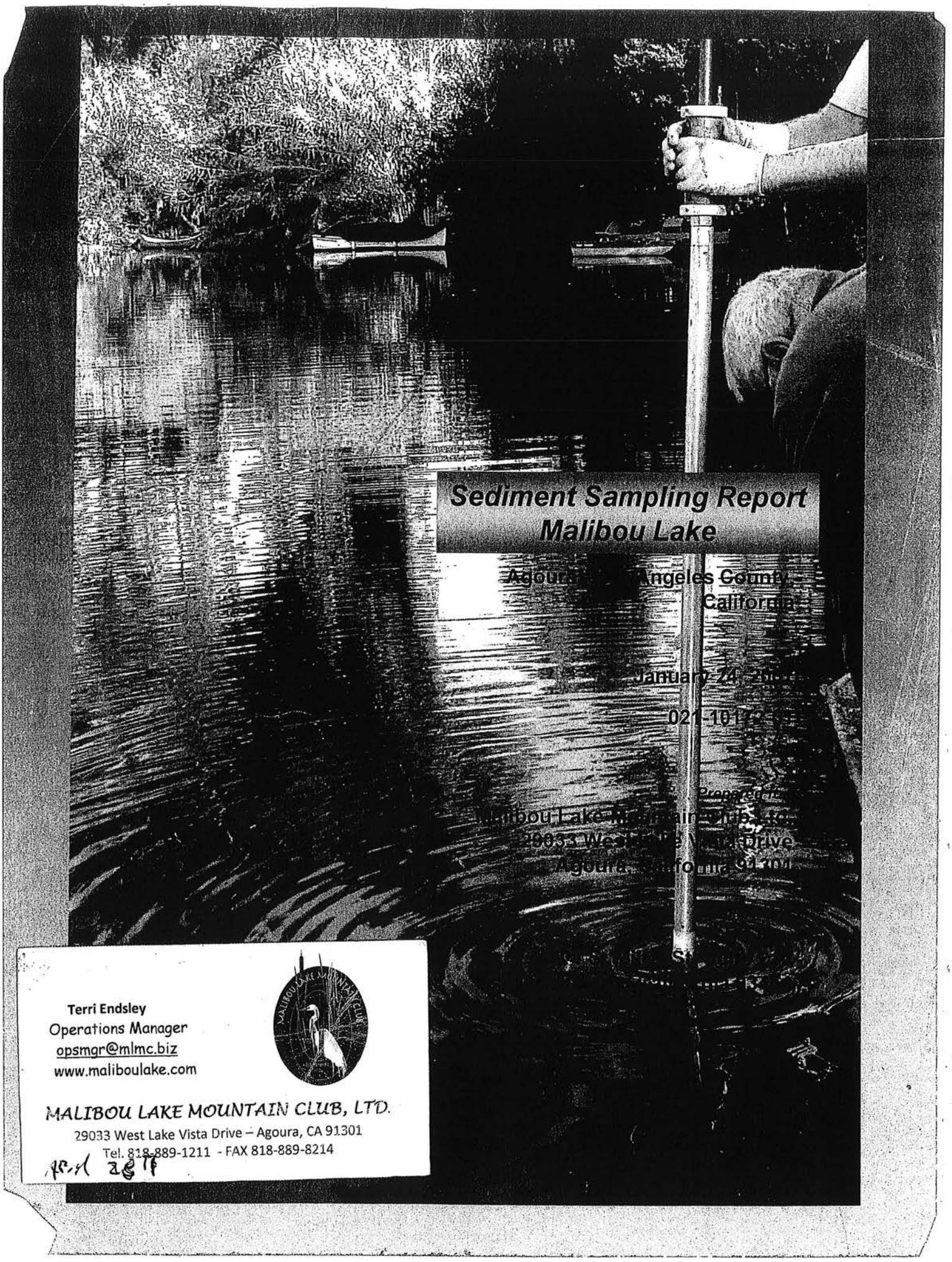


Sediment Sampling Report
Malibou Lake

Agoura [illegible] Angeles County
California

January 24, 20[illegible]

021-101[illegible]

Prepared for:

Malibou Lake Mountain Club, Ltd.
29033 West Lake Vista Drive
Agoura, California 91301

Submitted by:

Terri Endsley
Operations Manager
opsmgr@mlmc.biz
www.maliboulake.com

MALIBOU LAKE MOUNTAIN CLUB, LTD.
29033 West Lake Vista Drive – Agoura, CA 91301
Tel. 818-889-1211 - FAX 818-889-8214

RM 28 TF

ject: RE: Dirt for Rocketdyne :: Attached Report

om: ZORBA, PETER D. (HQ-LP040) [redacted]

o: [redacted]

c: [redacted]

ate: Tuesday, May 7, 2013 2:26 PM

rri –

anted to follow up with you regarding the reports you provided in March. My technical team compared analytical results in the lab reports contained in Appendix E and F of the Malibou Sediment Sampling port with screening levels that correspond to NASA's prescribed acceptance criteria. After evaluating the lytical results of the samples collected from Malibou Lake, we have determined NASA cannot accept this terial as backfill. Examples of some reasons for this determination are:

- The Malibou Lake material contains concentrations of the following analytes in amounts that exceed NASA's prescribed SSFL acceptance criteria:

  Antimony, Cadmium, Mercury, Molybdenum, Selenium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluorene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene.

- Reporting limits listed by the analytical laboratory for pesticides were greater than the current allowable SSFL acceptance criteria.
- Reporting limits listed by the analytical laboratory for some polycyclic aromatic hydrocarbons (PAHs) were also greater than current allowed SSFL acceptance criteria.
- Samples were not analyzed for all the criteria that NASA must meet for backfill at SSFL, including, but not limited to: VOCs, hexavalent chromium, and formaldehyde.

k you again for the information you provided. I appreciate your proposed use of the dredged material as ıtial backfill, and even though it cannot be used by NASA at SSFL, I encourage you to continue to ıe your effort at a location or locations under less restrictive circumstances than SSFL.

:rely,

Zorba

Project Manager

k

Sediment Sampling Report
Malibou Lake
Agoura, Los Angeles County, California

January 24, 2007
021-10172-01

Prepared For
Malibou Lake Mountain Club Ltd.
Agoura, Los Angeles County, California

Prepared By
Donald S. Eley, P.G.
LFR Inc.
Santa Maria, California

CONTENTS

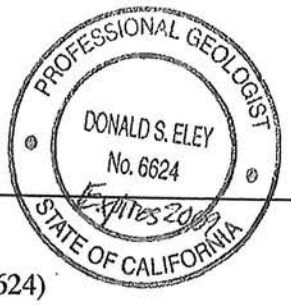
TABLES

FIGURES

APPENDICES

CERTIFICATION*

All hydrogeologic and geologic conclusions and recommendations in this document have been prepared under the supervision of and reviewed by an LFR Levine·Fricke California Registered Geologist.



Donald S. Eley
Senior Geologist
California Professional Geologist (6624)

1/24/07
Date

* A registered geologist's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

I. EXECUTIVE SUMMARY

The Malibou Lake Mountain Club proposes to perform dredging of the Malibou Lake, including the inlet areas where two tributaries, Triunfo Canyon Creek and Medea Creek, enter the lake. The planned dredging project includes: (1) initial hydraulic dredging of approximately 28,000 to 52,000 cubic yards (cy) of sand, silt, gravel and some rock; (2) annual maintenance dredging in subsequent years; and, (3) as necessary repair/ maintenance of an existing rip-rap retaining wall along the south bank of Triunfo Canyon Creek. In addition, some sediment materials near the tributary entry points will be removed using an excavator bucket.

Dredged materials will be decanted at the three existing detention basins. After drying, the dredged solids will be placed in previously-used stockpile locations adjoining the detention basins.

Dried sediment materials will likely be used for beneficial reuse; they will be exported off-site and ultimately reused as construction fill material or as landfill daily cover. The water component of the dredged material will decanted in the detention basins, and will ultimately re-enter Malibou Lake.

At the request of the U.S. Army Corps of Engineers and in consultation with the U.S. Environmental Protection Agency and the Regional Water Quality Control Board, a Sampling and Analysis Plan was prepared, approved and implemented to evaluate the chemical and physical parameters of the sediment materials, including chemical analysis of sediment elutriate.

Based on fieldwork performed on November 2, 2006 at the Site, and subsequent laboratory analyses, the conclusions summarized below can be made:

- The maximum thickness of sediment that could be readily sampled, based on the method used and conditions encountered at the locations deployed, was approximately 4.6 feet.

- Sediment near the inlets of Triunfo and Medea Creeks is gravely and grades to silty sand. Sediment in the rest of the lake is predominantly well-graded sandy silt with some clay, based on compositing from multiple locations and depths.

- Metal and chemical concentrations detected in the sediment samples appear to be representative of background and ambient concentrations. Relatively minor criteria exceedences can be summarized as:

    - Arsenic and iron concentrations in sediment did not meet all comparison criteria (arsenic exceeded residential and industrial PRGs, and iron exceeded the residential PRG), however the detected concentrations are not out of the ordinary for natural soils.

- Cadmium and total detectable DDT compound concentrations in sediment did not meet all comparison criteria (exceeded Wetland Surface Beneficial Reuse Criteria), however this criteria is based on ambient concentrations from the San Francisco Bay, whose relevancy to the Site is questionable. More importantly the detected concentrations did not exceed biological effects-based criteria (Wetland Foundation Beneficial Reuse Criteria) or PRGs. As a result, cadmium and total detectable DDT compounds are not considered an issue.

- The maximum detection limit and laboratory reporting limit for Dieldrin were higher than the Wetland Surface Beneficial Reuse Criteria, but did not exceed the Wetland Foundation Beneficial Reuse Criteria and are several orders of magnitude lower than the PRG criteria. No Dieldrin was detected, but there is a possibility that Dieldrin could be present at a concentration above the Wetland Surface Beneficial Reuse Criteria (a criteria based on ambient concentrations in the San Francisco Bay, whose relevancy to the Site is questionable). This possibility is considered low and not a concern.

- Metal and chemical concentrations detected in elutriate derived from sediment samples and Site water did not raise any issues. Information that should be noted includes the following:

  - Cadmium concentrations detected in the elutriate samples exceed the published ambient water quality criteria maximum concentration (acute; CMC) and ambient water quality criteria continuous concentration criteria (chronic; CCC), however CMC and CCC criteria are not exceeded when these criteria values are recalculated to account for water hardness at the Site.

  - Bioassays performed with the elutriate samples did not show any mortality. From a holistic perspective, this shows that the whole chemistry (constituents tested and not tested analytically) in elutriate generated from the Site is not toxic to the test organism (sand fleas; *Ceriodaphnia dubia*).

- The Quality Assurance Report concludes that there appear to be no significant issues, with the validity of the field work or reported laboratory results, for the Malibou Lake sediment sampling project.

1.0 INTRODUCTION

At the request of Malibou Lake Mountain Club Ltd. (MLMC), LFR Inc. (LFR) has prepared this Sediment Sampling Report for testing lake and inlet stream sediments prior to planned dredging of Malibou Lake and its tributary inlets (the Site). The Site is a freshwater lake in the Malibu Creek watershed, and is located approximately three miles south of the Highway 101 and Kanan Road intersection in the Santa Monica Mountains in Los Angeles County, California (Figure 1).

Sampling was performed on November 2, 2006, in accordance with the Sampling and Analysis Plan (SAP) dated August 1, 2006 (LFR 2006). The SAP was approved by the U.S. Army Corps of Engineers (ACOE) and by the U.S. Environmental Protection Agency (EPA) on September 20, 2006. Background information previously provided in the SAP, including project team, project description, Site history and the SAP's guidance document framework, are reprinted and provided in Appendix A.

2.0 SAMPLE COLLECTION AND HANDLING PROCEDURES

A site-specific health and safety plan was prepared prior to starting fieldwork. The procedures and practices established in the site-specific health and safety plan were observed by all individuals participating in the field activities.

Sampling was performed in one day, November 2, 2006, using a Watermark Russian Sediment Borer deployed from a barge provided and captained by MLMC representatives. The sampling crew was comprised of three LFR staff supported by two representatives of the MLMC. Compositing was performed in the field. Laboratory samples were hand-delivered the same day to CRG Marine Laboratory (CRG) of Torrance, California.

Specific sample collection and handling procedures are described in the SAP, and are summarized below relative to the actual work conducted. Any deviations from the SAP are noted.

2.1 Positioning

Actual sampling locations (Figure 2) were defined in the field, primarily based on the proposed locations in the SAP, and in two instances modified (deviated from SAP) based on encountered conditions as described below:

- Location MLS-3 was moved, for safer sampling conditions, from the north side of the island to the east side of the island where the sampling barge could be tied to an existing dock for greater stability.

- Location TCS-1 was moved, because the thin veneer of sediment (gravel) on bedrock was too course to sample (see top picture in Figure 3), closer to the Crags Drive bridge where the interval of sediment was thicker and its composition (less gravel) was amenable to sampling.

A global positioning system (GPS) unit was used aboard the barge for recording the actual sampling locations. Horizontal coordinates, provided in Appendix B are referenced to WGSA 84. Water depths were measured directly by lead-line, and are indicated on the boring logs (Appendix C).

2.2 Sampling and Compositing

Sediment was collected from seven locations at the Site (Figure 2): five within the lake (Malibou Lake Sediment 1 through 5; MLS-1 through MLS-5), plus one in each of the two adjacent tributaries (Triunfo Canyon Creek Sediment 1; TCS-1 and Medea Creek Sediment 1; MCS-1). Sediment sampling at most locations began approximately one foot into the lake sediment and extended to a maximum depth of 4.6 feet below the sediment/water interface at some locations. The approximate sample intervals are summarized in Table A below, and also described on the boring logs provided in Appendix C. Figure 3 shows two pictures representative of sediment encountered in the field.

