2		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.0**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	**1.0**	**2.6**

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-13	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 BOTTOM REP 3	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.7**
DIBUTYLTIN	**1.0**	**1.4**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: N/A
	DATE RECEIVED: N/A
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: METHOD BLANK	DATE ANALYZED: 09/02/98
SAMPLE ID: N/A	MATRIX: SOLID
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-14	DATE ANALYZED: 09/02/98
SAMPLE ID: 1 BOTTOM REP 4	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**4.1**
DIBUTYLTIN	**1.0**	**1.8**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-15	DATE ANALYZED: 09/02/98
SAMPLE ID: 1 BOTTOM REP 5	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.7**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-16	DATE ANALYZED: 09/02/98
SAMPLE ID: 2 TOP REP 1	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.9**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-17		DATE ANALYZED:	09/02/98
SAMPLE ID: 2 TOP REP 2		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.2**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-17 (DUPLICATE)	DATE ANALYZED: 09/02/98
SAMPLE ID: 2 TOP REP 2 (DUPLICATE)	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

Pacific Treatment Analytical Services, Inc. 4340 Viewridge Ave., Suite A • San Diego, CA 92123 (619) 560-7717 FAX (619) 560-7763

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-18		DATE ANALYZED:	09/02/98
SAMPLE ID: 2 TOP REP 3		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.1**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/31/98
PTAS LOG #: 1688-98-19		DATE ANALYZED:	09/02/98
SAMPLE ID: 2 TOP REP 4		MATRIX:	CLAM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.6**
DIBUTYLTIN	**1.0**	**1.5**
MONOBUTYLTIN	**1.0**	**2.7**

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-20	DATE ANALYZED: 09/02/98
SAMPLE ID: 2 TOP REP 5	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	*REPORTING LIMITS* PPB (UG/KG)	*RESULTS* PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.3**
DIBUTYLTIN	**1.0**	**1.6**
MONOBUTYLTIN	**1.0**	**2.1**

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-21	DATE ANALYZED: 09/02/98
SAMPLE ID: 2 BOTTOM REP 1	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.1**
DIBUTYLTIN	**1.0**	**1.0**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-22	DATE ANALYZED: 09/02/98
SAMPLE ID: 2 BOTTOM REP 2	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.6**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-23	DATE ANALYZED: 09/02/98
SAMPLE ID: 2 BOTTOM REP 3	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.5**
DIBUTYLTIN	**1.0**	**1.3**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-24	DATE ANALYZED: 09/02/98
SAMPLE ID: 2 BOTTOM REP 4	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-25	DATE ANALYZED: 09/02/98
SAMPLE ID: 2 BOTTOM REP 5	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.1**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-26	DATE ANALYZED: 09/02/98
SAMPLE ID: 3 COMP REP 1	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.2**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	**1.0**	**1.2**

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-27	DATE ANALYZED: 09/02/98
SAMPLE ID: 3 COMP REP 2	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.3**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

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ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-28	DATE ANALYZED: 09/02/98
SAMPLE ID: 3 COMP REP 3	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-29	DATE ANALYZED: 09/02/98
SAMPLE ID: 3 COMP REP 4	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.5**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-30	DATE ANALYZED: 09/02/98
SAMPLE ID: 3 COMP REP 5	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: N/A
	DATE RECEIVED: N/A
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: METHOD BLANK	DATE ANALYZED: 08/26/98
SAMPLE ID: N/A	MATRIX: SOLID
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-31	DATE ANALYZED: 08/26/98
SAMPLE ID: REFERENCE REP 1	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.1**
DIBUTYLTIN	**1.0**	**2.0**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-32	DATE ANALYZED: 08/26/98
SAMPLE ID: REFERENCE REP 2	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.7**
DIBUTYLTIN	**1.0**	**1.4**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-33	DATE ANALYZED: 08/26/98
SAMPLE ID: REFERENCE REP 3	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.0**
DIBUTYLTIN	**1.0**	**1.5**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-33 (DUPLICATE)	DATE ANALYZED: 08/26/98
SAMPLE ID: REFERENCE REP 3 (DUPLICATE)	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.2**
DIBUTYLTIN	**1.0**	**2.2**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-34	DATE ANALYZED: 08/26/98
SAMPLE ID: REFERENCE REP 4	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.0**
DIBUTYLTIN	**1.0**	**1.8**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-35	DATE ANALYZED: 08/26/98
SAMPLE ID: REFERENCE REP 5	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.5**
DIBUTYLTIN	**1.0**	**2.9**
MONOBUTYLTIN	**1.0**	**3.5**

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-36		DATE ANALYZED:	08/26/98
SAMPLE ID: 1 TOP REP 1		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.7**
DIBUTYLTIN	**1.0**	**2.0**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-37		DATE ANALYZED:	08/26/98
SAMPLE ID: 1 TOP REP 2		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**3.2**
DIBUTYLTIN	**1.0**	**1.6**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-38	DATE ANALYZED: 08/26/98
SAMPLE ID: 1 TOP REP 3	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**3.2**
DIBUTYLTIN	**1.0**	**1.2**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-39	DATE ANALYZED: 08/26/98
SAMPLE ID: 1 TOP REP 4	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.5**
DIBUTYLTIN	**1.0**	**2.8**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-40	DATE ANALYZED: 08/26/98
SAMPLE ID: 1 TOP REP 5	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.7**
DIBUTYLTIN	**1.0**	**2.8**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-41	DATE ANALYZED: 08/26/98
SAMPLE ID: 1 BOTTOM REP 1	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**4.4**
DIBUTYLTIN	**1.0**	**1.7**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-42	DATE ANALYZED: 08/26/98
SAMPLE ID: 1 BOTTOM REP 2	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**5.0**
DIBUTYLTIN	**1.0**	**2.6**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-43	DATE ANALYZED: 08/26/98
SAMPLE ID: 1 BOTTOM REP 3	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**4.8**
DIBUTYLTIN	**1.0**	**2.2**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-44	DATE ANALYZED: 08/26/98
SAMPLE ID: 1 BOTTOM REP 4	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	1.0	< 1.0
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-45	DATE ANALYZED: 08/26/98
SAMPLE ID: 1 BOTTOM REP 5	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**3.7**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-46	DATE ANALYZED: 08/26/98
SAMPLE ID: 2 TOP REP 1	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.5**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.		DATE SAMPLED:	08/21/98
		DATE RECEIVED:	08/24/98
PROJECT NAME/No.: LARE/ACOE		DATE EXTRACTED:	08/25/98
PTAS LOG #: 1688-98-47		DATE ANALYZED:	08/26/98
SAMPLE ID: 2 TOP REP 2		MATRIX:	WORM TISSUE
DILUTION FACTOR: 1		SAMPLE VOL./WT.:	7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**3.5**
DIBUTYLTIN	**1.0**	**1.7**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-48	DATE ANALYZED: 08/26/98
SAMPLE ID: 2 TOP REP 3	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**3.8**
DIBUTYLTIN	**1.0**	**2.2**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-50	DATE ANALYZED: 08/26/98
SAMPLE ID: 2 TOP REP 5	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**1.6**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-51	DATE ANALYZED: 08/26/98
SAMPLE ID: 2 BOTTOM REP 1	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.5**
DIBUTYLTIN	1.0	< 1.0
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/24/98
PTAS LOG #: 1688-98-52	DATE ANALYZED: 08/29/98
SAMPLE ID: 2 BOTTOM REP 2	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**4.8**
DIBUTYLTIN	**1.0**	**2.8**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/24/98
PTAS LOG #: 1688-98-53	DATE ANALYZED: 08/29/98
SAMPLE ID: 2 BOTTOM REP 3	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**3.7**
DIBUTYLTIN	**1.0**	**2.1**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/24/98
PTAS LOG #: 1688-98-54	DATE ANALYZED: 08/29/98
SAMPLE ID: 2 BOTTOM REP 4	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**4.1**
DIBUTYLTIN	**1.0**	**2.9**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/24/98
PTAS LOG #: 1688-98-56	DATE ANALYZED: 08/29/98
SAMPLE ID: 3 COMP REP 1	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.5**
DIBUTYLTIN	**1.0**	**2.3**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/24/98
PTAS LOG #: 1688-98-57	DATE ANALYZED: 08/29/98
SAMPLE ID: 3 COMP REP 2	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.7**
DIBUTYLTIN	**1.0**	**1.6**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/24/98
PTAS LOG #: 1688-98-59	DATE ANALYZED: 08/29/98
SAMPLE ID: 3 COMP REP 3	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.4**
DIBUTYLTIN	**1.0**	**2.2**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - ORGANOTIN SPECIES by GC-FPD

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/24/98
PTAS LOG #: 1688-98-60	DATE ANALYZED: 08/29/98
SAMPLE ID: 3 COMP REP 4	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	REPORTING LIMITS PPB (UG/KG)	RESULTS PPB (UG/KG)
TRIBUTYLTIN	**1.0**	**2.5**
DIBUTYLTIN	**1.0**	**2.1**
MONOBUTYLTIN	1.0	< 1.0

REPORTING LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: METHOD BLANK
SAMPLE ID: N/A
DILUTION FACTOR: 1

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: SOLID
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-1
SAMPLE ID: REFERENCE REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-2
SAMPLE ID: REFERENCE REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-3
SAMPLE ID: REFERENCE REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-3 (DUPLICATE)
SAMPLE ID: REFERENCE REP 3 (DUPLICATE)
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-4
SAMPLE ID: REFERENCE REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-5
SAMPLE ID: REFERENCE REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-6
SAMPLE ID: 1 TOP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-7
SAMPLE ID: 1 TOP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-8
SAMPLE ID: 1 TOP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-9
SAMPLE ID: 1 TOP REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-10
SAMPLE ID: 1 TOP REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-11
SAMPLE ID: 1 BOTTOM REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-12
SAMPLE ID: 1 BOTTOM REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-13
SAMPLE ID: 1 BOTTOM REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: METHOD BLANK
SAMPLE ID: N/A
DILUTION FACTOR: 1

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: SOLID
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-14
SAMPLE ID: 1 BOTTOM REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-15
SAMPLE ID: 1 BOTTOM REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-16
SAMPLE ID: 2 TOP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-1
SAMPLE ID: REFERENCE REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-2
SAMPLE ID: REFERENCE REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270

POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-3
SAMPLE ID: REFERENCE REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-3 (DUPLICATE)
SAMPLE ID: REFERENCE REP 3 (DUPLICATE)
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-24
SAMPLE ID: 2 BOTTOM REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-25
SAMPLE ID: 2 BOTTOM REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-26
SAMPLE ID: 3 COMP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-27
SAMPLE ID: 3 COMP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-28
SAMPLE ID: 3 COMP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-29
SAMPLE ID: 3 COMP REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-30
SAMPLE ID: 3 COMP REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: METHOD BLANK
SAMPLE ID: N/A
DILUTION FACTOR: 1

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: SOLID
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-31
SAMPLE ID: REFERENCE REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-32
SAMPLE ID: REFERENCE REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-33
SAMPLE ID: REFERENCE REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-33 (DUPLICATE)
SAMPLE ID: REFERENCE REP 3 (DUPLICATE)
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-34
SAMPLE ID: REFERENCE REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-35
SAMPLE ID: REFERENCE REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-36
SAMPLE ID: 1 TOP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-37
SAMPLE ID: 1 TOP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-38
SAMPLE ID: 1 TOP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-39
SAMPLE ID: 1 TOP REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-40
SAMPLE ID: 1 TOP REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-41
SAMPLE ID: 1 BOTTOM REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-42
SAMPLE ID: 1 BOTTOM REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-43
SAMPLE ID: 1 BOTTOM REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	**10**	**12**
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-44
SAMPLE ID: 1 BOTTOM REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-45
SAMPLE ID: 1 BOTTOM REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-46
SAMPLE ID: 2 TOP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-47
SAMPLE ID: 2 TOP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-48
SAMPLE ID: 2 TOP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/28/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-50
SAMPLE ID: 2 TOP REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-51
SAMPLE ID: 2 BOTTOM REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/28/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	**10**	**15**
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-52
SAMPLE ID: 2 BOTTOM REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	**10**	**10**
PYRENE	**10**	**16**
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-53
SAMPLE ID: 2 BOTTOM REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	**10**	**13**
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-54
SAMPLE ID: 2 BOTTOM REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-56
SAMPLE ID: 3 COMP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-57
SAMPLE ID: 3 COMP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	**10**	**10**
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-59
SAMPLE ID: 3 COMP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	**10**	**11**
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-60
SAMPLE ID: 3 COMP REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
NAPHTHALENE	10	< 10
ACENAPHTHYLENE	10	< 10
ACENAPHTHENE	10	< 10
FLUORENE	10	< 10
PHENANTHRENE	10	< 10
ANTHRACENE	10	< 10
FLUORANTHENE	10	< 10
PYRENE	10	< 10
BENZO(A)ANTHRACENE	10	< 10
CHRYSENE	10	< 10
BENZO(B)FLUORANTHENE	10	< 10
BENZO(K)FLUORANTHENE	10	< 10
BENZO(A)PYRENE	10	< 10
DIBENZO(A,H)ANTHRACENE	10	< 10
INDENO(1,2,3-CD)PYRENE	10	< 10
BENZO(GHI)PERYLENE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: METHOD BLANK
SAMPLE ID: N/A
DILUTION FACTOR: 1

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: SOLID
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	10	< 10
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	10	< 10
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-1
SAMPLE ID: REFERENCE REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	10	< 10
BUTYL BENZYLPHTHALATE	**10**	**49**
DI-N-BUTYLPHTHALATE	10	< 10
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-2
SAMPLE ID: REFERENCE REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	10	< 10
BUTYL BENZYLPHTHALATE	**10**	**194**
DI-N-BUTYLPHTHALATE	10	< 10
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-3
SAMPLE ID: REFERENCE REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	10	< 10
BUTYL BENZYLPHTHALATE	10	**45**
DI-N-BUTYLPHTHALATE	10	**12**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-3 (DUPLICATE)
SAMPLE ID: REFERENCE REP 3 (DUPLICATE)
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	10	< 10
BUTYL BENZYLPHTHALATE	**10**	**98**
DI-N-BUTYLPHTHALATE	**10**	**15**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-4
SAMPLE ID: REFERENCE REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	10	< 10
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	10	< 10
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-5
SAMPLE ID: REFERENCE REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**13**
BUTYL BENZYLPHTHALATE	**10**	**83**
DI-N-BUTYLPHTHALATE	**10**	**13**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-6
SAMPLE ID: 1 TOP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**14**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**11**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-7
SAMPLE ID: 1 TOP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/28/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**15**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	10	< 10
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-8
SAMPLE ID: 1 TOP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**20**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**10**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-9	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 TOP REP 4	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**24**
BUTYL BENZYLPHTHALATE	**10**	**194**
DI-N-BUTYLPHTHALATE	**10**	**19**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-10
SAMPLE ID: 1 TOP REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**25**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**11**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-11
SAMPLE ID: 1 BOTTOM REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**62**
BUTYL BENZYLPHTHALATE	**10**	**18**
DI-N-BUTYLPHTHALATE	**10**	**12**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-12
SAMPLE ID: 1 BOTTOM REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**77**
BUTYL BENZYLPHTHALATE	**10**	**25**
DI-N-BUTYLPHTHALATE	**10**	**35**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/27/98
PTAS LOG #: 1688-98-13	DATE ANALYZED: 08/29/98
SAMPLE ID: 1 BOTTOM REP 3	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**44**
BUTYL BENZYLPHTHALATE	**10**	**282**
DI-N-BUTYLPHTHALATE	**10**	**16**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: METHOD BLANK
SAMPLE ID: N/A
DILUTION FACTOR: 1

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: SOLID
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**21**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	10	< 10
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-14
SAMPLE ID: 1 BOTTOM REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**82**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**11**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-15
SAMPLE ID: 1 BOTTOM REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	10	**58**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	10	17
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-16
SAMPLE ID: 2 TOP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	10	**38**
BUTYL BENZYLPHTHALATE	10	**16**
DI-N-BUTYLPHTHALATE	10	**19**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

ND = NON DETECT ABOVE INDICATED DETECTION LIMIT.
DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-17
SAMPLE ID: 2 TOP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	*10*	*30*
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	10	20
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-17 (DUPLICATE)
SAMPLE ID: 2 TOP REP 2 (DUPLICATE)
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	10	29
BUTYL BENZYLPHTHALATE	10	13
DI-N-BUTYLPHTHALATE	10	40
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-18
SAMPLE ID: 2 TOP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**64**
BUTYL BENZYLPHTHALATE	**10**	**73**
DI-N-BUTYLPHTHALATE	**10**	**38**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/31/98
PTAS LOG #: 1688-98-19	DATE ANALYZED: 09/01/98
SAMPLE ID: 2 TOP REP 4	MATRIX: CLAM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**49**
BUTYL BENZYLPHTHALATE	**10**	**41**
DI-N-BUTYLPHTHALATE	**10**	**20**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-20
SAMPLE ID: 2 TOP REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**39**
BUTYL BENZYLPHTHALATE	**10**	**23**
DI-N-BUTYLPHTHALATE	**10**	**20**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-21
SAMPLE ID: 2 BOTTOM REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**63**
BUTYL BENZYLPHTHALATE	**10**	**24**
DI-N-BUTYLPHTHALATE	**10**	**28**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-22
SAMPLE ID: 2 BOTTOM REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/01/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**81**
BUTYL BENZYLPHTHALATE	**10**	**31**
DI-N-BUTYLPHTHALATE	**10**	**42**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-23
SAMPLE ID: 2 BOTTOM REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**77**
BUTYL BENZYLPHTHALATE	**10**	**48**
DI-N-BUTYLPHTHALATE	**10**	**46**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-24
SAMPLE ID: 2 BOTTOM REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**49**
BUTYL BENZYLPHTHALATE	**10**	**27**
DI-N-BUTYLPHTHALATE	**10**	**34**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-25
SAMPLE ID: 2 BOTTOM REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**61**
BUTYL BENZYLPHTHALATE	**10**	**19**
DI-N-BUTYLPHTHALATE	**10**	**46**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-26
SAMPLE ID: 3 COMP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**49**
BUTYL BENZYLPHTHALATE	**10**	**24**
DI-N-BUTYLPHTHALATE	**10**	**48**
DIETHYLPHTHALATE	**10**	**10**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-27
SAMPLE ID: 3 COMP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	10	40
BUTYL BENZYLPHTHALATE	10	32
DI-N-BUTYLPHTHALATE	10	55
DIETHYLPHTHALATE	10	10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-28
SAMPLE ID: 3 COMP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**23**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**18**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-29
SAMPLE ID: 3 COMP REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**70**
BUTYL BENZYLPHTHALATE	**10**	**11**
DI-N-BUTYLPHTHALATE	**10**	**36**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-30
SAMPLE ID: 3 COMP REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/31/98
DATE ANALYZED: 09/02/98
MATRIX: CLAM TISSUE
SAMPLE VOL./WT.: 15 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE*	**10**	**12**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**20**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

* NOTE: THIS ANALYTE WAS FOUND IN THE METHOD BLANK AND IS A SUSPECTED LABORATORY CONTAMINANT.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: METHOD BLANK
SAMPLE ID: N/A
DILUTION FACTOR: 1