Table A: Approximate Sediment Sample Intervals

Field Sample Location Name	Interval(s) Sampled (feet below sediment/ water interface)	Comments
TCS-1	0 to 1.6	Incomplete sample recovery. Could not go deeper, due to refusal at 1.6 feet (deviation from SAP)
MLS-1	1 to 2.6 and 3 to 4.6	Refusal at 4.6 feet
MLS-2	1 to 2.6	Refusal at 2.6 feet
MLS-3	1 to 2.6	Incomplete sample recovery
MLS-4	1 to 2.6 and 3 to 4.6	Incomplete sample recovery at the deeper interval
MLS-5	0 to 1.6	Could not go deeper, due to refusal at 1.6 feet (deviation from SAP)
MCS-1	1 to 2.6 and 1.6 to 3.2	Refusal at 3.2 feet

Sediment collected from the three western sampling locations (TCS-1, MLS-1, and MLS-2) was composited into one "West Sed Composite" sample. Sediment from the three eastern lake sampling locations (MLS-3, MLS-4, and MLS-5) was composited to form the "East Sed Composite" sample. These two composite samples were submitted for chemical and physical parameter testing, and were used to prepare elutriate samples for analysis.

In addition, one sediment sample collected from where the Medea Creek inlet (MCS-1) enters the northern part of the lake was submitted as a discrete sample. This sample was submitted for chemical and physical parameter testing only; an elutriate sample was not created in association with this sample.

Table B: Sediment Sample Locations and Designations

Field Sample Name	Field Sample Location	Lab Sample Type	Lab Sample Name
TCS-1	Triunfo Canyon Creek, inlet	Composite	West Sed Composite
MLS-1	Malibou Lake, west side		
MLS-2	Malibou Lake, west side		
MLS-3	Malibou Lake, east side	Composite	East Sed Composite
MLS-4	Malibou Lake, east side		
MLS-5	Malibou Lake, east side		
MCS-1	Medea Creek, inlet	Discrete	MCS-1

Elutriate was prepared in the laboratory from each of the two composite samples using the Dredging Elutriate Test (DRET) preparation methodology. Each of the two elutriate samples was prepared using approximately one liter of composite sample material and four liters of lake water. Each of the two elutriate samples was subjected to chemical and toxicity testing.

Lake water was collected by manually dipping sampling containers into the lake. The pre-cleaned laboratory-grade containers were supplied by CRG. Each container was rinsed with lake water immediately prior to collecting the sample. Care was taken to avoid water made turbid by accessing activity, and care was taken to avoid visible surface sheen and diesel-engine exhaust from the barge.

Field notes were be maintained during sampling and compositing operations and are provided in Appendix D. Each core section was be inspected and described. After the sample containers were filled, they were packed on ice in a cooler for transport to

CRG. Chain-of-custody procedures commenced in the field and document the delivery of samples to CRG.

2.3 Decontamination

The sampling system components that came in contact with samples, and stainless steel compositing pans and sampling utensils, were thoroughly cleaned prior to use according to the following procedure:

- Wash with brush and Alconox detergent
- Distilled water rinse (deviation from SAP; SAP prescribed tap water)
- Second distilled water rinse

Decontamination was performed between sampling locations, but not between sampling intervals/depths at each location.

3.0 LABORATORY ANALYSES

CRG Marine Laboratory performed the chemical analyses, and prepared sample subsets for subcontracting laboratories to perform physical and biological analyses. Sediment and elutriate analyses performed are described in the SAP and summarized below. All laboratory reports are provided in Appendix E.

3.1 Sediment Sample Analyses

The sediment samples were analyzed for the physical and chemical parameters as summarized below.

- Grain size distribution, determined using method SM 2560 D.
- Specific gravity, determined using method SM 2710 F.
- Analysis of total solids in sediment, conducted by EPA 160.3.
- Analysis of total organic carbon, conducted by EPA Method 9060.
- Analysis of metals, conducted by EPA Methods 6020 and 245.7.
- Analysis of organic compounds, including polyneclear aromatic hydrocarbons(PAHs), polychlorinated biphenyls (PCBs), and organochlorine pesticides, conducted by EPA Method 8270(m).

Physical parameter results, grain size distribution, specific gravity, total organic compounds and total solids are summarized in Table 1; 1A to1D. Metal analytical results are summarized in Table 2, PAH results are summarized in Table 3, PCB

Aroclor results are summarized in Table 4, PCB congener results are summarized in Table 5, and organochlorine pesticide results are summarized in Table 6.

For quality control/ quality assurance (QA/QC) purposes, a second replicate of sample West Sed Composite was also analyzed for metals, PAHs, PCB Aroclors, PCB congeners, and organochlorine pesticides.

3.2 Elutriate Sample Analyses

The elutriate samples were analyzed for the general parameters, for trace chemicals, and for acute toxicity, as summarized below. The elutriate samples were filtered prior to metals analysis and analysis of total organic carbon, ortho-phosphate and nitrate as nitrogen.

- General parameters nitrogen as nitrate, ortho-phosphate were determined by EPA Method 300.1 (or, the former by EPA Method 365.1), and pH was determined using EPA Method 150.1, SW 9045 or SW 9040.
- Analysis of metals, conducted by EPA Methods 200.8 and 245.7.
- Analysis of organic compounds, including PAHs, PCBs, and organochlorine pesticides, conducted by EPA Method 625(m)/8270(m).
- Subjected to an acute toxicity test, using 100% concentration elutriate and water fleas (*Ceriodaphnia dubia)*.

General parameter results are summarized in Table 7, metal analytical results are summarized in Table 8, PAH results are summarized in Table 9, PCB Aroclor results are summarized in Table 10, PCB congener results are summarized in Table 11, and organochlorine pesticide results are summarized in Table 12.

4.0 LABORATORY ANALYSIS PROTOCOLS

Laboratory analysis protocols, and evaluation of data quality are discussed below.

4.1 Laboratory Protocols

Laboratory analytical protocols conformed to the SAP. Several details of these procedures are discussed below. Additional details are provided in the Quality Assurance Report (Appendix F).

A chain-of-custody record for each set of samples was maintained throughout all sampling activities and accompanied the samples during shipment to the laboratory. Information tracked by the chain-of-custody records in the laboratory include sample identification number, date and time of sample receipt, analytical parameters required, location and conditions of storage, date and time of removal from and return to

storage, signature of person removing and returning the sample, reason for removing from storage, and final disposition of the sample.

For purposes of testing, reporting limits of all chemicals of concern were at or below the target concentrations listed in the SAP.

All samples for physical and chemical analysis were maintained at the testing laboratory at the temperatures specified in SAP and analyzed within the holding times described in the SAP. The chemistry QA/QC procedures described in the SAP were followed. A written laboratory report was prepared by the analytical laboratory documenting all the activities associated with sample analyses. These reports are provided with the laboratory analytical reports in Appendix E.

4.2 Quality Assurance Report

A quality assurance report (QA Report), based upon activities involved with the field sampling and review of the laboratory analytical data, was prepared and is included in Appendix F. The QA Report identifies field and laboratory activities that deviated from the approved sampling plan and the referenced protocols, and makes statements regarding the overall validity of the data collected.

The Quality Assurance Report concludes that there were no identified significant issues that would affect the validity of the field work or reported laboratory results for the Malibou Lake sediment sampling project.

5.0 ANALYTICAL RESULTS AND COMPARISON TO GUIDELINES

Laboratory analytical results are summarized and discussed in the following sections.

5.1 Sediment Analytical Results

Grain Size

Grain size tests were performed on the two composite samples and on two replicates of the discrete sample of the Medea Creek inlet sample; samples West Sed Composite, East Sed Composite, MCS-1 Replicate 1 and MCS-1 Replicate 2, respectively. The measured grain size distributions are presented in Table 1A and the grain size statistics are summarized in Table 1B. Based on the Unified Soil Classification System, the two composite samples are categorized as well-graded sandy silt with some clay (ML), and the two replicates of the discrete sample are categorized as moderately-graded gravely sand with silt (SM). The two replicates are very comparable, with an average relative percent difference (RPD) of 7.1% for the 22 grain sizes measured (excluding the gravel fraction which was not measured in replicate).

Metals

Metal analytical results were at low concentrations and represent background conditions (Table 2). Metal concentrations detected in the West Sed Composite Replicate1 were typically lower than those detected in West Sed Composite Replicate 2, with an average RPD of 5.6%, which is considered low. This is interpreted as an indication that metal concentrations in the Site sediment are relatively consistent within a given sample. Laboratory reporting limits met SAP requirements.

PAHs

Low concentrations of PAHs were detected above the laboratory reporting limits, as summarized in Table 3. In addition, estimated low concentrations of PAHs were detected above the maximum detection limit but below the reporting limit. These are indicated with "J value" flags in Table 3. These are considered low concentrations, and are interpreted to be consistent with ambient concentrations. The total of detected and estimated concentrations for PAH compounds are summarized below in Table C.

Table C: Sediment Sample Total PAHs

Sample Name	Total Polynuclear Aromatic Hydrocarbons (PAHs) (Estimated and Detected)
West Sed Composite Replicate 1	0.0001386 mg/kg (138.6 nanograms/gram; ng/g)
West Sed Composite Replicate 2	0.0000639 mg/kg (63.9 ng/g)
East Sed Composite	0.000215 mg/kg (215.4 ng/g)
MCS-1	0.0000948 mg/kg (94.8 ng/g)

Total PAH concentrations detected in West Sed Composite Replicate1 were higher than those detected in West Sed Composite Replicate 2, with a RPD for total PAHs of 73.8%. The combination of high RPD between replicates, contrasted with the good surrogate and matrix spike recoveries in the laboratory, is interpreted as an indication that PAH concentrations within a given sediment sample are variable.

Laboratory reporting limits met SAP requirements for each PAH compound.

PCBs

PCBs as Aroclors and as congeners were non-detect for all samples (Tables 4 and 5, respectively), with laboratory reporting limits meeting the SAP requirements for each Aroclor and congener.

Organochlorine Pesticides

Low concentrations of several organochlorine pesticides were detected above the laboratory reporting limits, as summarized in Table 6. These include 4,4'DDT at a concentration of 0.0000102 milligrams per kilogram (mg/kg) in the East Sed Composite sample, and at a concentrations of 0.0000052 mg/kg in the MCS-1 sample.

In addition, estimated low concentrations of organochlorine pesticides were detected above the maximum detection limit but below the reporting limit. These are indicated with "J value" flags in Table 6, and include 4,4'-DDE at estimated concentrations of 0.0000011, and 0.0000015 mg/kg, in samples West Sed Composite Replicate 1 and East Sed Composite, respectively. Concentrations of 4,4'-DDT were estimated at 0.0000031 and 0.0000036 mg/kg in samples West Sed Composite Replicate 1 and Replicate 2, respectively.

The total of detected and estimated concentrations for the DDT family of compounds (4,4'-DDE and 4,4'-DDT), are summarized below in Table D. These are considered low concentrations, consistent with ambient concentrations. The RPD between the total DDT in Replicates 1 and 2 is a modest 15.4%.

Table D: Sediment Sample Total DDT

Sample Name	Total DDT (4,4'-DDE and 4,4'-DDT, Estimated and Detected)
West Sed Composite Replicate 1	0.0000042 mg/kg (4.2 nanograms/gram; ng/g)
West Sed Composite Replicate 2	0.0000036 mg/kg (3.6 ng/g)
East Sed Composite	0.0000117 mg/kg (11.7 ng/g)
MCS-1	0.0000052 mg/kg (5.2 ng/g)

Laboratory reporting limits did not meet SAP requirements for three organochlorine pesticides. The reporting limit for toxaphene (50 ng/g) was higher than ideal (20 ng/g), however the maximum detection limit (10 ng/g) was below the ideal reporting limit.

The reporting limits for DCPA (Dacthal) and Perthane (10 ng/g) were twice the ideal, however the maximum detection limit for these two compounds equaled the ideal reporting limit (5 ng/g). It should be noted that these two compounds are not listed on chemical evaluation lists in guidance documents.

5.2 Elutriate Analytical and Bioassay Results

Nutrients and General Chemistry

Nutrient and general chemistry testing of the elutriate samples included analysis for nitrogen, orthophosphate organic carbon hardness, and testing for pH. The elutriate samples were filtered prior to analysis for nitrogen, orthophosphate organic carbon, providing the results that are representative of these nutrients dissolved in the water.

Results are summarized in Table 7. Detected concentrations and measurements were not out of the ordinary with the exception of hardness, which was relatively high (425.8 to 586 mg/L, based on the two elutriate samples). Laboratory reporting limits met SAP requirements for each test.

Metals

Metals analytical results, summarized in Table 8 were at low concentrations and represent background conditions. Mercury was not detected above the maximum detection limit or reporting limit (0.01 and 0.02 ug/L, respectively). Metal concentrations detected in West Sed Elutriate Replicate 1 were typically lower than those detected in West Sed Composite Replicate 2, with an average RPD of 2.2%. This is interpreted as an indication that metal concentrations in elutriates created from site sediment and site water have low variability within a given sample. Laboratory reporting limits did not meet SAP requirements for copper and silver, however the maximum detection limits were equal to, or lower, than the SAP requirements for these metals.

PAHs

Low concentrations of PAHs were detected above the laboratory reporting limits, as summarized in Table 9. In addition, estimated low concentrations of PAHs were detected above the maximum detection limit but below the reporting limit. These are indicated with "J value" flags in Table 9. These are considered low concentrations, and are interpreted to be consistent with ambient concentrations. The total of detected and estimated concentrations for PAH compounds are summarized below in Table E.

Table E: Sediment Sample Total PAHs

Sample Name	Total Polynuclear Aromatic Hydrocarbons (PAHs) (Estimated and Detected)
West Sed Elutrieate	0.0000093 mg/L (9.3 nanograms/Liter; ng/L)
East Sed Elutriate	0.0000053 mg/L (5.3 ng/L)

Laboratory reporting limits met SAP requirements for each PAH compound.

PCBs

PCBs as Aroclors and as congeners were non-detect for all samples (Tables 10 and 11, respectively), with laboratory reporting limits meeting the SAP requirements for each Aroclor and congener.

Organochlorine Pesticides

Organochlorine pesticides were non-detect for all samples, as summarized in Table 12.

Laboratory reporting limits did not meet SAP requirements for four organochlorine pesticides. The reporting limit for toxaphene (50 ng/L) was higher than ideal (5 ng/L). Similarly, the deporting limit for Dicofol (100 ng/L) was higher that the ideal (5 ng/L).

The reporting limits for DCPA (Dacthal) and Perthane (10 ng/L) were twice the ideal, however the maximum detection limit for these two compounds equaled the ideal reporting limit (5 ng/L). It should be noted that these two compounds are not listed on chemical evaluation lists in guidance documents.

Bioassays

96-hour acute *Ceriodaphnia dubia* (water fleas) bioassays were performed on each of the elutriate samples. The test organisms were subjected to 100% concentration elutriate samples (no dilution was performed), and there was no test organism mortality. Laboratory reports are provided in Attachment E.

5.3 Results Comparison to Regulatory Guidelines

Tables 2 through 6 summarize the sediment analytical results, and list guideline concentrations including: EPA Region 9 Preliminary Remediation Goals (PRGs) for residential and industrial settings (rPRG and iPRG, respectively), and wetland surface material screening guidelines the San Francisco Bay Regional Water Quality Control Board's May 2000, draft staff report *Beneficial Reuse of Dredged Materials: Sediment*

Screening and Testing Guidelines; Table 4 (Wetland [Surface or Foundation] Beneficial Reuse Criteria; SFBRWQCB 2000).

All of the analytical Results in Tables 2 through 6 are reported as dry-weight concentrations, while the rPRG, and iPRG criteria are wet-weight. Comparing dry-weight concentrations against wet-weight criteria values is conservative; if the dry-weight concentrations reported by the laboratory were converted to wet-weight, their values would be between 29% and 50% lower than currently shown in the tables (range of moisture percentages in sediment samples is 29% to 50%, based on percent total solids results summarized in Table 1D). The Wetland Surface and Foundation Beneficial Reuse Criteria are assumed to be dry-weight, however SFBRWQCB 2000 does not specifically indicate if these criteria are dry or wet-weight.

Comparing analyzed concentrations in sediments relative to PRGs may be useful if terrestrial beneficial reuse for dredged materials is planned. The efficacy of comparing analyzed concentrations in sediments relative the Wetland **Surface** Beneficial Reuse Criteria is more tenuous, as these criteria are intended for an estuarine wetland (saltwater) application, and are primarily based on ambient concentrations in San Francisco Bay sediments, which are clearly more saline, and probably differ from ambient Site conditions in other unquantified ways. The efficacy of comparing analyzed concentrations against the Wetland **Foundation** Beneficial Reuse Criteria is also tenuous but probably more applicable, as they are primarily based on levels above which biological effects (presumably effects to biology in saline environments) are likely, and probably differ from how freshwater organisms would be affected relative to these compounds.

Criteria exceedences for sediment can be summarized as:

- Arsenic concentrations in all sediment samples exceeded the rPRG and iPRG criteria, but did not exceed the Wetland Surface or Foundation Beneficial Reuse Criteria. The detected arsenic concentrations were comparable to the California regional mean background concentration (2.8 mg/kg dry-weight; Shacklette 1984) for two of the samples and a replicate, and the concentration in the third sample was below the Western U.S. regional mean background (6 mg/kg dry-weight; Bradford 1996). As a result, the arsenic detections are considered elevated relative to PRG criteria, but likely represent ambient Site conditions.

- Cadmium concentrations in all sediment samples exceeded the Wetland Surface Beneficial Reuse Criteria, but not the Wetland Foundation Beneficial Reuse Criteria rPRG and iPRG criteria. As a result, the cadmium detections are not considered an issue, because they are not elevated relative to PRG criteria or effect levels to saline biology.

- Iron concentrations in the composited sediment samples exceeded the rPRG, but did not exceed the iPRG or Wetland Surface Beneficial Reuse Criteria. Iron is a very common natural component of rocks, and is not considered a concern.

- Total detectable DDT compounds in the East Sed composite sample exceeded the Wetland Surface Beneficial Reuse Criteria but did not exceed the Wetland Foundation Beneficial Reuse Criteria. No rPRG and iPRG criteria exist for total detectable DDT compounds, however rPRG and iPRG criteria for individual DDT compounds are 3 orders of magnitude higher than the Wetland Surface Beneficial Reuse Criteria. As a result, the total detectable DDT compounds detected are not considered an issue, because they are not elevated relative to the PRG criteria or the effects levels to saline biology.

- The maximum detection limit and laboratory reporting limit in sediment for Dieldrin were higher than the Wetland Surface Beneficial Reuse Criteria, but did not exceed the Wetland Foundation Beneficial Reuse Criteria and are several orders of magnitude lower than the PRG criteria. No Dieldrin was detected, but there is a possibility that Dieldrin could be present at a concentration above the Wetland Surface Beneficial Reuse Criteria. This possibility is considered low and not a concern.

Tables 8 through 12 summarize elutriate (water) analytical results, and list guideline concentrations including: California drinking water maximum contaminant levels (MCLs), ambient water quality criteria maximum concentrations (acute; CMC), and ambient water quality criteria continuous concentration (chronic; CCC).

Comparing analyzed concentrations in sediments relative to MCLs probably is not directly applicable because return water from the dredged-material detention basins, and/or the lake water, will not be used as a drinking water resource.

Comparing the detected concentrations to chronic and acute ambient water quality criteria is more relevant, however it is considered conservative for two reasons: 1) 100% concentration elutriate was analyzed (in actual practice, mixing will occur in the lake), and 2) the published criteria are for water with a typical hardness of 100 mg/L calcium carbonate, while the lake water at the Site has an elevated hardness (ranges from 425.8 to 586 mg/L in the two elutriate samples), for which there are conversion algorithms for adjusting criteria for some of the tested constituents (metals) higher.

Criteria exceedences for elutriate can be summarized as:

- Cadmium concentrations in all elutriate samples exceeded the published CMC and CCC ambient water quality criteria, but not the MCL criteria. When the hardness of the lake water is accounted for, the CMC and CCC ambient water quality criteria are not exceeded.

The screening guideline for toxicity is no significant toxicity. For the elutriate bioassays, this criterion is met when the survival of organisms in effluent has a median value of not less than 90%, and a 90th percentile value of not less than 70% survival (SFBRWQCB 2000). As noted previously the bioassays resulted in 100% survival.

6.0 CONCLUSIONS

Based on fieldwork performed on November 2, 2006 at the Site, and subsequent laboratory analyses, the conclusions summarized below can be made:

- The maximum thickness of sediment that could be readily sampled, based on the method used and conditions encountered at the locations deployed, was approximately 4.6 feet.

- Sediment near the inlets of Triunfo and Medea Creeks is gravely and grades to silty sand. Sediment in the rest of the lake is predominantly well-graded sandy silt with some clay, based on compositing from multiple locations and depths.

- Metal and chemical concentrations detected in the sediment samples appear to be representative of background and ambient concentrations. Relatively minor criteria exceedences can be summarized as:

    - Arsenic and iron concentrations in sediment did not meet all comparison criteria (arsenic exceeded residential and industrial PRGs, and iron exceeded the residential PRG), however the detected concentrations are not out of the ordinary for natural soils.

    - Cadmium and total detectable DDT compound concentrations in sediment did not meet all comparison criteria (exceeded Wetland Surface Beneficial Reuse Criteria), however this criteria is based on ambient concentrations from the San Francisco Bay, whose relevancy to the Site is questionable. More importantly the detected concentrations did not exceed biological effects-based criteria (Wetland Foundation Beneficial Reuse Criteria) or PRGs. As a result, cadmium and total detectable DDT compounds are not considered an issue.

    - The maximum detection limit and laboratory reporting limit for Dieldrin were higher than the Wetland Surface Beneficial Reuse Criteria, but did not exceed the Wetland Foundation Beneficial Reuse Criteria and are several orders of magnitude lower than the PRG criteria. No Dieldrin was detected, but there is a possibility that Dieldrin could be present at a concentration above the Wetland Surface Beneficial Reuse Criteria (a criteria based on ambient concentrations in the San Francisco Bay, whose relevancy to the Site is questionable). This possibility is considered low and not a concern.

- Metal and chemical concentrations detected in elutriate derived from sediment samples and Site water did not raise any issues. Information that should be noted includes the following:

    - Cadmium concentrations detected in the elutriate samples exceed the published CMC and CCC ambient water quality criteria, however CMC and CCC criteria are not exceeded when these criteria values are recalculated to account for water hardness at the Site.

    - Bioassays performed with the elutriate samples did not show any mortality. From a holistic perspective, this shows that the whole chemistry (constituents tested and not tested) in elutriate generated from the Site is not toxic to the test organism (sand fleas; *Ceriodaphnia dubia*).

- The Quality Assurance Report concludes that there appear to be no significant issues, with the validity of the field work or reported laboratory results, for the Malibou Lake sediment sampling project.

7.0 REFERENCES

LFR Inc. 2006. Sampling and Analysis Plan, Malibou Lake, Agoura, Los Angeles County, California. August 1.

San Francisco Regional Water Quality Control Board (SFRWQCB). 2000. Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines; Draft Staff Report. May.

U.S. Army Corps of Engineers (ACOE). 1997. Sampling and Analysis Plan, Port Townsend Maria Entrance Channel. May 23.

U.S. Environmental Protection Agency (EPA). 1998. Inland Testing Manual; Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.- Testing Manual. February

Table 1A
Summary of Sediment Analytical Results, Grain Size Distribution
Malibu Lake, Sampled November 2, 2006
LFR 021-10127-00

Phi Size	Microns	*Sample ID:* / *Date:* / Description	MCS-1 R1 11/02/06	MCS-1 R2 11/02/06	West Sed 11/02/06	East Sed 11/02/06
<-1	>2000	coarse sand	0.00	0.00	0.00	0.00
-0.5	1410	coarse sand	0.00	0.00	0.00	0.00
0	1000	med sand	0.00	0.00	0.00	0.00
0.5	710	med sand	0.07	0.10	0.00	0.00
1	500	med sand	1.96	2.73	0.28	0.00
1.5	354	med sand	13.14	15.22	1.58	0.04
2	250	fine sand	24.48	23.23	5.05	0.70
2.5	177	very fine sand	15.56	13.73	8.60	3.68
3	125	very fine sand	7.62	7.25	9.56	8.75
3.5	88.4	very fine sand	4.17	4.33	9.12	12.03
4	62.5	very fine sand	3.21	3.42	8.38	11.01
4.5	44.2	very fine sand	3.19	3.35	7.93	9.20
5	31.3	coarse silt	3.48	3.59	7.81	8.27
5.5	22.1	coarse silt	3.65	3.73	7.55	7.68
6	15.6	coarse silt	3.59	3.63	6.95	7.00
6.5	11.1	silt	3.56	3.59	6.50	6.61
7	7.8	fine silt	3.16	3.17	5.44	5.75
7.5	5.5	very fine silt	2.63	2.62	4.36	4.91
8	3.9	very fine silt	1.92	1.90	3.11	3.76
8.5	2.8	clay	1.62	1.58	2.69	3.48
9	1.95	clay	1.03	1.00	1.76	2.41
9.5	1.38	clay	0.63	0.60	1.03	1.44
10	0.98	clay	0.57	0.53	0.96	1.32
10.5	0.69	clay	0.52	0.46	0.85	1.16
11	0.49	clay	0.24	0.23	0.47	0.65
11.5	0.35	clay	0.00	0.00	0.03	0.15
>12	<0.24	clay	0.00	0.00	0.00	0.00

Table 1B
Summary of Sediment Analytical Results, Grain Size Statistics
Malibu Lake, Sampled November 2, 2006
LFR 021-10127-00

Description		Sample ID: / Date:	MCS-1 R1 11/02/06	MCS-1 R2 11/02/06	West Sed 11/02/06	East Sed 11/02/06
Percentage by sediment type	Percent gravel		0.00	0.00	0.00	0.00
	Percent sand		70.21	70.01	42.57	36.21
	Percent silt + clay		29.79	29.99	57.43	63.79
	Percent silt		25.19	25.59	49.64	53.17
	Percent clay		4.60	4.40	7.78	10.62
Percentile Distribution (microns)	5%		3.00	3.11	1.92	1.44
	16%		11.23	11.43	5.77	4.37
	50%		140.44	141.89	31.99	25.80
	84%		247.10	261.93	122.80	81.47
	95%		327.25	336.81	201.66	122.18
Percentile Distribution (phi size)	5%		8.39	8.34	9.04	9.46
	16%		6.48	6.46	7.45	7.85
	50%		2.83	2.81	4.97	5.28
	84%		2.01	1.92	3.02	3.61
	95%		1.60	1.56	2.30	3.03
Summary Statistics (microns)	Mean		139.25	143.40	59.22	40.44
	Median		140.44	141.89	31.99	25.80
	Mode		206.80	212.70	104.13	71.94
Summary Statistics (phi size)	Mean		2.84	2.80	4.08	4.63
	Median		2.83	2.81	4.97	5.28
	Mode		2.27	2.23	3.26	3.79
Dispersion or Sorting Index			2.24	2.27	2.21	2.12
Distribution (phi size)	Skewness		0.01	-0.01	-0.40	-0.31
	Kurtosis		-2.52	-2.50	-2.52	-2.52