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: SOLID
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	10	< 10
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	10	< 10
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-31
SAMPLE ID: REFERENCE REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**23**
BUTYL BENZYLPHTHALATE	**10**	**25**
DI-N-BUTYLPHTHALATE	**10**	**73**
DIETHYLPHTHALATE	**10**	**11**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-32
SAMPLE ID: REFERENCE REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	10	**25**
BUTYL BENZYLPHTHALATE	10	**32**
DI-N-BUTYLPHTHALATE	10	**68**
DIETHYLPHTHALATE	10	**13**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-33
SAMPLE ID: REFERENCE REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**57**
BUTYL BENZYLPHTHALATE	**10**	**19**
DI-N-BUTYLPHTHALATE	**10**	**112**
DIETHYLPHTHALATE	**10**	**21**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-33 (DUPLICATE)	DATE ANALYZED: 08/26/98
SAMPLE ID: REFERENCE REP 3 (DUPLICATE)	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**92**
BUTYL BENZYLPHTHALATE	**10**	**17**
DI-N-BUTYLPHTHALATE	**10**	**105**
DIETHYLPHTHALATE	**10**	**22**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-34
SAMPLE ID: REFERENCE REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**28**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**79**
DIETHYLPHTHALATE	**10**	**16**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-35
SAMPLE ID: REFERENCE REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/26/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**38**
BUTYL BENZYLPHTHALATE	**10**	**50**
DI-N-BUTYLPHTHALATE	**10**	**73**
DIETHYLPHTHALATE	**10**	**14**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-36	DATE ANALYZED: 08/26/98
SAMPLE ID: 1 TOP REP 1	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**41**
BUTYL BENZYLPHTHALATE	**10**	**11**
DI-N-BUTYLPHTHALATE	**10**	**152**
DIETHYLPHTHALATE	**10**	**26**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-37
SAMPLE ID: 1 TOP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**29**
BUTYL BENZYLPHTHALATE	**10**	**42**
DI-N-BUTYLPHTHALATE	**10**	**40**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-38
SAMPLE ID: 1 TOP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**39**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**63**
DIETHYLPHTHALATE	**10**	**11**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-39
SAMPLE ID: 1 TOP REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**35**
BUTYL BENZYLPHTHALATE	**10**	**42**
DI-N-BUTYLPHTHALATE	**10**	**124**
DIETHYLPHTHALATE	**10**	**26**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-40
SAMPLE ID: 1 TOP REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**24**
BUTYL BENZYLPHTHALATE	**10**	**26**
DI-N-BUTYLPHTHALATE	**10**	**51**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-41
SAMPLE ID: 1 BOTTOM REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**46**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**51**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.	DATE SAMPLED: 08/21/98
	DATE RECEIVED: 08/24/98
PROJECT NAME/No.: LARE/ACOE	DATE EXTRACTED: 08/25/98
PTAS LOG #: 1688-98-42	DATE ANALYZED: 08/27/98
SAMPLE ID: 1 BOTTOM REP 2	MATRIX: WORM TISSUE
DILUTION FACTOR: 1	SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**40**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**30**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-43
SAMPLE ID: 1 BOTTOM REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**55**
BUTYL BENZYLPHTHALATE	**10**	**15**
DI-N-BUTYLPHTHALATE	**10**	**53**
DIETHYLPHTHALATE	**10**	**12**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-44
SAMPLE ID: 1 BOTTOM REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**66**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**44**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-45
SAMPLE ID: 1 BOTTOM REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	***38***
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	**10**	**48**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-46
SAMPLE ID: 2 TOP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**48**
BUTYL BENZYLPHTHALATE	**10**	**22**
DI-N-BUTYLPHTHALATE	**10**	**68**
DIETHYLPHTHALATE	**10**	**15**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-47
SAMPLE ID: 2 TOP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**43**
BUTYL BENZYLPHTHALATE	**10**	**23**
DI-N-BUTYLPHTHALATE	**10**	**39**
DIETHYLPHTHALATE	**10**	**10**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-48
SAMPLE ID: 2 TOP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/28/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**32**
BUTYL BENZYLPHTHALATE	**10**	**15**
DI-N-BUTYLPHTHALATE	**10**	**35**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-50
SAMPLE ID: 2 TOP REP 5
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/27/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**19**
BUTYL BENZYLPHTHALATE	**10**	**19**
DI-N-BUTYLPHTHALATE	**10**	**25**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-51
SAMPLE ID: 2 BOTTOM REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/25/98
DATE ANALYZED: 08/28/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	10	**63**
BUTYL BENZYLPHTHALATE	10	< 10
DI-N-BUTYLPHTHALATE	10	**48**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-52
SAMPLE ID: 2 BOTTOM REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**49**
BUTYL BENZYLPHTHALATE	**10**	**46**
DI-N-BUTYLPHTHALATE	**10**	**33**
DIETHYLPHTHALATE	**10**	**11**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-53
SAMPLE ID: 2 BOTTOM REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**50**
BUTYL BENZYLPHTHALATE	**10**	**152**
DI-N-BUTYLPHTHALATE	**10**	**28**
DIETHYLPHTHALATE	**10**	**16**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-54
SAMPLE ID: 2 BOTTOM REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**30**
BUTYL BENZYLPHTHALATE	**10**	**154**
DI-N-BUTYLPHTHALATE	**10**	**19**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-56
SAMPLE ID: 3 COMP REP 1
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**19**
BUTYL BENZYLPHTHALATE	**10**	**19**
DI-N-BUTYLPHTHALATE	**10**	**27**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-57
SAMPLE ID: 3 COMP REP 2
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	***66***
BUTYL BENZYLPHTHALATE	**10**	**37**
DI-N-BUTYLPHTHALATE	**10**	**59**
DIETHYLPHTHALATE	**10**	**10**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-59
SAMPLE ID: 3 COMP REP 3
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**38**
BUTYL BENZYLPHTHALATE	**10**	**101**
DI-N-BUTYLPHTHALATE	**10**	**38**
DIETHYLPHTHALATE	**10**	**11**
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

ANALYSIS RESULTS - EPA 8270
PHTHALATES

CLIENT: MEC ANALYTICAL SYSTEMS, INC.

PROJECT NAME/No.: LARE/ACOE
PTAS LOG #: 1688-98-60
SAMPLE ID: 3 COMP REP 4
DILUTION FACTOR: 1

DATE SAMPLED: 08/21/98
DATE RECEIVED: 08/24/98
DATE EXTRACTED: 08/27/98
DATE ANALYZED: 08/29/98
MATRIX: WORM TISSUE
SAMPLE VOL./WT.: 7.5 G

ANALYTE	DETECTION LIMIT PPB (UG/KG)	RESULTS PPB (UG/KG)
BIS(2-ETHYLHEXYL)PHTHALATE	**10**	**25**
BUTYL BENZYLPHTHALATE	**10**	**69**
DI-N-BUTYLPHTHALATE	**10**	**42**
DIETHYLPHTHALATE	10	< 10
DIMETHYLPHTHALATE	10	< 10
DI-N-OCTYLPHTHALATE	10	< 10

DETECTION LIMITS AND RESULTS HAVE BEEN ADJUSTED ACCORDINGLY TO ACCOUNT FOR DILUTION FACTOR.

QA/QC REPORT

DATE ANALYZED: 07/27-09/03/98/98					ACCEPTABLE LCS,MS/MSD CRITERIA	ACCEPTABLE RPD CRITERIA
SPIKED ANALYTE	LCS % R	MS % R	MSD % R	RPD	%	%
CADMIUM	92	86	86	0	75-125	< 20
CADMIUM	99	90	88	2	75-125	< 20
CADMIUM	99	91	91	0	75-125	< 20
CHROMIUM	98	94	95	1	75-125	< 20
CHROMIUM	101	98	92	6	75-125	< 20
CHROMIUM	104	102	99	3	75-125	< 20
COPPER	96	91	92	1	75-125	< 20
COPPER	106	98	91	7	75-125	< 20
COPPER	106	98	96	2	75-125	< 20
LEAD	89	91	94	3	75-125	< 20
LEAD	99	106	101	5	75-125	< 20
LEAD	97	101	101	0	75-125	< 20
NICKEL	96	90	90	0	75-125	< 20
NICKEL	102	93	88	6	75-125	< 20
NICKEL	105	97	95	2	75-125	< 20
ZINC	94	88	88	0	75-125	< 20
ZINC	107	100	94	6	75-125	< 20
ZINC	104	93	94	1	75-125	< 20
ARSENIC	101	99	98	1	75-125	< 20
ARSENIC	106	102	94	8	75-125	< 20
ARSENIC	105	103	104	1	75-125	< 20
MERCURY	104	121	108	11	75-125	< 20
MERCURY	101	104	110	6	75-125	< 20
MERCURY	106	60*	55*	9	75-125	< 20
SELENIUM	97	90	91	1	75-125	< 20
SELENIUM	105	93	90	3	75-125	< 20
SELENIUM	101	97	99	2	75-125	< 20
SILVER	97	90	92	2	75-125	< 20
SILVER	104	92	89	3	75-125	< 20
SILVER	104	92	91	1	75-125	< 20

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY
MS % R = MATRIX SPIKE PERCENT RECOVERY
MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY
RPD = RELATIVE PERCENT DIFFERENCE

* NOTE: POOR MATRIX SPIKE RECOVERIES ATTRIBUTABLE TO SAMPLE MATRIX EFFECTS. A DUPLICATE LCS WAS ANALYZED WITH THE SAMPLE BATCH AND THE RESULTING RECOVERY AND RPD MET OR EXCEEDED ACCEPTANCE CRITERIA. LCSD % R FOR MERCURY = 106%.