Table 1C
Summary of Sediment Analytical Results, Total Organic Carbon
Malibu Lake, Sampled November 2, 2006
LFR 021-10127-00

Analyte	Method	Units	*Sample ID:* / *Date:* / MDL / RL	East Sed 11/02/06	MCS-1 11/02/06	West Sed R1 11/02/06	West Sed R2 11/02/06
Total Organic Carbon	EPA 9060A	%	0.01 / 0.03	3.5	0.34	0.72	0.70

MDL = Maximum detection limit
RL = Reporting limit

Table 1D
Summary of Sediment Analytical Results, Percent Solids
Malibu Lake, Sampled November 2, 2006
LFR 021-10127-00

Analyte	Method	Units	*Sample ID:* / *Date:* / MDL / RL	East Sed 11/02/06	MCS-1 11/02/06	West Sed R1 11/02/06	West Sed R2 11/02/06
Percent Solids	EPA 160.3	%	0.1 / 0.1	49.6	70.9	66.8	64.9

MDL = Maximum detection limit
RL = Reporting limit

Table 2
Summary of Sediment Analytical Results, Trace Metals
Malibu Lake, Sampled November 2, 2006
LFR 021-10127-00

Analyte	Method	Units	MDL / RL	rPRG	iPRG	Screening Guidelines*	Screening Guidelines**	*Sample ID:* East Sed *Date:* 11/02/06	MCS-1 11/02/06	West Sed R1 11/02/06	West Sed R2 11/02/06
Aluminum (Al)	EPA 6020m	µg/dry g	1 / 5	76,000	100,000	--	--	15,630	671.6	12,300	12,740
Antimony (Sb)	EPA 6020m	µg/dry g	0.025 / 0.05	31	410	--	--	0.949	0.421	0.356	0.423
Arsenic (As)	EPA 6020m	µg/dry g	0.025 / 0.05	0.39	1.6	70.0	15.3	5.581	2.236	2.34	2.583
Barium (Ba)	EPA 6020m	µg/dry g	0.025 / 0.05	5,400	6,700	--	--	118	77.16	81.64	78.49
Beryllium (Be)	EPA 6020m	µg/dry g	0.025 / 0.05	150	1,900	--	--	0.477	0.208	0.269	0.28
Cadmium (Cd)	EPA 6020m	µg/dry g	0.025 / 0.05	37	450	10	0.33	3.822	3.409	0.512	0.6
Chromium (Cr)	EPA 6020m	µg/dry g	0.025 / 0.05	210.00	450	370	112	51.345	21.535	62.765	63.765
Cobalt (Co)	EPA 6020m	µg/dry g	0.025 / 0.05	900	1,900	--	--	13.3	5.957	14.54	15.21
Copper (Cu)	EPA 6020m	µg/dry g	0.025 / 0.05	3,100	41,000	270	68.1	40.946	12.366	40.436	41.256
Iron (Fe)	EPA 6020m	µg/dry g	1 / 5	23,000	100,000	--	--	27,840	12,790	27,100	28,320
Lead (Pb)	EPA 6020m	µg/dry g	0.025 / 0.05	400	800	218	43.2	13.458	3.683	4.637	4.378
Manganese (Mn)	EPA 6020m	µg/dry g	0.025 / 0.05	1,800	19,000	--	--	456.399	229.299	316.699	315.599
Mercury (Hg)	EPA 245.7m	µg/dry g	0.01 / 0.02	23	310	0.7	0.43	<0.01	<0.01	0.033	0.0408
Molybdenum (Mo)	EPA 6020m	µg/dry g	0.025 / 0.05	390	5,100	--	--	5.189	2.695	1.037	1.067
Nickel (Ni)	EPA 6020m	µg/dry g	0.025 / 0.05	1,600	20,000	120	112	44.55	19.98	49.06	49.75
Selenium (Se)	EPA 6020m	µg/dry g	0.025 / 0.05	390	5,100	--	0.64	2.322	1.21	0.868	0.893
Silver (Ag)	EPA 6020m	µg/dry g	0.025 / 0.05	390	5,100	3.7	0.58	0.11	<0.025	0.066	0.06
Strontium (Sr)	EPA 6020m	µg/dry g	0.025 / 0.05	47,000	100,000	--	--	72.46	64.69	37.99	35.66
Thallium (Tl)	EPA 6020m	µg/dry g	0.025 / 0.05	5.2	67	--	--	0.26	0.129	0.047 J	0.049 J
Tin (Sn)	EPA 6020m	µg/dry g	0.025 / 0.05	47,000	100,000	--	--	2.387	0.893	1.711	1.693
Titanium (Ti)	EPA 6020m	µg/dry g	0.025 / 0.05	100,000	100,000	--	--	683.795	344.695	836.795	828.095
Vanadium (V)	EPA 6020m	µg/dry g	0.025 / 0.05	78	1,000	--	--	76.991	41.871	63.661	67.601
Zinc (Zn)	EPA 6020m	µg/dry g	0.025 / 0.05	23,000	100,000	410	158	80.874	37.764	49.864	51.264

MDL = Maximum detection limit
RL = Reporting limit
J = Estimated value above MDL and below RL
< = Not detected at the indicated MDL

rPRG and iPRG = Residential and Industrial preliminary remediation goals, respectively, from US EPA Region 9, in units of milligrams per kilogram; parts per million.
* = Recommended sediment chemistry screening guidelines for beneficial reuse of dredged material as wetland foundation material, in units of ng/g wet-weight (SFRWQCB, 2000)
ug/dry g = Micrograms per gram dry-weight; milligrams per kilogram dry-weight; parts per million dry-weight
** = Recommended sediment chemistry screening guidelines for beneficial reuse of dredged material as wetland surface material, in units of ng/g wet-weight (SFRWQCB, 2000)
ug/dry g = Micrograms per gram dry-weight; milligrams per kilogram dry-weight; parts per million dry-weight

Table 3
Summary of Sediment Analytical Results, Polynuclear Aromatic Hydrocarbons (PAHs)
Malibu Lake, Sampled November 2, 2006
LFR 021-10127-00

Analyte	Method	Units	MDL / RL	rPRG	iPRG	Screening Guidelines*	Sample ID: / Date: Screening Guidelines **	East Sed 11/02/06	MCS-1 11/02/06	West Sed R1 11/02/06	West Sed R2 11/02/06
1-Methylnaphthalene	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	12.1	4.4 J	1.8 J	5.1	1.3 J
1-Methylphenanthrene	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	31.7	<1	<1	<1	<1
2,3,5-Trimethylnaphthalene	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	9.8	4.6 J	1.8 J	2.4 J	<1
2,6-Dimethylnaphthalene	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	12.1	5	2.4 J	6.2	1.7 J
2-Methylnaphthalene	EPA 8270Cm	ng/dry g	1 / 5	--	--	670	19.4	8.3	3.9 J	13.6	3.1 J
Acenaphthene	EPA 8270Cm	ng/dry g	1 / 5	3,700,000	29,000,000	500	26.0	2 J	1 J	1.5 J	<1
Acenaphthylene	EPA 8270Cm	ng/dry g	1 / 5	--	--	640	88.0	<1	<1	<1	<1
Anthracene	EPA 8270Cm	ng/dry g	1 / 5	21,000,000	100,000,000	1,100	88.0	1.6 J	<1	1.7 J	<1
Benz[a]anthracene	EPA 8270Cm	ng/dry g	1 / 5	620	2,100	1,600	412	7.1	3.3 J	4.2 J	2.2 J
Benzo[a]pyrene	EPA 8270Cm	ng/dry g	1 / 5	62	210	1,600	371	4.2 J	1.5 J	<1	2.5 J
Benzo[b]fluoranthene	EPA 8270Cm	ng/dry g	1 / 5	620	2,100	--	371	11.7	5.4	6.6	3.3 J
Benzo[e]pyrene	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	294	9.9	5.1	6.1	3.1 J
Benzo[g,h,i]perylene	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	310	12.5	6.3	6.3	3.2 J
Benzo[k]fluoranthene	EPA 8270Cm	ng/dry g	1 / 5	6,200	21,000	--	258	11.6	6	5.7	3.3 J
Biphenyl	EPA 8270Cm	ng/dry g	1 / 5	3,000	23,000	--	12.9	6.4	2 J	2.5 J	<1
Chrysene	EPA 8270Cm	ng/dry g	1 / 5	62,000	210,000	2,800	289	13.7	6.9	8.1	4.1 J
Dibenz[a,h]anthracene	EPA 8270Cm	ng/dry g	1 / 5	62	210	260	32.7	1.5 J	<1	<1	<1
Dibenzothiophene	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	1.4 J
Fluoranthene	EPA 8270Cm	ng/dry g	1 / 5	2,300,000	22,000,000	5,100	514	19.3	12.7	10.9	4.4 J
Fluorene	EPA 8270Cm	ng/dry g	1 / 5	2,700,000	26,000,000	540	25.3	7.6	2.4 J	3.5 J	1.1 J
Indeno[1,2,3-c,d]pyrene	EPA 8270Cm	ng/dry g	1 / 5	620	2,100	--	382	9.2	3.7 J	3.7 J	2.1 J
Naphthalene	EPA 8270Cm	ng/dry g	1 / 5	56,000	190,000	2,100	55.8	6.6	2.4 J	4.5 J	<1
Perylene	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	145	39.4	9.8	28	19.8
Phenanthrene	EPA 8270Cm	ng/dry g	1 / 5	--	--	1,500	237	13.9	6.9	9.2	3.6 J
Pyrene	EPA 8270Cm	ng/dry g	1 / 5	2,300,000	29,000,000	2,600	665	14.9	9.5	8.8	3.7 J
Total Detectable PAHs	EPA 8270Cm	ng/dry g	--	--	--	44,792	434	215.4	94.8	138.6	63.9

MDL = Maximum detection limit
RL = Reporting limit
J = Estimated value above MDL and below RL
< = Not detected at the indicated MDL
rPRG and iPRG = Residential and Industrial preliminary remediation goals, respectively, from US EPA Region 9, in units of micrograms per kilogram; parts per billion.
* = Recommended sediment chemistry screening guidelines for beneficial reuse of dredged material as wetland foundation material, in units of ng/g wet-weight (SFRWQCB, 2000)
ug/dry g = Micrograms per gram dry-weight; milligrams per kilogram dry-weight; parts per million dry-weight
** = Recommended sediment chemistry screening guidelines for beneficial reuse of dredged material as wetland surface material, in units of ng/g wet-weight (SFRWQCB, 2000)
ng/dry g = Nanograms per gram dry-weight; micrograms per kilogram dry-weight; parts per billion dry-weight

Table 4
Summary of Sediment Analytical Results, Polychlorinated Biphenyl (PCB) Aroclors
Malibu Lake, Sampled November 2, 2006
LFR 021-10127-00

Analyte	Method	Units	rPRG	iPRG	*Sample ID:* *Date:* MDL / RL	East Sed 11/02/06	MCS-1 11/02/06	West Sed R1 11/02/06	West Sed R2 11/02/06
Aroclor 1016	EPA 8270Cm	ng/dry g	3,900	21,000	10 / 20	<10	<10	<10	<10
Aroclor 1221	EPA 8270Cm	ng/dry g			10 / 20	<10	<10	<10	<10
Aroclor 1232	EPA 8270Cm	ng/dry g			10 / 20	<10	<10	<10	<10
Aroclor 1242	EPA 8270Cm	ng/dry g			10 / 20	<10	<10	<10	<10
Aroclor 1248	EPA 8270Cm	ng/dry g			10 / 20	<10	<10	<10	<10
Aroclor 1254	EPA 8270Cm	ng/dry g	220	740	10 / 20	<10	<10	<10	<10
Aroclor 1260	EPA 8270Cm	ng/dry g			10 / 20	<10	<10	<10	<10

MDL = Maximum detection limit
RL = Reporting limit
< = Not detected at the indicated MDL
rPRG and iPRG = Residential and Industrial preliminary remediation goals, respectively, from US EPA Region 9, in units of micrograms per kilogram; parts per billion.
ng/dry g = Nanograms per gram dry-weight; micrograms per kilogram dry-weight; parts per billion dry-weight

Table 5
Summary of Sediment Analytical Results, Polychlorinated Biphenyl (PCB) Congeners
Malibu Lake, Sampled November 2, 2006
LFR 021-10127-00

Analyte	Method	Units	MDL	Sample ID: / Date: / Screening Guidelines*	East Sed 11/02/06	MCS-1 11/02/06	West Sed R1 11/02/06	West Sed R2 11/02/06
PCB018	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB028	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB031	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB033	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB037	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB044	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB049	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB052	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB066	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB070	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB074	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB077	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB081	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB087	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB095	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB097	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB099	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB101	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB105	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB110	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB114	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB118	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB119	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB123	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB126	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB128+167	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB138	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB141	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB149	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB151	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB153	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB156	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB157	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB158	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB168+132	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB169	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB170	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB177	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB180	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB183	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB187	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB189	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB194	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB200	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB201	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
PCB206	EPA 8270Cm	ng/dry g	1 / 5	--	<1	<1	<1	<1
Total Detectable PCBs	EPA 8270Cm	ng/dry g	--	22.7	0	0	0	0

MDL = Maximum detection limit
RL = Reporting limit
< = Not detected at the indicated MDL
* = Recommended sediment chemistry screening guidelines for beneficial reuse of dredged material as wetland surface material, in units of ng/g wet-weight (SFRWQCB, 2000)
ng/dry g = Nanograms per gram dry-weight; micrograms per kilogram dry-weight; parts per billion dry-weight

Table 6
Summary of Sediment Analytical Results, Organochlorinated Pesticides
Malibu Lake, Sampled November 2, 2006
LFR 021-10127-00

Analyte	Method	Units	MDL / RL	rPRG	iPRG	Screening Guidelines*	Sample ID: / Date: / Screening Guidelines**	East Sed 11/02/06	MCS-1 11/02/06	West Sed R1 11/02/06	West Sed R2 11/02/06
2,4'-DDD	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
2,4'-DDE	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
2,4'-DDT	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
4,4'-DDD	EPA 8270Cm	ng/dry g	1 / 5	2,400	10,000	--	--	<1	<1	<1	<1
4,4'-DDE	EPA 8270Cm	ng/dry g	1 / 5	1,700	7,000	--	--	1.5 J	<1	1.1 J	<1
4,4'-DDT	EPA 8270Cm	ng/dry g	1 / 5	1,700	7,000	--	--	10.2	5.2	3.1 J	3.6 J
Total Detectable DDTs	EPA 8270Cm	ng/dry g	--	--	--	46.10	7	11.7	5.2	4.2	3.6
Aldrin	EPA 8270Cm	ng/dry g	1 / 5	29	100	--	--	<1	<1	<1	<1
BHC-alpha	EPA 8270Cm	ng/dry g	1 / 5	90	360	--	--	<1	<1	<1	<1
BHC-beta	EPA 8270Cm	ng/dry g	1 / 5	320	1,300	--	--	<1	<1	<1	<1
BHC-delta	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
BHC-gamma	EPA 8270Cm	ng/dry g	1 / 5	440	1,700	--	--	<1	<1	<1	<1
Chlordane-alpha	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
Chlordane-gamma	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
Total Chlordane	EPA 8270Cm	ng/dry g	--	--	--	4.8	2.3	0	0	0	0
cis-Nonachlor	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
DCPA (Dacthal)	EPA 8270Cm	ng/dry g	5 / 10	610,000	6,200,000	--	--	<5	<5	<5	<5
Dicofol	EPA 8270Cm	ng/dry g	1 / 5	1,100	3,900	--	--	<1	<1	<1	<1
Dieldrin	EPA 8270Cm	ng/dry g	1 / 5	30	110	4	0.72	<1	<1	<1	<1
Endosulfan Sulfate	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
Endosulfan-I	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
Endosulfan-II	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
Endrin	EPA 8270Cm	ng/dry g	1 / 5	18,000	180,000	--	--	<1	<1	<1	<1
Endrin Aldehyde	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
Endrin Ketone	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
Heptachlor	EPA 8270Cm	ng/dry g	1 / 5	110	380	--	--	<1	<1	<1	<1
Heptachlor Epoxide	EPA 8270Cm	ng/dry g	1 / 5	53	190	--	--	<1	<1	<1	<1
Methoxychlor	EPA 8270Cm	ng/dry g	1 / 5	310,000	3,100,000	--	--	<1	<1	<1	<1
Mirex	EPA 8270Cm	ng/dry g	1 / 5	270	960	--	--	<1	<1	<1	<1
Oxychlordane	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1
Perthane	EPA 8270Cm	ng/dry g	5 / 10	--	--	--	--	<5	<5	<5	<5
Toxaphene	EPA 8270Cm	ng/dry g	10 / 50	440	1,600	--	--	<10	<10	<10	<10
trans-Nonachlor	EPA 8270Cm	ng/dry g	1 / 5	--	--	--	--	<1	<1	<1	<1

MDL = Maximum detection limit
RL = Reporting limit
J = Estimated value above MDL and below RL
< = Not detected at the indicated MDL
rPRG and iPRG = Residential and Industrial preliminary remediation goals, respectively, from US EPA Region 9, in units of micrograms per kilogram; parts per billion.
* = Recommended sediment chemistry screening guidelines for beneficial reuse of dredged material as wetland foundation material, in units of ng/g wet-weight (SFRWQCB, 2000)
ug/dry g = Micrograms per gram dry-weight; milligrams per kilogram dry-weight; parts per million dry-weight
** = Recommended sediment chemistry screening guidelines for beneficial reuse of dredged material as wetland surface material, in units of ng/g wet-weight (SFRWQCB, 2000)
ng/dry g = Nanograms per gram dry-weight; micrograms per kilogram dry-weight; parts per billion dry-weight

Table 7
Summary of Elutriate Analytical Results, General Parameters
Malibu Lake, Sampled November 2, 2006; Elutriate Created November 14, 2006
LFR 021-10127-00

Analyte	Method	Units	MDL / RL	CMC	CCC	*Sample ID:* / *Date:* / MCLs	East Sed R1 11/14/06	East Sed R2 11/14/06	East Sed Water 11/14/06	West Sed R1 11/14/06	West Sed R2 11/14/06	West Sed Water 11/14/06
Nitrate-N	EPA 300.0	mg/L	0.01 / 0.05	--	--	10	0.0172	0.0181	--	0.03	--	--
Orthophosphate as P	EPA 300.0	mg/L	0.0075 / 0.01	--	--	--	0.06	0.07	--	<0.0075	--	--
pH	EPA 150.1	pH Units	0.1 / 0.2	--	6.5 - 9	--	8.4	--	--	8	8	--
Total Suspended Solids	EPA 160.2	mg/L	-- / 1.0	--	--	--	102	--	--	129	--	--
Dissolved Organic Carbon	EPA 415.1	mg/L	-- / 0.5	--	--	--	17	--	8.1	15	--	9.7
Hardness (CaCO3)	SM 2340 B	mg/L	1/5	--	--	--	425.8	--	--	586	--	--
Ceriodaphnia Bioassay *	EPA-821-R-02-012	Pass/Fail	--	--	--	--	Pass	--	--	Pass	--	--

MDL = Maximum detection limit
RL = Reporting limit
< = Not detected at the indicated MDL
CMC = Criteria maximum concentration; acute
CCC - Criteria continuous concentration; chronic
MCLs = Drinking water maximum contaminant levels
mg/L = Milligrams per liter; parts per million
* = 96-hour acute ceriodaphnia survival bioassay using 100% concentration elutriate and *Ceriodaphnia dubia*
CaCO3 = Calcium carbonate

Table 8
Summary of Elutriate Analytical Results, Trace Metals
Malibu Lake, Sampled November 2, 2006; Elutriate Created November 14, 2006
LFR 021-10127-00

Analyte	Method	Units	MDL / RL	CMC	CCC	*Sample ID:* *Date:* MCLs	East Sed R1 11/14/06	West Sed R1 11/14/06	West Sed R2 11/14/06
Aluminum (Al)	EPA 200.8m	mg/L	0.005 / 0.010	0.75	0.087	1.0	<0.005	<0.005	<0.005
Antimony (Sb)	EPA 200.8m	mg/L	0.0001 / 0.0005	--	--	0.006	0.0021	0.0013	0.0013
Arsenic (As)	EPA 200.8m	mg/L	0.0002 / 0.005	0.34	0.15	0.05	0.0033	0.0026	0.0026
Barium (Ba)	EPA 200.8m	mg/L	0.0002 / 0.005	--	--	1.0	0.0839	0.0837	0.0853
Beryllium (Be)	EPA 200.8m	mg/L	0.0002 / 0.005	--	--	0.004	<0.0002	<0.0002	<0.0002
Cadmium (Cd)	EPA 200.8m	mg/L	0.0002 / 0.005	0.002 0.0077*	0.00025 0.00064*	0.005	0.0004	0.0004	0.0004
Chromium (Cr)	EPA 200.8m	mg/L	0.0001 / 0.0005	0.016**	0.011**	0.05	0.0006	0.0006	0.0006
Cobalt (Co)	EPA 200.8m	mg/L	0.0001 / 0.0005	--	--	--	0.0003 J	0.0003 J	0.0003 J
Copper (Cu)	EPA 200.8m	mg/L	0.0004 / 0.0008	0.013	0.009	--	0.0041	0.0033	0.0032
Iron (Fe)	EPA 200.8m	mg/L	0.005 / 0.010	--	1	--	0.129	0.161	0.174
Lead (Pb)	EPA 200.8m	mg/L	0.00005 / 0.0001	0.065	0.0025	--	0.00005 J	<0.00005	<0.00005
Manganese (Mn)	EPA 200.8m	mg/L	0.0002 / 0.005	--	--	--	0.1105	0.2705	0.2716
Mercury (Hg)	EPA 245.7m	mg/L	0.00001 / 0.00002	0.00140	0.00077	0.002	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	EPA 200.8m	mg/L	0.0002 / 0.005	--	--	--	0.0275	0.0258	0.0261
Nickel (Ni)	EPA 200.8m	mg/L	0.0002 / 0.005	0.47	0.052	0.1	0.0031	0.0037	0.0038
Selenium (Se)	EPA 200.8m	mg/L	0.0002 / 0.005	--	0.005	0.05	0.0016	0.0028	0.0024
Silver (Ag)	EPA 200.8m	mg/L	0.0005 / 0.001	0.0032	--	--	<0.0005	<0.0005	<0.0005
Strontium (Sr)	EPA 200.8m	mg/L	0.0001 / 0.0005	--	--	--	0.6918	1.006	1.003
Thallium (Tl)	EPA 200.8m	mg/L	0.0001 / 0.0005	--	--	0.002	<0.0001	<0.0001	<0.0001
Tin (Sn)	EPA 200.8m	mg/L	0.0001 / 0.0005	--	--	--	<0.0001	<0.0001	<0.0001
Titanium (Ti)	EPA 200.8m	mg/L	0.0002 / 0.005	--	--	--	0.0004 J	0.0006	0.0005
Vanadium (V)	EPA 200.8m	mg/L	0.0002 / 0.005	--	--	--	0.0047	0.0117	0.0118
Zinc (Zn)	EPA 200.8m	mg/L	0.0001 / 0.0005	0.12	0.12	--	0.0071	0.0076	0.0076

MDL = Maximum detection limit
RL = Reporting limit
J = Estimated value above MDL and below RL
< = Not detected at the indicated MDL
CMC = Criteria maximum concentration; acute
CCC - Criteria continuous concentration; chronic
MCLs = Drinking water maximum contaminant levels
mg/L = Milligrams per liter; parts per million
* = CMC and CCC critiera adjusted to account for measured eleturate hardness, which exceeded 400 mg/L CaCO3 in all samples
** = Concentration for chromium (VI), which is the most conservative criterion.

Table 9
Summary of Elutriate Analytical Results, PAHs
Malibu Lake, Sampled November 2, 2006; Elutriate Created November 14, 2006
LFR 021-10127-00

Analyte	Method	Units	MDL / RL	CMC	CCC	*Sample ID:* *Date:* MCLs	East Sed 11/14/06	West Sed 11/14/06
1-Methylnaphthalene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
1-Methylphenanthrene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
2,3,5-Trimethylnaphthalene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
2,6-Dimethylnaphthalene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
2-Methylnaphthalene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Acenaphthene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	0.0000027
Acenaphthylene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Anthracene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Benz[a]anthracene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Benzo[a]pyrene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Benzo[b]fluoranthene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Benzo[e]pyrene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Benzo[g,h,i]perylene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Benzo[k]fluoranthene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Biphenyl	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Chrysene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Dibenz[a,h]anthracene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Dibenzothiophene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Fluoranthene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Fluorene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Indeno[1,2,3-c,d]pyrene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Naphthalene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Perylene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	0.0000053	0.0000066
Phenanthrene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Pyrene	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Total Detectable PAHs	EPA 625m	mg/L	--	--	--	--	<0.000001	<0.000001
							0.0000053	0.0000093

MDL = Maximum detection limit
RL = Reporting limit
< = Not detected at the indicated MDL
CMC = Criteria maximum concentration; acute
CCC - Criteria continuous concentration; chronic
MCLs = Drinking water maximum contaminant levels
mg/L = Milligrams per liter; parts per million

Table 10
Summary of Elutriate Analytical Results, Polychlorinated Biphenyl (PCB) Aroclors
Malibu Lake, Sampled November 2, 2006; Elutriate Created November 14, 2006
LFR 021-10127-00

Analyte	Method	Units	MDL / RL	CMC	*Sample ID:* *Date:* CCC	East Sed 11/14/06	West Sed 11/14/06
Aroclor 1016	EPA 625m	mg/L	0.000010 / 0.000020	--	--	<0.000010	<0.000010
Aroclor 1221	EPA 625m	mg/L	0.000010 / 0.000020	--	--	<0.000010	<0.000010
Aroclor 1232	EPA 625m	mg/L	0.000010 / 0.000020	--	--	<0.000010	<0.000010
Aroclor 1242	EPA 625m	mg/L	0.000010 / 0.000020	--	--	<0.000010	<0.000010
Aroclor 1248	EPA 625m	mg/L	0.000010 / 0.000020	--	--	<0.000010	<0.000010
Aroclor 1254	EPA 625m	mg/L	0.000010 / 0.000020	--	--	<0.000010	<0.000010
Aroclor 1260	EPA 625m	mg/L	0.000010 / 0.000020	--	--	<0.000010	<0.000010
Total Detectable PCBs	EPA 625m	mg/L	--	--	14	0	0