QA/QC REPORT

METHOD:	EPA 8080-TISSUE				ACCEPTABLE LCS, MS/MSD CRITERIA	ACCEPTABLE RPD CRITERIA
DATE ANALYZED:	08/28-29/98					
QA/QC SAMPLE:	PTAS 1688-98-38					
SPIKED ANALYTE	LCS % R	MS % R	MSD % R	RPD	%	%
GAMMA-BHC	99	84	80	5	32-127	<30
HEPTACHLOR	98	90	88	2	34-111	<30
ALDRIN	97	96	90	6	42-122	<30
DIELDRIN	99	75	70	7	36-146	<30
ENDRIN	89	90	85	6	30-147	<30
4,4-DDT	98	71	84	17	25-160	<30

QA/QC REPORT

METHOD:	EPA 8080-TISSUE				ACCEPTABLE LCS, MS/MSD CRITERIA	ACCEPTABLE RPD CRITERIA
DATE ANALYZED:	08/31/98					
QA/QC SAMPLE:	PTAS 1688-98-5					
SPIKED ANALYTE	LCS % R	MS % R	MSD % R	RPD	%	%
GAMMA-BHC	86	89	86	3	32-127	<30
HEPTACHLOR	91	104	96	8	34-111	<30
ALDRIN	107	98	98	0	42-122	<30
DIELDRIN	83	102	100	2	36-146	<30
ENDRIN	84	81	93	14	30-147	<30
4,4-DDT	96	69	61	12	25-160	<30

QA/QC REPORT

METHOD:	EPA 8080-TISSUE				ACCEPTABLE LCS, MS/MSD CRITERIA	ACCEPTABLE RPD CRITERIA
DATE ANALYZED:	09/03/98					
QA/QC SAMPLE:	PTAS 1688-98-18					
SPIKED ANALYTE	LCS % R	MS % R	MSD % R	RPD	%	%
GAMMA-BHC	93	99	94	5	32-127	<30
HEPTACHLOR	96	106	105	1	34-111	<30
ALDRIN	95	109	103	6	42-122	<30
DIELDRIN	92	87	80	8	36-146	<30
ENDRIN	93	74	60	21	30-147	<30
4,4-DDT	90	80	84	5	25-160	<30

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY

MS % R = MATRIX SPIKE PERCENT RECOVERY

MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY

RPD = RELATIVE PERCENT DIFFERENCE

QA/QC REPORT						
METHOD: ORGANOTIN SPECIES BY GC-FPD-TISSUE **DATE ANALYZED:** 08/25/98 **QA/QC SAMPLE:** PTAS 1688-98-6					**ACCEPTABLE LCS,MS/MSD CRITERIA**	**ACCEPTABLE RPD CRITERIA**
SPIKED ANALYTE	**LCS % R**	**MS % R**	**MSD % R**	**RPD**	**%**	**%**
TRIBUTYLTIN	99	107	108	1	35-142	< 30
DIBUTYLTIN	21	126	126	0	D-161	< 30
MONOBUTYLTIN	8.2	34	26	27	D-75	< 30

QA/QC REPORT						
METHOD: ORGANOTIN SPECIES BY GC-FPD-TISSUE **DATE ANALYZED:** 08/26-27/98 **QA/QC SAMPLE:** PTAS 1688-98-47					**ACCEPTABLE LCS,MS/MSD CRITERIA**	**ACCEPTABLE RPD CRITERIA**
SPIKED ANALYTE	**LCS % R**	**MS % R**	**MSD % R**	**RPD**	**%**	**%**
TRIBUTYLTIN	105	53	63	17	35-142	< 30
DIBUTYLTIN	44	60	56	7	D-161	< 30
MONOBUTYLTIN	0.8	4.6	4.6	0	D-75	< 30

QA/QC REPORT						
METHOD: ORGANOTIN SPECIES BY GC-FPD-TISSUE **DATE ANALYZED:** 09/02/98 **QA/QC SAMPLE:** PTAS 1688-98-20					**ACCEPTABLE LCS,MS/MSD CRITERIA**	**ACCEPTABLE RPD CRITERIA**
SPIKED ANALYTE	**LCS % R**	**MS % R**	**MSD % R**	**RPD**	**%**	**%**
TRIBUTYLTIN	74	78	75	4	35-142	< 30
DIBUTYLTIN	76	100	85	16	D-161	< 30
MONOBUTYLTIN	13	7.8	13	50	D-75	< 30*

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY
MS % R = MATRIX SPIKE PERCENT RECOVERY
MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY
RPD = RELATIVE PERCENT DIFFERENCE
D = DETECTION LIMIT

* NOTE: DUE TO LOW RECOVERIES, THIS VALUE IS FREQUENTLY EXCEEDED.

QA/QC REPORT						
METHOD: PAHS by EPA 8270-TISSUE **DATE ANALYZED:** 08/26/98 **QA/QC SAMPLE:** PTAS 1688-98-33					**ACCEPTABLE LCS,MS/MSD CRITERIA**	**ACCEPTABLE RPD CRITERIA**
SPIKED ANALYTE	**LCS % R**	**MS % R**	**MSD % R**	**RPD**	**%**	**%**
ACENAPHTHENE	98	93	88	6	47-145	<30
ACENAPHTHYLENE	92	87	83	5	33-145	<30
ANTHRACENE	94	91	84	8	27-133	<30
BENZO(A)ANTHRACENE	93	93	87	7	33-143	<30
BENZO(A)PYRENE	99	98	91	7	17-163	<30
BENZO(B)FLUORANTHENE	104	109	101	8	24-159	<30
BENZO(GHI)PERYLENE	113	113	94	19	D-219	<30
BENZO(K)FLUORANTHENE	88	82	82	0	11-162	<30
CHRYSENE	93	91	83	9	17-168	<30
DIBENZO(A,H)ANTHRACENE	121	119	102	15	D-227	<30
FLUORANTHENE	100	93	86	8	26-137	<30
FLUORENE	99	95	92	3	59-121	<30
INDENO(1,2,3-CD)PYRENE	124	131	111	17	D-171	<30
NAPHTHALENE	84	76	75	1	21-133	<30
PHENANTHRENE	105	101	93	8	54-120	<30
PYRENE	101	101	95	6	52-115	<30

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY

MS % R = MATRIX SPIKE PERCENT RECOVERY

MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY

RPD = RELATIVE PERCENT DIFFERENCE

D = DETECTION LIMIT

QA/QC REPORT						
METHOD: PAHS by EPA 8270-TISSUE **DATE ANALYZED:** 08/28/98 **QA/QC SAMPLE:** PTAS 1688-98-4					**ACCEPTABLE LCS,MS/MSD CRITERIA**	**ACCEPTABLE RPD CRITERIA**
SPIKED ANALYTE	**LCS % R**	**MS % R**	**MSD % R**	**RPD**	**%**	**%**
ACENAPHTHENE	85	83	80	4	47-145	<30
ACENAPHTHYLENE	81	77	75	3	33-145	<30
ANTHRACENE	79	82	80	2	27-133	<30
BENZO(A)ANTHRACENE	84	87	86	1	33-143	<30
BENZO(A)PYRENE	85	87	85	2	17-163	<30
BENZO(B)FLUORANTHENE	93	106	105	1	24-159	<30
BENZO(GHI)PERYLENE	85	80	67	18	D-219	<30
BENZO(K)FLUORANTHENE	78	86	90	5	11-162	<30
CHRYSENE	79	83	82	1	17-168	<30
DIBENZO(A,H)ANTHRACENE	92	86	73	16	D-227	<30
FLUORANTHENE	84	84	83	1	26-137	<30
FLUORENE	88	87	87	0	59-121	<30
INDENO(1,2,3-CD)PYRENE	99	94	79	17	D-171	<30
NAPHTHALENE	75	62	57	8	21-133	<30
PHENANTHRENE	87	91	89	2	54-120	<30
PYRENE	82	102	105	3	52-115	<30

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY

MS % R = MATRIX SPIKE PERCENT RECOVERY

MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY

RPD = RELATIVE PERCENT DIFFERENCE

D = DETECTION LIMIT

QA/QC REPORT

METHOD: PAHS by EPA 8270-TISSUE DATE ANALYZED: 09/01-02/98 QA/QC SAMPLE: PTAS 1688-98-22					ACCEPTABLE LCS,MS/MSD CRITERIA	ACCEPTABLE RPD CRITERIA
SPIKED ANALYTE	LCS % R	MS % R	MSD % R	RPD	%	%
ACENAPHTHENE	106	104	102	2	47-145	<30
ACENAPHTHYLENE	89	88	87	1	33-145	<30
ANTHRACENE	89	88	93	6	27-133	<30
BENZO(A)ANTHRACENE	89	92	96	4	33-143	<30
BENZO(A)PYRENE	95	94	100	6	17-163	<30
BENZO(B)FLUORANTHENE	90	93	101	8	24-159	<30
BENZO(GHI)PERYLENE	82	87	87	0	D-219	<30
BENZO(K)FLUORANTHENE	86	90	92	2	11-162	<30
CHRYSENE	90	94	97	3	17-168	<30
DIBENZO(A,H)ANTHRACENE	80	84	83	1	D-227	<30
FLUORANTHENE	97	93	103	10	26-137	<30
FLUORENE	92	93	96	3	59-121	<30
INDENO(1,2,3-CD)PYRENE	81	86	84	2	D-171	<30
NAPHTHALENE	85	73	64	13	21-133	<30
PHENANTHRENE	101	102	109	4	54-120	<30
PYRENE	75	85	92	8	52-115	<30

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY

MS % R = MATRIX SPIKE PERCENT RECOVERY

MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY

RPD = RELATIVE PERCENT DIFFERENCE

D = DETECTION LIMIT

QA/QC REPORT

METHOD: PHTHALATES by EPA 8270-TISSUE
DATE ANALYZED: 08/26/98
QA/QC SAMPLE: PTAS 1688-98-33

SPIKED ANALYTE	LCS % R	MS % R	MSD % R	RPD	ACCEPTABLE LCS,MS/MSD CRITERIA %	ACCEPTABLE RPD CRITERIA %
BIS(2-ETHYLHEXYL)PHTHALATE	99	117	102	14	8-158	<30
BUTYL BENZYLPHTHALATE	95	107	99	9	D-152	<30
DI-N-BUTYLPHTHALATE	101	95	85	11	1-118	<30
DI-N-OCTYLPHTHALATE	86	105	99	6	4-146	<30
DIETHYLPHTHALATE	118	110	104	6	D-114	<30
DIMETHYLPHTHALATE	109	96	95	1	D-112	<30

QA/QC REPORT

METHOD: PHTHALATES by EPA 8270-TISSUE
DATE ANALYZED: 08/28/98
QA/QC SAMPLE: PTAS 1688-98-4

SPIKED ANALYTE	LCS % R	MS % R	MSD % R	RPD	ACCEPTABLE LCS,MS/MSD CRITERIA %	ACCEPTABLE RPD CRITERIA %
BIS(2-ETHYLHEXYL)PHTHALATE	102	134	135	1	8-158	<30
BUTYL BENZYLPHTHALATE	96	124	124	0	D-152	<30
DI-N-BUTYLPHTHALATE	88	87	84	4	1-118	<30
DI-N-OCTYLPHTHALATE	107	106	118	11	4-146	<30
DIETHYLPHTHALATE	104	106	105	1	D-114	<30
DIMETHYLPHTHALATE	94	94	92	2	D-112	<30

QA/QC REPORT

METHOD: PHTHALATES by EPA 8270-TISSUE
DATE ANALYZED: 09/01/98
QA/QC SAMPLE: PTAS 1688-98-22

SPIKED ANALYTE	LCS % R	MS % R	MSD % R	RPD	ACCEPTABLE LCS,MS/MSD CRITERIA %	ACCEPTABLE RPD CRITERIA %
BIS(2-ETHYLHEXYL)PHTHALATE	89	90	85	6	8-158	<30
BUTYL BENZYLPHTHALATE	83	88	91	3	D-152	<30
DI-N-BUTYLPHTHALATE	94	84	84	0	1-118	<30
DI-N-OCTYLPHTHALATE	67	77	80	4	4-146	<30
DIETHYLPHTHALATE	111	111	111	0	D-114	<30
DIMETHYLPHTHALATE	107	104	104	0	D-112	<30

LCS % R = LABORATORY CONTROL SAMPLE PERCENT RECOVERY
MS % R = MATRIX SPIKE PERCENT RECOVERY
MSD % R = MATRIX SPIKE DUPLICATE PERCENT RECOVERY
RPD = RELATIVE PERCENT DIFFERENCE
D = DETECTION LIMIT

Pacific Treatment
Analytical Services, Inc.

4340 Viewridge Avenue, Suite A • San Diego, CA 92123
(619) 560-7717 • Fax (619) 560-7763
Analytical Chemistry Laboratory

September 9, 1998

MEC Analytical Systems, Inc.
Attn: Dr. Paul Krause
98 Main Street, Suite #428
Tiburon, California 94920

Project Name/No.: LARE/ACOE
Laboratory Log No.: 1688-98 (Addition)
Date Received: 08/24/98
Sample Matrix: Six clam samples and six worm tissue samples
PO No.: 0719-019

Enclosed with this letter is the report on the following analyses on the sample from the project identified above:

EPA 948.15 (AOAC)was performed by subcontract laboratory, results enclosed.

The sample was received by Pacific Treatment Analytical Services, Inc. intact and with chain-of-custody documentation. The test results and pertinent quality assurance/ quality control data are listed on the attached tables.

I certify that this data report is in compliance both technically and for completeness. Release of the data contained in this hardcopy data report has been authorized by the following signature.

Janis Columbo
Vice President/Laboratory Director

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT Pacific Treatment Analytical (4903)
ATTN: Roger Lahr
4340 Viewridge Ave.
Suite A
San Diego, CA 92123

LAB REQUEST 26910
REPORTED 9/2/98
RECEIVED 8/28/98

PROJECT Lare/ACOE-1688-98

SUBMITTER Client

COMMENTS Samples were analyzed by Method 948.15 (AOAC)

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
81600	Reference Rep -M
81601	1 Top Rep - M
81602	1 Bottom Rep - M
81603	2 Top Rep - M
81604	2 Bottom Rep M
81605	3 Comp. Rep - M
81606	Reference Rep - P
81607	1 Top Rep - P
81608	1 Bottom Rep - P
81609	2 Top Rep - P
81610	2 Bottom Rep - P
81611	3 Comp Rep - P

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Robert A. Webber
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 81600 **Client Sample ID:** Reference Rep -M **Log Date:** 8/31/98

Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 09:50

Analyte	Result	DLR	Units	Date/Analyst
60.39 Fat, Crude (Meat)				
Fat, Crude	0.25	0.01	%	9/2/98 BS

Order #: 81601 **Client Sample ID:** 1 Top Rep - M **Log Date:** 8/31/98

Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 12:30

Analyte	Result	DLR	Units	Date/Analyst
60.39 Fat, Crude (Meat)				
Fat, Crude	0.29	0.01	%	9/2/98 BS

Order #: 81602 **Client Sample ID:** 1 Bottom Rep - M **Log Date:** 8/31/98

Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 12:55

Analyte	Result	DLR	Units	Date/Analyst
60.39 Fat, Crude (Meat)				
Fat, Crude	0.27	0.01	%	9/2/98 BS

Order #: 81603 **Client Sample ID:** 2 Top Rep - M **Log Date:** 8/31/98

Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 13:30

Analyte	Result	DLR	Units	Date/Analyst
60.39 Fat, Crude (Meat)				
Fat, Crude	0.31	0.01	%	9/2/98 BS

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

Order #: 81604 **Client Sample ID:** 2 Bottom Rep M **Log Date:** 8/31/9
Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 13:45

Analyte	Result	DLR	Units	Date/Analyst
960.39 Fat, Crude (Meat)				
Fat, Crude	0.34	0.01	%	9/ 2/98 BS

Order #: 81605 **Client Sample ID:** 3 Comp. Rep - M **Log Date:** 8/31/9
Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 14:15

Analyte	Result	DLR	Units	Date/Analyst
960.39 Fat, Crude (Meat)				
Fat, Crude	0.29	0.01	%	9/ 2/98 BS

Order #: 81606 **Client Sample ID:** Reference Rep - P **Log Date:** 8/31/98
Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 09:50

Analyte	Result	DLR	Units	Date/Analyst
960.39 Fat, Crude (Meat)				
Fat, Crude	0.76	0.01	%	9/ 2/98 BS

Order #: 81607 **Client Sample ID:** 1 Top Rep - P **Log Date:** 8/31/98
Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 12:30

Analyte	Result	DLR	Units	Date/Analyst
960.39 Fat, Crude (Meat)				
Fat, Crude	0.90	0.01	%	9/ 2/98 BS

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

Order #: 81608 **Client Sample ID:** 1 Bottom Rep - P **Log Date:** 8/31/98
Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 12:55

Analyte	Result	DLR	Units	Date/Analyst
960.39 Fat, Crude (Meat)				
Fat, Crude	0.88	0.01	%	9/ 2/98 BS

Order #: 81609 **Client Sample ID:** 2 Top Rep - P **Log Date:** 8/31/98
Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 13:30

Analyte	Result	DLR	Units	Date/Analyst
960.39 Fat, Crude (Meat)				
Fat, Crude	0.85	0.01	%	9/ 2/98 BS

Order #: 81610 **Client Sample ID:** 2 Bottom Rep - P **Log Date:** 8/31/98
Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 13:45

Analyte	Result	DLR	Units	Date/Analyst
960.39 Fat, Crude (Meat)				
Fat, Crude	0.83	0.01	%	9/ 2/98 BS

Order #: 81611 **Client Sample ID:** 3 Comp Rep - P **Log Date:** 8/31/98
Matrix: FOOD_SOLID
Date Sampled: 8/21/98
Time Sampled: 14:15

Analyte	Result	DLR	Units	Date/Analyst
960.39 Fat, Crude (Meat)				
Fat, Crude	0.84	0.01	%	9/ 2/98 BS

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

SOC. Labs

2691.0

1 of 2

Pacific Treatment Analytical Services, Inc.

CHAIN-OF-CUSTODY RECORD

4340 Viewridge Avenue, Suite A San Diego, CA 92123 Phone (619) 560-7717 Fax (619) 560-7763

PTAS LOG #

PTAS DATE/TIME STAMP

Client: PTAS

Address:

Attn: Roger Lahr Phone:

Sampled by: Fax:

Billing Address:

Project: Lare/ACOE - 1688-98 PO #: 98699

REQUESTED ANALYSIS

Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container(s) #	Container(s) Type*	PTAS ID #	Lipids
Reference Rep. - M	8/21/98	9:50	Tissue	1	Glass	1	X
1 TOP Rep. - M		12:30	CLAMS			2	X
1 Bottom Rep. - M		12:55				3	X
2 TOP Rep. - M		13:30				4	X
2 Bottom Rep. - M		13:45				5	X
3 Comp. Rep. - M		14:15				6	X
Reference Rep. - P		9:50	Tissue WORMS			7	X
1 TOP Rep. - P		12:30				8	X
1 Bottom Rep. - P		12:55				9	X
2 TOP Rep - P		13:30				10	X

*Container Types: B=Brass Tube; V=VOA; (G=Glass); P=Plastic; O=Other (list)

Tamper-Proof Seals Intact: Yes No (N/A) Correct Containers: (Yes) No

Sample(s): (Cold) Ambient Warm VOAs w/ZHS: Yes No (N/A)

All Samples Properly Preserved: Yes No (N/A)

Disposal: N/C (aqueous) * PTAS (@$5.00/sample) Return

Turnaround Time: 24 hr 48 hr 3 day 4 day ~~Normal~~ (5-DAY)

Comments: 5-DAY TAT

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature: Roger Lahr	8/26/98 3:30pm	Signature:
Print: R. Lahr		Print: UPS
Company: PTAS		Company:
Signature: [illegible]	F-27-98 10:17	Signature:
Print: S. MANNO		Print:
Company: Assoc Labs		Company:
Signature:		Signature:
Print:		Print:
Company:		Company:

SSOC. L...

26910

2 of 2

Pacific Treatment Analytical Services, Inc.

CHAIN-OF-CUSTODY RECORD

4340 Viewridge Avenue, Suite A San Diego, CA 92123 Phone (619) 560-7717 Fax (619) 560-7763

PTAS LOG #

PTAS DATE/TIME STAMP

Client: PTAS

Address:

Attn: Roger Lahr Phone:

Sampled by: Fax:

Billing Address:

Project: Lare/ACOE - 1688-98 PO #: 98699

REQUESTED ANALYSIS

Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container(s) #	Container(s) Type*	PTAS ID #	418.1 (TRPH)	TPH (DHS) Gas__ Diesel__	601 / 8020 BTXE__ MTBE__	601 / 8010 (Purgeable Halocarbons)	608 / 8080 PCBs__ Pesticides__	624 / 8240 / 8260 (Volatile Organics)	625 / 8270 (Semi Volatile Organics)	TTLC Metals (CAC Title 22)	STLC Metals (CAC Title 22)	TCLP (RCRA) Metals__ Organics__	Cd Cr Cu Pb Ni Ag Zn	pH EC TSS O&G	Lipids
2 Bottom Rep - P	8/21/98	13:45	Tissue Worms	1	Glass	11													X
3 Comp Rep - P	↓	14:15	↓	1	↓	12													X
						3													
						4													
						5													
						6													
						7													
						8													
						9													
						10													

*Container Types: B=Brass Tube; V=VOA; G=Glass; P=Plastic; O=Other (list)

Tamper-Proof Seals Intact: Yes No (N/A) Correct Containers: (Yes) No

Sample(s): (Cold) Ambient Warm VOAs w/ZHS: Yes No (N/A)

All Samples Properly Preserved: Yes No (N/A)

Disposal: N/C (aqueous) * PTAS (@$5.00/sample) Return

Turnaround Time: 24 hr 48 hr 3 day 4 day ~~Normal~~ 5-PAY

Comments:

5-PAY TAT

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature Roger Lahr	8/26/98	Signature
Print R. Lahr	3:30pm	Print UPS
Company PTAS		Company
Signature		Signature
Print		Print
Company		Company
Signature		Signature
Print		Print
Company		Company

White - PTAS Canary - Accounting Pink - Client (w/Report) Goldenrod - Client (Relinquish Samples) (Rev. 5/97)

APPENDIX H

Chain of Custody Forms

MEC ANALYTICAL SYSTEMS, INC.