MDL = Maximum detection limit
RL = Reporting limit
< = Not detected at the indicated MDL
CMC = Criteria maximum concentration; acute
CCC - Criteria continuous concentration; chronic
mg/L = Milligrams per liter; parts per million

Table 11
Summary of Elutriate Analytical Results, Polychlorinated Biphenyl (PCB) Congeners
Malibu Lake, Sampled November 2, 2006; Elutriate Created November 14, 2006
LFR 021-10127-00

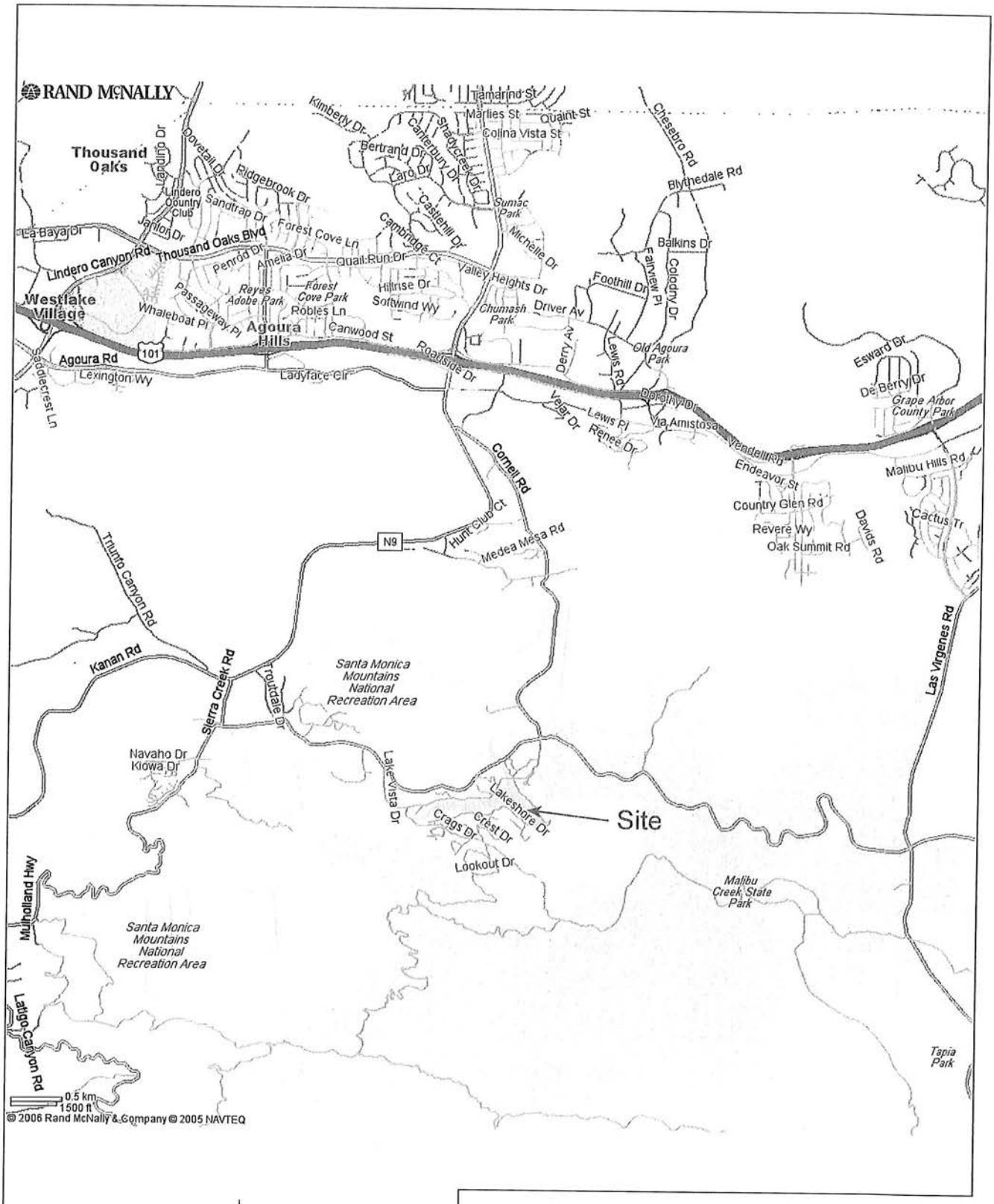
Analyte	Method	Units	MDL / RL	CMC	CCC	*Sample ID:* *Date:* MCLs	East Sed 11/14/06	West Sed 11/14/06
PCB018	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB028	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB031	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB033	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB037	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB044	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB049	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB052	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB066	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB070	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB074	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB077	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB081	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB087	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB095	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB097	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB099	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB101	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB105	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB110	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB114	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB118	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB119	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB123	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB126	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB128+167	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB138	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB141	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB149	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB151	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB153	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB156	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB157	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB158	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB168+132	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB169	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB170	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB177	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB180	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB183	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB187	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB189	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB194	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB200	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB201	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
PCB206	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Total Detectable PCBs	EPA 625m	mg/L	--	--	0.000014	0.0005	0	0

MDL = Maximum detection limit
RL = Reporting limit
< = Not detected at the indicated MDL
CMC = Criteria maximum concentration; acute
CCC - Criteria continuous concentration; chronic
MCLs = Drinking water maximum contaminant levels
mg/L = Milligrams per liter; parts per million

Table 12
Summary of Elutriate Analytical Results, Organochlorinated Pesticides
Malibu Lake, Sampled November 2, 2006; Elutriate Created November 14, 2006
LFR 021-10127-00

Analyte	Method	Units	MDL / RL	CMC	CCC	*Sample ID:* *Date:* MCLs	East Sed 11/14/06	West Sed 11/14/06
2,4'-DDD	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
2,4'-DDE	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
2,4'-DDT	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
4,4'-DDD	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
4,4'-DDE	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
4,4'-DDT	EPA 625m	mg/L	0.000001 / 0.000005	0.0011	0.000001	--	<0.000001	<0.000001
Total Detectable DDTs	EPA 625m	mg/L	--	--	--	--	0	0
Aldrin	EPA 625m	mg/L	0.000001 / 0.000005	0.003	--	--	<0.000001	<0.000001
BHC-alpha	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
BHC-beta	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
BHC-delta	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
BHC-gamma (Lindane)	EPA 625m	mg/L	0.000001 / 0.000005	0.00095	--	0.0002	<0.000001	<0.000001
Chlordane-alpha	EPA 625m	mg/L	0.000001 / 0.000005	0.0024	0.0000043	--	<0.000001	<0.000001
Chlordane-gamma	EPA 625m	mg/L	0.000001 / 0.000005	0.0024	0.0000043	--	<0.000001	<0.000001
Total Chlordane	EPA 625m	mg/L	--	--	--	--	0	0
cis-Nonachlor	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
DCPA (Dacthal)	EPA 625m	mg/L	0.000005 / 0.000010	--	--	--	<0.000005	<0.000005
Dicofol	EPA 625m	mg/L	0.000050 / 0.000100	--	--	--	<0.000050	<0.000050
Dieldrin	EPA 625m	mg/L	0.000001 / 0.000005	0.00024	0.000056	--	<0.000001	<0.000001
Endosulfan Sulfate	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Endosulfan-I	EPA 625m	mg/L	0.000001 / 0.000005	0.00022	0.0000056	--	<0.000001	<0.000001
Endosulfan-II	EPA 625m	mg/L	0.000001 / 0.000005	0.00022	0.0000056	--	<0.000001	<0.000001
Endrin	EPA 625m	mg/L	0.000001 / 0.000005	0.000086	0.000036	0.002	<0.000001	<0.000001
Endrin Aldehyde	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Endrin Ketone	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Heptachlor	EPA 625m	mg/L	0.000001 / 0.000005	0.00052	0.0000038	0.00001	<0.000001	<0.000001
Heptachlor Epoxide	EPA 625m	mg/L	0.000001 / 0.000005	0.00052	0.0000038	0.00001	<0.000001	<0.000001
Methoxychlor	EPA 625m	mg/L	0.000001 / 0.000005	--	0.00003	0.03	<0.000001	<0.000001
Mirex	EPA 625m	mg/L	0.000001 / 0.000005	--	0.000001	--	<0.000001	<0.000001
Oxychlordane	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001
Perthane	EPA 625m	mg/L	0.000005 / 0.000010	--	--	--	<0.000005	<0.000005
Toxaphene	EPA 625m	mg/L	0.000010 / 0.000050	0.00073	0.0000002	0.003	<0.000010	<0.000010
trans-Nonachlor	EPA 625m	mg/L	0.000001 / 0.000005	--	--	--	<0.000001	<0.000001

MDL = Maximum detection limit
RL = Reporting limit
< = Not detected at the indicated MDL
CMC = Criteria maximum concentration; acute
CCC - Criteria continuous concentration; chronic
mg/L = Milligrams per liter; parts per million



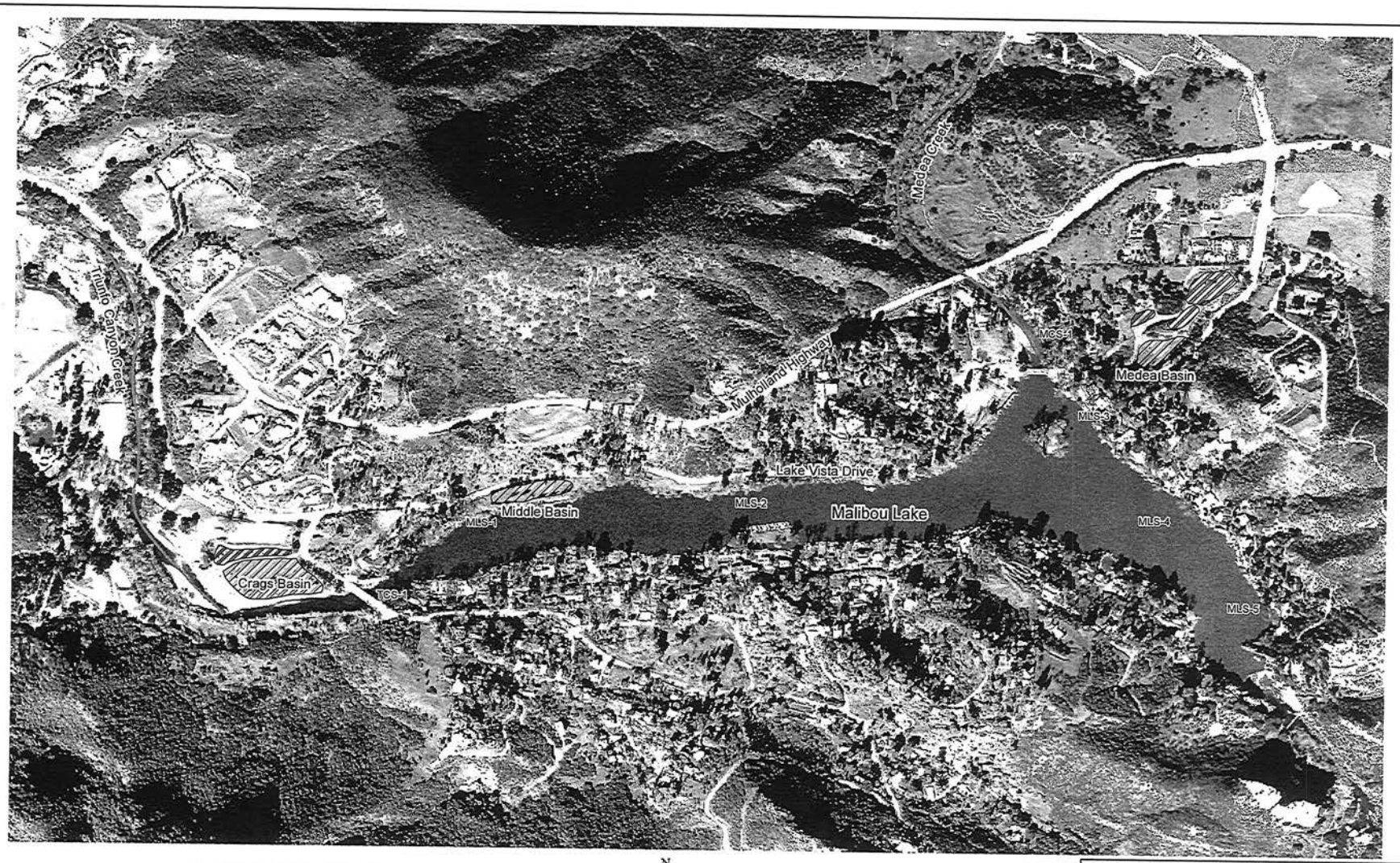
H:\Client Files\M-O\Malibou Lake Mountain Club\Figures\Figure 1 Site Location Map.pdf

Site Location Map

Malibou Lake Mountain Club

LFR

Figure 1



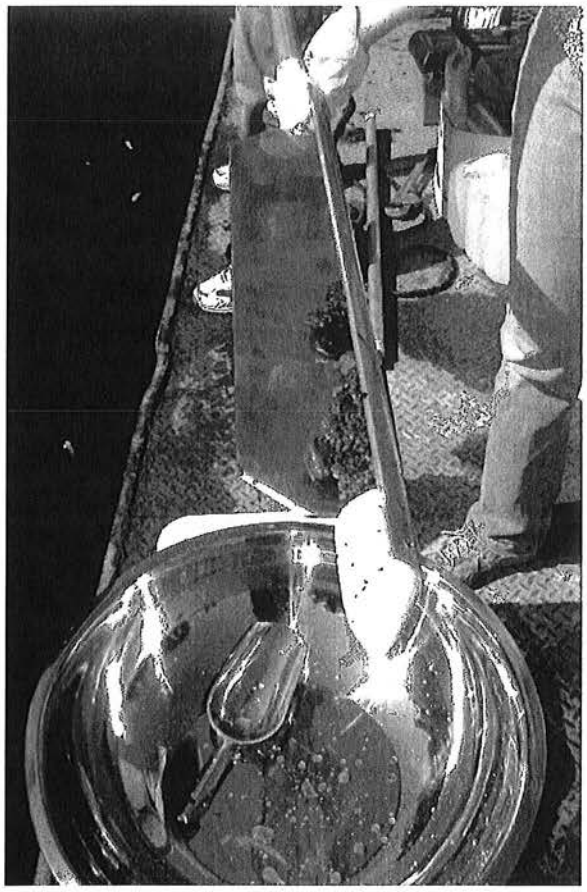
Site Map Showing Approximate Sediment Sampling Locations

Malibou Lake Mountain Club

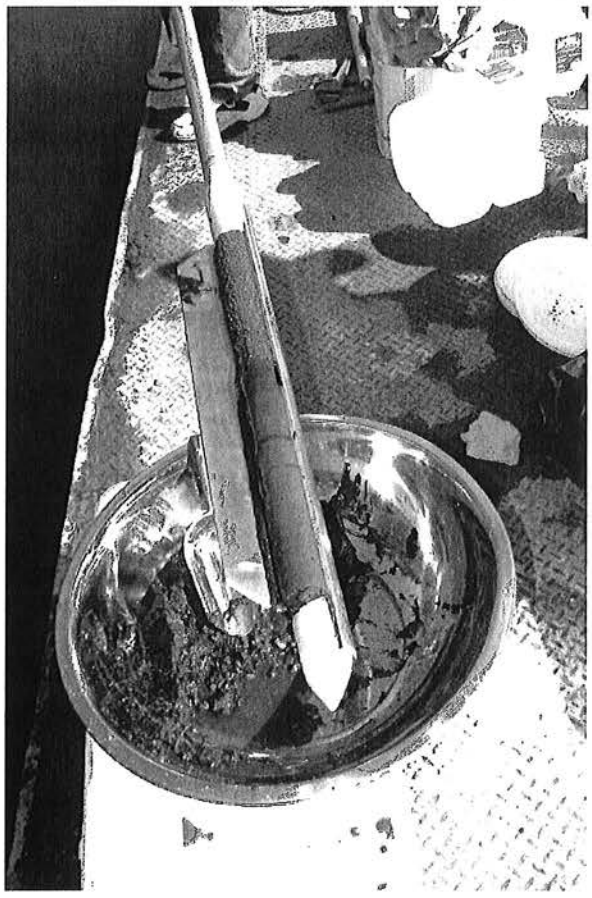
LFR

Figure 2

H:\Client Files\M-O\Malibou Lake Mountain Club\Figures\GIS\Figure 2 Site Map.mxd - 1/23/2007 @ 11:02:53 AM



Photograph showing gravelly sediment that was too coarse for effective sampling at the initial TCS-1 location, which resulted in moving the sampling location farther to the east than originally proposed in the sampling and analysis plan.



Photograph showing a sediment core sample from location MLS-1.

Representative Sediment Sampling Photographs
November 2, 2006

Malibou Lake Mountain Club

LFR

Figure 3

H:\Client Files\M-O\Malibou Lake Mountain Club\Figures\Figure 3 Sediment Sample Photos.pdf

APPENDIX A

Site History and Sampling and Sampling and Analysis Plan Guidance Document Framework

PROJECT DESCRIPTION, SITE HISTORY, AND GUIDENCE DOCUMENT FRAMEWORK

Project Description

The Malibou lake Mountain Club (MLMC) proposes to perform dredging of the Malibou Lake, including the inlet areas where two tributaries, Triunfo Canyon Creek and Medea Creek, enter the lake. The planned dredging project includes: (1) initial hydraulic dredging of approximately 28,000 to 52,000 cubic yards (cy) of sand, silt, gravel and some rock; (2) annual maintenance dredging in subsequent years; and, (3) as necessary repair/ maintenance of an existing rip-rap retaining wall along the south bank of Triunfo Canyon Creek. In addition, some sediment materials near the tributary entry points will be removed using an excavator bucket.

Dredged materials will be decanted at the three existing detention basins. After drying, the dredged solids will be placed in previously-used stockpile locations adjoining the detention basins (Figure 2).

Dried sediment materials will likely be used for beneficial reuse; they will be exported off-site and ultimately reused as construction fill material or as landfill daily cover. The water component of the dredged material will decanted in the detention basins, and will ultimately re-enter Malibou Lake.

This SAP outlines procedures for evaluating chemical and physical parameters of the sediment materials, including chemical analysis of sediment elutriate. Such data are needed to obtain regulatory approval for the planned dredging activities.

The chemical and physical data obtained in this SAP will also be used to evaluate the suitability of the dredged sediment for beneficial reuse. The results will be compared to the screening levels in "Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines," prepared by the San Francisco Bay Region Regional Water Quality Control Board (SFBRWQCB 2000).

Elutriate water samples will be extracted in the laboratory from the sediment samples, to approximate the return water that will be decanted from the dredged sediments and ultimately returned back to the lake. The elutriate samples will be tested by bioassay and for compounds that may affect aquatic organisms; the elutriate results will be compared to the current version of the Los Angles Regional Water Quality Control Board Basin Plan, and to SFBRWQCB 2000 toxicity screening guideline.

Site History

Malibou Lake is approximately 40 acres in area. In the 1920s, a dam was constructed near the confluence of Triunfo Canyon and Medea Creeks. The lake formed after subsequent rain events in 1926.

A residential community has been established around the Lake. Malibou Lake is currently used for recreational activities by private land owners, including fishing, boating (with electric motors only), swimming, wildlife viewing, etc. Malibou Lake has endured prolonged impacts from numerous flood events; however, it remains valuable for human recreation and for wildlife.

Maintenance dredging operations have been conducted at the Lake for more than 30 years; however, dredging ceased in 2006 following notification from the California Department of Fish and Game, the Regional Water Quality Control Board, and ACOE that the applicable permits and agreements had expired and that all applicable permits and agreements must be renewed prior to reinitiating dredging. Maintenance dredging is necessary to prevent the gradual filling of the Lake by sediments deposited from Medea and Triunfo Canyon Creeks. The proposed dredging would increase the depth of the Lake, which would provide several benefits, including (1) reducing emergent vegetation; (2) supporting safe boating and other recreation activities; and (3) potentially improving water quality conditions for ecological resources (e.g., lowering water temperature, decreasing wind roiling of subsurface materials, etc.).

Malibou Lake is not considered a Section 10 Water Body under the Rivers and Harbor Act by ACOE. The proposed maintenance dredging at Malibou Lake would not involve the discharge of dredged and or fill material into a wetland or other water body. However, water from the dredged sediment would be cycled through three sediment detention basins and returned to the Lake.

The routine maintenance dredging at Malibou Lake would involve one dredge machine and three detention basins. The dredge spoils would be pumped from the Lake bottom into these basins. The three basins, Medea, Middle, and Crags Basins, are respectively to the east, middle, and west, along the north shore of the Lake (Figure 2).

The dredge machine pumps spoils through floating segmented pipe sections, which can be connected to permanent inflow pipes associated with any one of the three detention basins. The location of the dredge on the Lake determines which basin receives dredge spoils during operation. The basins concentrate the spoils, and allow silt and particulates to settle out of the water column before the water returns to the lake via gravity flow through outflow pipe. The dried dredge spoils are periodically excavated from the basins with a backhoe and stockpiled in the adjacent upland stockpile areas.

Potential anthropogenic sources of contaminants in the sediments from local and up-watershed activities include storm water runoff from roads; storm water runoff from residential, agricultural and equestrian activities; residual compounds from fire-fighting activities; and seepage from septic systems.

There may also be background or ambient concentrations of contaminants, due to such sources as metals occurring naturally in rocks and soil; polycyclic aromatic hydrocarbons (PAHS) or related compounds formed naturally during chaparral fires; and atmospheric particulates from distant industrial activities.

It is anticipated that certain nutrients (such as nitrogen and phosphate) may occur at elevated concentrations in the sediments. Legacy pesticides (such chlordane) and certain metals (such as cadmium, copper, and zinc) may be detected in the sediments.

Guidance Document Framework for the Sampling and Analysis Plan (SAP)

The framework for the SAP generally follows the U.S. Army Corps of Engineers (ACOE) template for small Puget Sound projects, known as the "Sampling and Analysis Plan, Port Townsend Marina Entrance Channel," dated May 23, 1997 (ACOE 1997). However, certain modifications have been made due to the following Site/project attributes:

- Malibou Lake is a freshwater lake and not tidally influenced. Aspects of ACOE (1997) specific to marine conditions have therefore been modified (for example, the lake's water level will not be measured relative to "mean lower low water"). Analysis for tributyl tin, and related compounds, has also been removed for this reason as this compound is largely associated with anti-fouling bottom paint for marine vessels.

- Dredged sediment will not be disposed of in the benthic environment or directly into the water column of the ocean, or into any other natural body of water. Dredged solids will be kept in detention basins, and in stockpiled areas when dried.

  Since solids will not be discharged into water bodies, solids bioassays and other testing addressing solids toxicity issues have been modified or removed for this SAP. However, elutriate testing has been retained, as per SFBRWQCB 2000, because decanted water will eventually return to the Lake.

- Dried sediment will likely be reused for upland beneficial purposes. Test results will likely be compared with beneficial reuse criteria proposed by SFBRWQCB (2000) and with the human health criteria EPA Region 9 Preliminary Remediation Goal (PRG) for arsenic.

APPENDIX B

Sediment Sampling Coordinates

Malibou Lake Sediment Sampling
Sample Location Coordinates
November 2, 2006
WGSA 84 Coordinate System

Longitude	Latitude	Location
-118.754580786	34.109778233	MCS-1
-118.754111995	34.108520774	MLS-3
-118.753023987	34.106897055	MLS-4
-118.751839306	34.105495990	MLS-5
-118.764543261	34.105465629	TCS-1
-118.762769503	34.106738195	MLS-1
-118.759190556	34.107011120	MLS-2

APPENDIX C

Boring Logs

LITHOLOGY			SAMPLING DATA		
Depth, feet	Graphic Log	Visual Description	Sample ID	Penetration Rate (blows/ft.)	PID Values (ppm)
.....		SILTY GRAVELLY SAND (SW), black (GLEY1 2.5/N), soft, wet, 85-90% fine to medium sand, 10-15% silt, 5-10% gravel, no plasticity, poorly consolidated.	MCS-1	N/A	N/A
.....		-trace roots/leaves/detritus.			
.....		-gravel sand are igneous and sedimentary source rock.			
		-"sewage" odor to sediment, decomposing organic debris.			
		-no structure to sediment.			
		-approximately 60-75% recovery per sample attempt.			
		-well graded sediment.			
		Refusal at 3.2 feet.			

N/A = Not Applicable

5.53 feet of water column above boring.
Sample intervals at 1 to 2.6 feet below interface and 1.6 to 3.2 feet below interface.
Bottom of boring at 3.2 feet into sediment.

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval Sampled
- Sample Retained

Date boring drilled: 11/2/06
LFR Field Staff: Don Riley/Erika Bylund/Mitch Siemens
Approved by: DJR

LITHOLOGY AND SAMPLE DATA FOR BORING MCS-1

LITHOLOGY			SAMPLING DATA		
Depth, feet	Graphic Log	Visual Description	Sample ID	Penetration Rate (blows/ft.)	PID Values (ppm)
		COARSE SAND (SP) with some silt, black, moderately stiff to stiff, no plasticity.			
		SILTY CLAY (OL/CL), black (GLEY1 2.5/N), wet, moderately soft to stiff, low plasticity.	MLS-1	N/A	N/A
		POORLY GRADED SAND (SP), fine to coarse sand with trace clay.			
		-1 snail shell found ~2 feet below interface. -trace roots/leaves. -clay/sand stratification. -decaying organic smell.			
		SILTY CLAY (CL/OL), black (GLEY1 2.5/N), wet, moderately soft to stiff, low plasticity. Refusal at 4.6 feet.			
		3.7 feet of water column above boring. Bottom of boring at 4.6 feet into the sediment.			

N/A = Not Applicable

EXPLANATION

Clay
Silt
Sand
Gravel

Interval Sampled
Sample Retained

Date boring drilled: 11/2/06

LFR Field Staff: Don Eley/Erika Bylund/Mitch Siemens

Approved by:

LITHOLOGY AND SAMPLE DATA FOR BORING MLS-1

LITHOLOGY			SAMPLING DATA		
Depth, feet	Graphic Log	Visual Description	Sample ID	Penetration Rate (blows/ft.)	PID Values (ppm)
		SILTY SAND (SM), black (GLEY1 2.5/N), wet, moderately stiff to moderately soft.	MLS-2	N/A	N/A
		-no roots/leaves observed. -no evidence of bioturbation. -strong decaying organic odor. -no evidence of sheen. Refusal at 2.6 feet. 4 feet of water column above boring. Bottom of boring at 2.6 feet into sediment.			