☒ 6060 Corte del Cedro • Carlsbad, CA 92009-1514 • (619) 931-9225, FAX 931-9251
☐ 2433 Impala Drive • Carlsbad, CA 92008 • (619) 931-8081, FAX 931-1580
☐ 98 Main Street, Suite #428 • Tiburon, CA 94920 • (415) 435-1847, FAX 435-0479

02650

DATE 7/14/98 PAGE 1 OF 1

PROJECT NAME/SURVEY/PROJECT NUMBER: ACOE - LA River Estuary - 0719-019

PROJECT MANAGER: P. Krause / K. Green

COMPANY: MEC Analytical Systems Inc.

ADDRESS: 6060 Corte del Cedro, Carlsbad

PHONE/FAX: (760) 931-8081

SAMPLE I.D.	DATE	TIME	MATRIX	INITIALS	NUMBER & TYPE OF CONTAINERS	ANALYSIS/TEST REQUESTED: Return to Lab for Homogenizing	PRESERVED HOW/ COMMENTS
LA-2 Reference	7-13-98	1030	Sediment	KV	2 coolers → 4 bags	✓	in coolers on ice

SHIPPING:

Shipping VIA: _____ Airbill No: _____

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Firm: Sea Ventures	Firm: MEC	Firm: MEC	Firm: MEC	Firm: MEC	Firm: MEC
Date/Time: 7/14/98 0700	Date/Time: 7/14/98 0700	Date/Time: 7/16/98 0722	Date/Time: 7/16/98 0722	Date/Time: 7/16/98 1410	Date/Time: 7/16/98 1415

WHITE - return to originator • YELLOW - lab • PINK - retained by originator

[redacted] CHAIN OF CUSTODY

MEC ANALYTICAL SYSTEMS, INC.

(⊠ Check One)

☒ 6060 Corte del Cedro • Carlsbad, CA 92009-1514 • (619) 931-9225, FAX 931-9251
☐ 2433 Impala Drive • Carlsbad, CA 92008 • (619) 931-8081, FAX 931-1580
☐ 98 Main Street, Suite #428 • Tiburon, CA 94920 • (415) 435-1847, FAX 435-0479

02634

DATE 7/16/98 PAGE 1 OF 1

PROJECT NAME/SURVEY/PROJECT NUMBER: ACoE- LA River Estuary 0719-019

PROJECT MANAGER: P. Krause / K. Green

COMPANY: MEC

ADDRESS: Above

PHONE/FAX:

SAMPLE I.D.	DATE	TIME	MATRIX	INITIALS	NUMBER & TYPE OF CONTAINERS	ANALYSIS/TEST REQUESTED	PRESERVED HOW/ COMMENTS
3-1	7/14/98	1809	Sediment	[redacted]	1 ✓		
3-2		1755			1 ✓		
3-3		1630			1 ✓		
3-4		1550			1 ✓		
3-5		1515			1 ✓		
3-6		1130			2 ✓✓		
3-7		0921			1 ✓		
3-8		0918			1 ✓		
2-8	7/15/98	1228			1B –		
2-7		1040			1 ✓		
2-6		1130			1B ✓		
2-4		0935			1B ✓; 1T ✓		
2-3		1728			2T ✓; 1B ✓		
2-2		0902			1T ✓; 1B ✓		
2-1		1423			3B; 3T ✓		

SHIPPING:

Shipping VIA: _____ Airbill No: _____

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature [redacted]	Signature [redacted]	Signature [redacted]	Signature [redacted]	Signature	Signature
Firm MEC	Firm MEC	Firm MEC	Firm MEC	Firm	Firm
Date/Time 7/16/98 0720	Date/Time 7/16/98 0792	Date/Time 7/16/98 1410	Date/Time 7/16/98 1415	Date/Time	Date/Time

WHITE - return to originator • YELLOW - lab • PINK - retained by originator

MEC ANALYTICAL SYSTEMS, INC.
☐ [redacted] (Mail Drop Only)
☐ 6060 Corte del Cedro • Carlsbad, CA 920[redacted]14 • [redacted]931 [redacted], FAX) [redacted]925[redacted]
☐ 2433 Impala Drive • Carlsbad, CA 92008 • (619) 931-8081, FAX 931-1580
☑ 98 Main Street, Suite #428 • Tiburon, CA 94920 • (415) 435-1847, FAX 435-0479

02[redacted]35

DATE 07/16/98 PAGE 1 OF 1

PROJECT NAME/SURVEY/PROJECT NUMBER: L.A. RIVER ESTUARY
PROJECT MANAGER: KRAUSE/GREEN
COMPANY: MEC
ADDRESS: SEE ABOVE
PHONE/FAX:

SAMPLE I.D.	DATE	TIME	MATRIX	INITIALS	NUMBER & TYPE OF CONTAINERS	ANALYSIS/TEST REQUESTED	PRESERVED HOW/ COMMENTS
R-5	07/16/98	0914	Marine Sediment	BB/JM	2B3T		
JM B-7		1430			1B1T		
JM B-8		1300			1B1T		
1-6		1718			2B1T		
1-1	↓	1816	↓	↓	2B		

SHIPPING:
Shipping VIA: _____ Airbill No: _____

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: [signature]	Signature: [signature]	Signature:	Signature:	Signature:	Signature:
Firm: MEC	Firm: MEC	Firm:	Firm:	Firm:	Firm:
Date/Time: 07/16/98 1930	Date/Time: 7/17/98 1200	Date/Time:	Date/Time:	Date/Time:	Date/Time:

WHITE - return to originator • YELLOW - lab • PINK - retained by originator

MEC ANALYTICAL SYSTEMS, INC.

(⊠ Check One)

☒ 6060 Corte del Cedro • Carlsbad, CA 92009-1514 • (619) 931-9225, FAX 931-9251
☐ 2433 Impala Drive • Carlsbad, CA 92008 • (619) 931-8081, FAX 931-1580
☐ 98 Main Street, Suite #428 • Tiburon, CA 94920 • (415) 435-1847, FAX 435-0479

CHAIN OF CUSTODY

02636

DATE 17 July 98 PAGE 1 OF 1

PROJECT NAME/SURVEY/PROJECT NUMBER: ACOE LA River Estuary/
PROJECT MANAGER: P. Krause / K. Green
COMPANY: MEC
ADDRESS: Above
PHONE/FAX:

SAMPLE I.D.	DATE	TIME	MATRIX	INITIALS	NUMBER & TYPE OF CONTAINERS	ANALYSIS/TEST REQUESTED: Tier III Bioassay	PRESERVED HOW/ COMMENTS
1-2T	7/17/98	1325	Marine Sed	JH	1		
1-2B		1325			1		
1-3T		1215			1		
1-4T		1030			1		
1-5T		0852			1		
1-5B		0852			1		

SHIPPING:

Shipping VIA: _____ Airbill No: _____

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature Craig Collins	Signature	Signature	Signature	Signature
Firm MEC	Firm MEC	Firm	Firm	Firm	Firm
Date/Time 7/20/98 / 1000	Date/Time 7/20/98 / 1000	Date/Time	Date/Time	Date/Time	Date/Time

MEC ANALYTICAL SYSTEMS, INC.

(☒ Check One)
☑ 6060 Corte del Cedro • Carlsbad, CA 92009-1514 • (619) 931-9225, FAX 931-9251
☐ 2433 Impala Drive • Carlsbad, CA 92008 • (619) 931-8081, FAX 931-1580
☐ 98 Main Street, Suite #428 • Tiburon, CA 94920 • (415) 435-1847, FAX 435-0479

CHAIN OF CUSTODY

02634

DATE 7/11/98 PAGE 1 OF 1

PROJECT NAME/SURVEY/PROJECT NUMBER: [illegible]
PROJECT MANAGER: [illegible] / K. [illegible]
COMPANY: MEC
ADDRESS: Above
PHONE/FAX:

ANALYSIS/TEST REQUESTED

SAMPLE I.D.	DATE	TIME	MATRIX	INITIALS	NUMBER & TYPE OF CONTAINERS						PRESERVED HOW/ COMMENTS
3-1	7/11/98	1809	Sediment	[illegible]	1						
3-2	↓	1755	↓	↓	1						
3-3	↓	1130	↓	↓	1						
3-4	↓	1150	↓	↓	1						
3-5	↓	1015	↓	↓							
3-6	↓	1130	↓	↓	2						
3-7	↓	0920	↓	↓	1						
3-8	↓	0910	↓	↓	1						
2-8	7/10/98	1028	↓	↓	[illegible]						
2-7	↓	1010	↓	↓	1						
2-6	↓	1130	↓	↓	[illegible]						
2-4	↓	0935	↓	↓	[illegible]						
2-3	↓	1228	↓	↓	[illegible]						
2-2	↓	1105	↓	↓	[illegible]						
2-1	↓	1123	↓	↓							

SHIPPING:
Shipping VIA: ______ Airbill No: ______

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: [illegible]	Signature: [illegible]	Signature	Signature	Signature	Signature
Firm: MEC	Firm: MEC	Firm	Firm	Firm	Firm
Date/Time: 7/11/98 0722	Date/Time: 7/11/98 0722	Date/Time	Date/Time	Date/Time	Date/Time

WHITE - return to originator • YELLOW - lab • PINK - retained by originator

MEC ANALYTICAL SYSTEMS, INC.

(⊠ Check One)

☒ 6060 Corte del Cedro • Carlsbad, CA 92009-1514 • (619) 931-9225, FAX 931-9251
☐ 2433 Impala Drive • Carlsbad, CA 92008 • (619) 931-8081, FAX 931-1580
☐ 98 Main Street, Suite #428 • Tiburon, CA 94920 • (415) 435-1847, FAX 435-0479

CHAIN OF CUSTODY

02650

DATE 7/14/98 PAGE 1 OF 1

PROJECT NAME/SURVEY/PROJECT NUMBER: ACOE - LA River Estuary - 0719-019

PROJECT MANAGER: P. Kinnie / K. Green

COMPANY: MEC Analytical Systems Inc.

ADDRESS: 6060 Corte del Cedro, Carlsbad

PHONE/FAX: (760) 931-8081

SAMPLE I.D.	DATE	TIME	MATRIX	INITIALS	NUMBER & TYPE OF CONTAINERS	ANALYSIS/TEST REQUESTED: Return to Lab for Homogenizing					PRESERVED HOW/ COMMENTS
LA-2 Reference	7-13-98	1030	Sediment	KV	2 cntr	✓					in coolers on ice
					↳ 4 L						

SHIPPING:

Shipping VIA: _____ Airbill No: _____

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Firm: Sea Ventures	Firm: MEC	Firm: MEC	Firm: MEC	Firm	Firm
Date/Time: 7/14/98 1700	Date/Time: 7/14/98 1700	Date/Time: 7/14/98 0832	Date/Time: 7/14/98 0832	Date/Time	Date/Time

WHITE - return to originator • YELLOW - lab • PINK - retained by originator

No# 49
55
58

Pacific Treatment Analytical Services, Inc.

CHAIN-OF-CUSTODY RECORD

4340 Viewridge Avenue, Suite A San Diego, CA 92123 Phone (619) 560-7717 Fax (619) 560-7763

Macoma

1688-98 PTAS LOG #	PTAS DATE/TIME STAMP AUG 24 P 2:05

Client: MEC	
Address: 98 Main St Suite 428 Tiburon CA 94920	
Attn: Paul Krause	Phone: 415-435-1847
Sampled by: A Mongi	Fax: 415-435-0479
Billing Address: 2433 Impala Dr Carlsbad CA 92009	
Project: LARE / ACOE	PO #: 0719-019

REQUESTED ANALYSIS

Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container(s) #	Type*	PTAS ID #	~~418.1 (TRPH)~~	TPH (DHS) Gas__ Diesel__	601 / 8020 BTXE__ MTBE__	601 / 8010 (Purgeable Halocarbons)	608 / 8080 PCBs X Pesticides X	624 / 8240 / 8260 (Volatile Organics)	625 / 8270 (Semi Volatile Organics)	TTLC Metals (CAC Title 22)	STLC Metals (CAC Title 22)	TCLP (RCRA) Metals__ Organics__	Cd Cr Cu Pb Ni Ag Zn	pH EC TSS O&G	~~[illegible]~~	Metals As Cd Cr Cu ...	Pb Hg ...	S.A. ...	Lipids	Grain size						
Reference Rep 1	8/21/98	0950	Tissue	1	G	1	X												X	X			X	X						
2	↓	↓	↓	↓	↓	2																								
3						3																								
4						4																								
5						5																								
1 Tup Rep 1		12:30				6																								
2		↓				7																								
3						8																								
4						9																								
5	↓	↓	↓	↓	↓	10																								

*Container Types: B=Brass Tube; V=VOA; G=Glass; P=Plastic; O=Other (list)	
Tamper-Proof Seals Intact: Yes No N/A	Correct Containers: Yes No
Sample(s): Cold Ambient Warm	VOAs w/ZHS: Yes No N/A
All Samples Properly Preserved: Yes No N/A	
Disposal: N/C (aqueous) * PTAS (@$5.00/sample) Return	
Turnaround Time: 24 hr 48 hr 3 day 4 day (5 Day) Normal	
Comments: See Attached Table for complete list. Rush turnaround. See Jennifer or Lisa Kay for questions	

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature [signature]	8/24/98	Signature
Print MEC	1:30	Print [illegible]
Company		Company [illegible]
Signature		Signature
Print		Print
Company		Company
Signature		Signature
Print		Print
Company		Company

* PTAS reserves the right to return samples that don't match our waste profile.

White - PTAS Canary - Accounting Pink - Client (w/Report) Goldenrod - Client (Relinquish Samples) (Rev. 5/97)

Pacific Treatment Analytical Services, Inc.

CHAIN-OF-CUSTODY RECORD

4340 Viewridge Avenue, Suite A San Diego, CA 92123 Phone (619) 560-7717 Fax (619) 560-7763

Marcmi

1688-98 **PTAS LOG #** **PTAS DATE/TIME STAMP** 2:05 of 6

Client: MEC

Address: 98 Main St Suite 428, Tiburon CA 94920

Attn: Paul Krause Phone:

Sampled by: A Moniz Fax:

Billing Address: 2433 Impala Dr, Carlsbad CA 92009

Project: LA2E PO #: 0719-019

REQUESTED ANALYSIS

Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container(s) #	Type*	PTAS ID #	418.1 (TRPH)	TPH (DHS) Gas__ Diesel__	601 / 8020 BTXE__ MTBE__	601 / 8010 (Purgeable Halocarbons)	608 / 8080 PCBs X Pesticides X	624 / 8240 / 8260 (Volatile Organics)	625 / 8270 (Semi Volatile Organics)	TTLC Metals (CAC Title 22)	STLC Metals (CAC Title 22)	TCLP (RCRA) Metals__ Organics__	Cd Cr Cu Pb Ni Ag Zn	pH EC TSS O&G	[illegible]	Metals: As Cd Cr Cu	Pb Hg Ni Se	Ag Tl Zn	Total Lipids	Organotins
1 Bottom Rep 1	8/21/98	12:45	Tissue	1	G	1	X				X		X						X	X			X	X
2	↓	↓	↓	↓	↓	2	↓				↓		↓						↓	↓			↓	↓
3						3																		
4						4																		
5						5																		
2 Top Rep 1		13:30				6																		
2						7																		
3						8																		
4						9																		
5	↓	↓	↓	↓	↓	10	X				X		X						X	X			X	X

*Container Types: B=Brass Tube; V=VOA; G=Glass; P=Plastic; O=Other (list)

Tamper-Proof Seals Intact: Yes No N/A

Correct Containers: (Yes) No

Sample(s): Cold ✓ Ambient Warm

VOAs w/ZHS: Yes No (N/A)

All Samples Properly Preserved: Yes No (N/A)

Disposal: N/C (aqueous) * PTAS (@$5.00/sample) Return

Turnaround Time: 24 hr 48 hr 3 day (5 day) Normal

Comments: See attachment for complete analyte list.

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature [signature]	8/24/98	Signature
Print Alan T Moniz	11:30	Print [illegible]
Company MEC		Company PTAS
Signature		Signature
Print		Print
Company		Company
Signature		Signature
Print		Print
Company		Company

* PTAS reserves the right to return samples that don't match our waste profile.

White - PTAS Canary - Accounting Pink - Client (w/Report) Goldenrod - Client (Relinquish Samples) (Rev. 5/97)

Mouma Sol. A

Pacific Treatment Analytical Services, Inc.

CHAIN-OF-CUSTODY RECORD

4340 Viewridge Avenue, Suite A San Diego, CA 92123 Phone (619) 560-7717 Fax (619) 560-7763

1688-98 **PTAS LOG #**

[illegible] 2:05 **PTAS DATE/TIME STAMP**

Client: MEC

Address: 98 Main St Suite 428 Tiburon CA

Attn: Paul Krause Phone:

Sampled by: A Mong Fax:

Billing Address:

Project: LAKE / ACOE PO #: 0714-014

REQUESTED ANALYSIS

Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container(s) #	Type*	PTAS ID #	418.1 (TRPH) (crossed out)	TPH (DHS) Gas__ Diesel__	601 / 8020 BTXE__ MTBE__	601 / 8010 (Purgeable Halocarbons)	608 / 8080 PCBs X Pesticides X	624 / 8240 / 8260 (Volatile Organics)	625 / 8270 (Semi Volatile Organics)	TTLC Metals (CAC Title 22)	STLC Metals (CAC Title 22)	TCLP (RCRA) Metals__ Organics__	Cd Cr Cu Pb Ni Ag Zn	pH EC TSS O&G	(crossed out)	Metals As Cd Cu	Pb Hg Ni Se Ag	Total Lipids	% Moisture						
2 Bottom Rep 1	8/1/98	15:47	Tissue	1	6	21	X				X		X						X	X		X	X						
2						22																							
3						23																							
4						24																							
5						25																							
5 Comp Rep 1		14:15				26																							
2						27																							
3						28																							
4						29																							
5						210	X				X		X						X	X		X	X						

*Container Types: B=Brass Tube; V=VOA; G=Glass; P=Plastic; O=Other (list)

Tamper-Proof Seals Intact: Yes No N/A | Correct Containers: Yes No

Sample(s): Cold Ambient Warm | VOAs w/ZHS: Yes No N/A

All Samples Properly Preserved: Yes No N/A

Disposal: N/C (aqueous) * PTAS (@$5.00/sample) Return

Turnaround Time: 24 hr 48 hr 3 day 4 day Normal

Comments: See attachment for complete analyte list

RELINQUISHED BY		DATE/TIME	RECEIVED BY	
Signature	[signature]	8/24/98	Signature	
Print	Alan T Mong	1:30	Print	[illegible]
Company	MEC		Company	PTAS
Signature			Signature	
Print			Print	
Company			Company	
Signature			Signature	
Print			Print	
Company			Company	

* PTAS reserves the right to return samples that don't match our waste profile. White - PTAS Canary - Accounting Pink - Client (w/Report) Goldenrod - Client (Relinquish Samples) (Rev. 5/97)

4-l-k

Pacific Treatment Analytical Services, Inc.

CHAIN-OF-CUSTODY RECORD

4340 Viewridge Avenue, Suite A San Diego, CA 92123 Phone (619) 560-7717 Fax (619) 560-7763

05 Nightys (Relinchate)

1688-98 **PTAS LOG #** **PTAS DATE/TIME STAMP**

Client: MEC

Address: 98 Main St Suite 428

Tiburon CA 94920

Attn: Paul Kiasse Phone:

Sampled by: Fax:

Billing Address:

Project: ARE / ACCE PO #: 0719-019

REQUESTED ANALYSIS

Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container(s) #	Type*	PTAS ID #	418.1 (TRPH)	TPH (DHS) Gas__ Diesel__	601 / 8020 BTXE__ MTBE__	601 / 8010 (Purgeable Halocarbons)	608 / 8080 PCBs X Pesticides X	624 / 8240 / 8260 (Volatile Organics)	625 / 8270 (Semi Volatile Organics)	TTLC Metals (CAC Title 22)	STLC Metals (CAC Title 22)	TCLP (RCRA) Metals__ Organics__	Cd Cr Cu Pb Ni Ag Zn	pH EC TSS O&G	[illegible]	Metals: As, Cd, Cu, Pb, Hg, Ni, Se, Zn	% Lipids	Organotins
Returned Rep 1	4/21/98	[illegible]	Tissue	1	G	31	X				X		X						X	X	X	X
2						32																
3						33																
4						34																
5						35																
1 [illegible] Rep 1		12:30				36																
2						37																
3						38																
4						39																
5						40					X		X							X	X	X

*Container Types: B=Brass Tube; V=VOA; G=Glass; P=Plastic; O=Other (list)

Tamper-Proof Seals Intact: Yes No N/A Correct Containers: Yes No

Sample(s): Cold Ambient Warm VOAs w/ZHS: Yes No N/A

All Samples Properly Preserved: Yes No N/A

Disposal: N/C (aqueous) * PTAS (@$5.00/sample) Return

Turnaround Time: 24 hr 48 hr 3 day 5 day Normal

Comments: See attachment for complete list of analytes. See Jennifer or Lisa Kay for questions. Push TAT

RELINQUISHED BY		DATE/TIME	RECEIVED BY	
Signature	Alan T [illegible]	4/24/98	Signature	[illegible]
Print	Alan T [illegible]	11:30	Print	[illegible]
Company	MEC		Company	PTAS
Signature			Signature	
Print			Print	
Company			Company	
Signature			Signature	
Print			Print	
Company			Company	

* PTAS reserves the right to return samples that don't match our waste profile. White - PTAS Canary - Accounting Pink - Client (w/Report) Goldenrod - Client (Relinquish Samples) (Rev. 5/97)

Soft
Naphthalenes
(P.Pds check)

Pacific Treatment Analytical Services, Inc.

CHAIN-OF-CUSTODY RECORD

4340 Viewridge Avenue, Suite A   San Diego, CA 92123   Phone (619) 560-7717   Fax (619) 560-7763

PTAS LOG # 1688-98   **PTAS DATE/TIME STAMP**

Client: MEC
Address: 98 Main St Suite 428
Tiburon CA 94920
Attn: Paul Krause   Phone:
Sampled by: Alan Mongi   Fax:
Billing Address:

Project: LARE / ACOE   PO #: C719-019

REQUESTED ANALYSIS: 418.1 (TRPH); TPH (DHS) Gas__ Diesel__; 601 / 8020 BTXE__ MTBE__; 601 / 8010 (Purgeable Halocarbons); 608 / 8080 PCBs X Pesticides X; 624 / 8240 / 8260 (Volatile Organics); 625 / 8270 (Semi Volatile Organics); TTLC Metals (CAC Title 22); STLC Metals (CAC Title 22); TCLP (RCRA) Metals__ Organics__; Cd Cr Cu Pb Ni Ag Zn; pH EC TSS O&G; Metals: As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag; Total Lipids; Grain size

Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container(s) #	Type*	PTAS ID #	608 / 8080	625 / 8270	Metals	Total Lipids	Grain size
1 Bottom Rip 1	8/21/98	11:55	Tissue	1	G	41	X	X	X	X	X
2	↓	↓	↓	↓	↓	42	↓	↓	↓	↓	↓
3						43					
4						44					
5		↓				45					
2 Top Rip 1		13:30				46					
2		↓				47					
3						48					
4						49					
5	↓	↓	↓	↓	↓	50	X	X	+	+	+

*Container Types: B=Brass Tube; V=VOA; G=Glass; P=Plastic; O=Other (list)

Tamper-Proof Seals Intact: Yes No N/A   Correct Containers: (Yes) No
Sample(s): Cold Ambient Warm   VOAs w/ZHS: Yes No (N/A)
All Samples Properly Preserved: Yes No N/A
Disposal: N/C (aqueous) * PTAS (@$5.00/sample) Return
Turnaround Time: 24 hr 48 hr 3 day (5 day) Normal
Comments: See attached Table for analyte list

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature: Alan T. Mongi	8/24/98	Signature: [signature]
Print: Alan T. Mongi	11:30	Print:
Company: MEC		Company:
Signature:		Signature:
Print:		Print:
Company:		Company:
Signature:		Signature:
Print:		Print:
Company:		Company:

* PTAS reserves the right to return samples that don't match our waste profile.   White - PTAS   Canary - Accounting   Pink - Client (w/Report)   Goldenrod - Client (Relinquish Samples)   (Rev. 5/97)

6 € L

Nightis (pil check)

Pacific Treatment Analytical Services, Inc.

CHAIN-OF-CUSTODY RECORD

4340 Viewridge Avenue, Suite A   San Diego, CA 92123   Phone (619) 560-7717   Fax (619) 560-7763

1688-98 **PTAS LOG #**   **PTAS DATE/TIME STAMP** AUG 24 '98 05

Client: MEC

Address: 98 Main st Suite 428
Tiburon CA 94920

Attn: A Paul Krause   Phone:

Sampled by: Alan Monji   Fax:

Billing Address:

Project: PO #:

REQUESTED ANALYSIS

Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container(s) #	Type*	PTAS ID #	418.1 (TRPH)	TPH (DHS) Gas___ Diesel___	601 / 8020 BTXE___ MTBE___	601 / 8010 (Purgeable Halocarbons)	608 (8080) PCBs X Pesticides X	624 / 8240 / 8260 (Volatile Organics)	625 (8270) (Semi Volatile Organics)	TTLC Metals (CAC Title 22)	STLC Metals (CAC Title 22)	TCLP (RCRA) Metals___ Organics___	Cd Cr Cu Pb Ni Ag Zn	pH EC TSS O&G	Metals As Cd Cr Cu Pb Hg Ni Se Ag	Total Lipids	Lipid content
2 Button Rep 1	8/21/98	13:45	Tissue	1	G	51					X		X						X	X	X
2	↓	↓	↓	↓	↓	52					↓		↓						↓	↓	↓
3						53															
4						54															
↓ 5		↓				55															
5 Comp Rep 1		14:15				56															
2						57															
~~3~~						58															
3 Rep 3 ~~4~~						59															
3 Rep 4 ~~5~~	↓	↓	↓	↓	↓	510					X		X						X	X	X

*Container Types: B=Brass Tube; V=VOA; G=Glass; P=Plastic; O=Other (list)

Tamper-Proof Seals Intact: Yes No N/A   Correct Containers: Yes No

Sample(s): Cold Ambient Warm   VOAs w/ZHS: Yes No N/A

All Samples Properly Preserved: Yes No N/A

Disposal: N/C (aqueous) * PTAS (@$5.00/sample) Return

Turnaround Time: 24 hr 48 hr 3 day ~~4 day~~ Normal

Comments: See attached Table for analyte list.

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature [signature]	8/24/98	Signature [signature]
Print Alan T Monji	11:30	Print [illegible]
Company MEC		Company [illegible]
Signature		Signature
Print		Print
Company		Company
Signature		Signature
Print		Print
Company		Company

* PTAS reserves the right to return samples that don't match our waste profile.   White - PTAS   Canary - Accounting   Pink - Client (w/Report)   Goldenrod - Client (Relinquish Samples)   (Rev. 5/97)

Chemistry

Pacific Treatment Analytical Services, Inc.

CHAIN-OF-CUSTODY RECORD

4340 Viewridge Avenue, Suite A San Diego, CA 92123 Phone (619) 560-7717 Fax (619) 560-7763

JUL 28 P4:15

1519-98 **PTAS LOG #** **PTAS DATE/TIME STAMP**

Client: MEC

Address: 18 Main St Suite 428 92920

Attn: Paul Krause Phone: 415-455-184

Sampled by: A Mun Fax: 415-4[illegible]47

Billing Address: 2433 Impala Dr Carlsbad CA 92009

Project: LARE / ACCE PO #: 0719-C14

Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container(s) #	Container(s) Type*	PTAS ID #
Reference	7/19/98		Soil	1	G	1
1 Top Comp	7/19/98			1		2
1 Bot Comp	7/19/98			1		3
2 Top Comp	7/19/98			1		4
2 Bot Comp	7/19/98			1		5
3 Comp	7/19/98			1		6
						7
						8
						9
						10

REQUESTED ANALYSIS

418.1 (TRPH)	TPH (DHS) Gas__ Diesel__	601 / 8020 BTXE__ MTBE__	601 / 8010 (Purgeable Halocarbons)	608 / 8080 PCBs X Pesticides X	624 / 8240 / 8260 (Volatile Organics)	625 / 8270 (Semi Volatile Organics)	TTLC Metals (CAC Title 22)	STLC Metals (CAC Title 22)	TCLP (RCRA) Metals__ Organics__	Cd Cr Cu Pb Ni Ag Zn	pH EC TSS O&G												
X				X		X							X	X	X		X		X	X				
X				X		X							X	X	X		X		X	X				

*Container Types: B=Brass Tube; V=VOA; G=Glass; P=Plastic; O=Other (list)

Tamper-Proof Seals Intact: Yes No N/A Correct Containers: Yes No

Sample(s): Cold Ambient Warm VOAs w/ZHS: Yes No N/A

All Samples Properly Preserved: Yes No N/A

Disposal: N/C (aqueous) * PTAS (@$5.00/sample) Return

Turnaround Time: 24 hr 48 hr 3 day 4 day (Normal)

Comments: See attached table for analytes.

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature [signature]	7/28/98	Signature
Print A Mun	15:00	Print
Company MEC		Company
Signature		Signature
Print		Print
Company		Company
Signature		Signature
Print		Print
Company		Company

* PTAS reserves the right to return samples that don't match our waste profile

White - PTAS Canary - Accounting Pink - Client (w/Report) Goldenrod - Client (Relinquish Samples) (Rev. 5/97)