N/A = Not Applicable

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval Sampled
- Sample Retained

Date boring drilled: 11/2/06

LFR Field Staff: Don Eley/Erika Bylund/Mitch Siemens

Approved by:

LITHOLOGY AND SAMPLE DATA FOR BORING MLS-2

LITHOLOGY			SAMPLING DATA		
Depth, feet	Graphic Log	Visual Description	Sample ID	Penetration Rate (blows/ft.)	PID Values (ppm)
		CLAYEY SILT (ML/OL), black (GLEY1 2.5/N), very firm in-situ/soft once removed, low plasticity. -no vegetation or bioturbation evident. -no soil structures. -"sewage"-like odor/decomposing organic material smell. Refusal at 2.6 feet. 5.2 feet of water column above boring. Bottom of boring at 2.6 feet into sediment.	MLS-3	N/A	N/A

N/A = Not Applicable

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval Sampled
- Sample Retained

Date boring drilled: 11/2/06

LFR Field Staff: Don Eley/Erika Bylund/Mitch Siemens

Approved by:

LITHOLOGY AND SAMPLE DATA FOR BORING MLS-3

Depth, feet	Graphic Log	Visual Description	Sample ID	Penetration Rate (blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
.....		CLAYEY SILT (ML/OL), black (GLEY1 2.5/N), wet, firm in-situ/soft once removed, low plasticity.			
.....		-no evidence of soil structures or bioturbation.	MLS-4	N/A	N/A
.....		-organic decay odor.			
.....		-no evidence of roots or leaves.			
		Refusal at 4.6 feet.			
		4.4 feet of water column above boring.			
		Bottom of boring at 4.6 feet bgs.			

N/A = Not Applicable

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval Sampled
- Sample Retained

Date boring drilled: 11/2/06

LFR Field Staff: Don Eley/Erika Bylund/Mitch Siemens

Approved by:

LITHOLOGY AND SAMPLE DATA FOR BORING MLS-4

Depth, feet	Graphic Log	Visual Description	Sample ID	Penetration Rate (blows/ft.)	PID Values (ppm)
		CLAYEY SILT (ML/OL), black (GLEY1 2.5/N), wet, soft, firm below 6 feet, low plasticity.	MLS-5	N/A	N/A
		-roots and organic detritus (3-5%).			
		-no evidence of soil structures.			
		-organic decay odor.			
		-no evidence of bioturbation.			
		Refusal at 1.6 feet.			
		4.6 feet of water column above boring.			
		Bottom of boring at 1.6 feet into sediment.			

N/A = Not Applicable

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval Sampled
- Sample Retained

Date boring drilled: 11/2/06

LFR Field Staff: Don Eley/Erika Bylund/Mitch Siemens

Approved by:

LITHOLOGY AND SAMPLE DATA FOR BORING MLS-5

Depth, feet	Graphic Log	Visual Description	Sample ID	Penetration Rate (blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		SILTY SAND AND GRAVEL (GM), black (GLEY1 2.5/N), wet, moderately soft to moderately stiff, fine to coarse sand, trace pebble-size pieces, igneous and sedimentary source rock, very well graded.	TCS-1	N/A	N/A
		-no sedimentary structures. -no evidence of bioturbation. -trace roots and leaves. -decaying organic material odor. Refusal at 1.6 feet.			
		6.2 feet of water column above boring. Bottom of boring at 1.6 feet into sediment.			

N/A = Not Applicable

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval Sampled
- Sample Retained

Date boring drilled: 11/2/06

LFR Field Staff: Don Eley/Erika Bylund/Mitch Siemens

Approved by:

LITHOLOGY AND SAMPLE DATA FOR BORING TCS-1

APPENDIX D

Field Notes

Daily Field Report

LFR LEVINE • FRICKE

Project Number: 021-10172-00

Page 1 of 2

Project Name: Malibou Lake Sediment Sampling

Date: 11-2-06

Project Location: Agoura Hills, CA

Day: M T W T (h) F S S

Site Conditions/Weather: Sunny, cool

LFR Staff: EDB | DSE, MCS

Job Description: Sediment Sampling

WORK FORCE

Company Name	Staff Name	Onsite From	Onsite To	Comments
LFR	DSE/EDB/MCS	0730	1200	
Malibou Lake	Michael, Ray	0730	1200	

EQUIPMENT

Owner	Item	Comments
LFR	SAMPLER, SAMPLING JARS, DECON MATERIALS	
Malibou Lake	Life vests, barge	

VISITORS	Comments
WEATHER: ~65°, partly cloudy, calm	
SKIPPER: RAY + MICHAEL	
VESSEL: BARGE (GAS MOTOR)	

Time	Activities
0730	MEET AT MALIBOU LAKE. LOAD UP GEAR ONTO BARGE.
0805	HOLD TAILGATE SAFETY MEETING.
0820	DEPART DOCK FOR MCS-1
0825	ARRIVE @ MCS-1. DEPTH = 5.53' to bottom. BEGIN SAMPLING.
0845	3 Jars soil collected: (1) 8oz. (2) 4oz. no H_2O; Collected GPS location
0900	ARRIVE @ MLS-3. HOOK UP TO DOCK @ NORTH SIDE OF ISLAND.
0915	Collect sample MLS-3. DO NOT PUSH FURTHER THAN 1' below interface due to tight clays. DO NOT WANT TO RISK GETTING SAMPLER STUCK. CANNOT PUSH FURTHER

Continue on reverse as needed

GPS'ed location

Reviewed by: Don Eley Signed: D. Eley Date: 11/9/06

Daily Field Report, continued

p. 2/2

Time	Activities
0930	STOP @ RAY'S.
0940	HEAD TO MLS-4
0945	~~SOIL~~ SOIL AND (4) 1L AMBERS H_2O collected here. GPSed location
1000	Collect EAST SED COMPOSITE (AND MLS-5) - GPSed location. (1) 8 oz. Jar (2) 4oz. jars (1/2) 1L plastic
1015	DEPART FOR TCS-1
1035	MOVED DOWNSTREAM SEVERAL METERS TO WEST SIDE OF BRIDGE DUE TO NO RECOVERY @ ORIGINAL LOCATION. OBTAINED GOOD RECOVERY @ NEW LOCATION.
	COLLECTED SAMPLE TCS-1; GPSED.
1115	COLLECTED MLS-#2 and COMPOSITE SAMPLE @ WEST ~~SED~~ SED COMPOSITE. DEPART; GPSed
1140	REACH DOCK. UNLOAD.
1153	complete unloading. depart site.

Daily Tailgate Safety Meeting Form

LFR LEVINE • FRICKE

Project Number: 021-10172-00

Page 1 of 1

Project Name: Malibou Lake Sediment Sampling

Date: 11-2-06

Project Location: Agoura Hills, CA

Day: M T W (Th) F S S

Site Conditions/Weather: Sunny, cool

LFR Staff: EDB/DSE/MCS

Comments: Conducting work on barge

Type of Work: sediment sampling

Chemicals Present: potential heavy metals

SAFETY TOPICS DISCUSSED	
Protective Clothing/Equipment: flotation vests, slip free shoes, sun protection	Physical Hazards: slips, trips, falls, drowning
Hazards of Chemicals Present: exposure through dermal contact or ingestion	Special Hazards: insects
Other Topics:	

ATTENDEES	
Name (please print)	Signature
ERIKA BYLUND	Erika Bylund
Ray King	
Michael Hart	Michael Hart
Donald S Eley	
Mitch Siemens	Mitch Siemens

Reviewed by: Don Eley Signed: Don Eley Date: 11/9/06

APPENDIX E

Laboratory Reports

Project ID: P26217
Client: CRG Laboratories
Analysis: Grain Size
Matrix: Sediment
Delivered: November 16, 2006

Sample ID	Lab Rep.	Analysis Date	Summary (Percent)					Percentile (microns)					Percentile (phi)					Microns			phi			Dispersion or Sorting Index	Distribution (phi)	
			Gravel*	Sand	Silt	Clay	Silt-Clay	5%	16%	50%	84%	95%	5%	16%	50%	84%	95%	Mean	Median	Mode	Mean	Median	Mode		Skewness	Kurtosis
MCS-1	1	15-Dec-06	0.00	70.21	25.19	4.60	29.79	3.00	11.23	140.44	247.10	327.25	8.39	6.48	2.83	2.01	1.60	139.25	140.44	206.80	2.84	2.83	2.27	2.24	0.01	-2.52
MCS-1	2	15-Dec-06	**	70.01	25.59	4.40	29.99	3.11	11.43	141.89	261.93	336.81	8.34	6.46	2.81	1.92	1.56	143.40	141.89	212.70	2.80	2.81	2.23	2.27	-0.01	-2.50
EAST SEDIMENT	1	15-Dec-06	0.00	36.21	53.17	10.62	63.79	1.44	4.37	25.80	81.47	122.18	9.46	7.85	5.28	3.61	3.03	40.44	25.80	71.94	4.63	5.28	3.79	2.12	-0.31	-2.52
WEST SEDIMENT	1	15-Dec-06	0.00	42.57	49.64	7.78	57.43	1.92	5.77	31.99	122.80	201.66	9.04	7.45	4.97	3.02	2.30	59.22	31.99	104.13	4.08	4.97	3.26	2.21	-0.40	-2.52

*Percentage of the sample retained on a 2 mm sieve.
**Not enough sample to complete replicate gravel analysis

CRG Marine Laboratories, Inc.
"A Center for Excellence in Analytical Chemistry and Environmental Microbiology"

December 07, 2006

LFR
301 South Miller Street
Suite 210
Santa Maria, CA

Re: CRG Marine Laboratories
LFR

Project ID: P26217
Project ID: Malibou Lake Sediment

ATTN: Don Eley

CRG Laboratories is pleased to provide you with the enclosed analytical data report for your Malibou Lake Sediment project. According to the chain-of-custody, 3 samples were received intact at CRG on 11/2/2006 . Per your instructions, the samples were analyzed for:

- Trace Metals By ICPMS Using Method EPA 6020m
- Mercury (Hg) By CVAFS Using Method EPA 245.7m
- Aroclor PCBs By GCMS Using Method EPA 8270Cm
- Chlorinated Pesticides By GCMS Using Method EPA 8270Cm
- PCB Congeners By GCMS Using Method EPA 8270Cm
- Polynuclear Aromatic Hydrocarbons By GCMS Using Method EPA 8270Cm

The following analysis were subcontracted to other laboratories, results are included:

- Grain Size
- TOC(Total Organic Carbon)

Please don't hesitate to call if you have any questions and thank you very much for using our laboratory for your analtytical needs.

Regards,
Misty Mercier

Reviewed and Approved _____

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Project Sample List

LFR

CRG Project ID: **26217**

Project Officer: Don Eley

Project Description: Malibou Lake Sediment

CRG Sample ID#	*Client Sample ID*	*Sample Description*	*Date Sampled*	*Matrix*
46389	West Sed	COMPOSITE	02-Nov-06	Sediment
46390	East Sed	COMPOSITE	02-Nov-06	Sediment
46391	MCS-1		02-Nov-06	Sediment

CRG's QUALITY ASSURANCE PROGRAM SUMMARY

BATCH: CRG's Quality Assurance Program Document defines a batch as a group of 20 or fewer samples of similar matrix, processed together under the same conditions and with the same reagents. Quality control samples are associated with each batch and are used to assess the validity of the sample analyses. CRG typically uses batch sizes of 10-15 samples.

PROCEDURAL BLANKS: Laboratory contamination was controlled through the analysis of procedural blanks on a minimum frequency of 1 per batch. CRG's Quality Assurance Program Document requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the blanks be flagged in the sample results. The Procedural Blanks are presented in the Procedural Blank section of this report.

ACCURACY: Accuracy of the project data was indicated by analysis of matrix spikes, surrogate spikes, certified reference materials, and/or laboratory control materials on a minimum frequency of 1 per batch. CRG's Quality Assurance Program Document requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits. The Acceptance Ranges are presented in the Accuracy Data section of this report.

PRECISION: Precision of the project data was determined by analysis of duplicate matrix spikes, blank spikes, and/or duplicate test sample analysis on a minimum frequency of 1 per batch. CRG's Quality Assurance Program Document requires that for 95% of the compounds >10 times the MDL, the % Relative Percent Difference (%RPD) should be within the specified acceptance range. The %RPD for the duplicate test sample analysis can be significantly affected by the homogeneity of the sample matrix within the sample container itself causing additional variability in the analytical results. In these cases, the QA/QC Acceptance Limits may be exceeded. The %RPD and Acceptance Ranges are presented in the Precision Data section of this report.

GLOSSARY OF TERMS

Qualifier	Definition
B	Analyte was detected in the associated method blank.
E	Analyte concentration exceeds the calibration range
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
M1	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference.
M2	The MS/MSD RPD was out of control due to matrix interference.
M3	Detection of the analyte was difficult due to matrix interference.
M4	Spike or surrogate compound recovery was out of control due to matrix interference. The associated method blank spike or surrogate compound was in control and therefore the sample data was reported without further clarification.
ND or U	Parameter not detected at the indicated reporting limit.
NES	Not enough sample.
Q1	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration.
Q2	The sample RPD was out of control. Sample is heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices.
R	Analyte was removed by the sample preparation/extraction procedure as seen by the MS/MSD recoveries. RPD acceptance ranges do not apply.

Qualifier Summary for P 26217

Polynuclear Aromatic Hydrocarbons

Sample ID	*Client Sample ID*	*Qualifier*	*Parameter*
46389-R1	West Sed	NA	1-Methylnaphthalene
46389-R2	West Sed	NA	1-Methylnaphthalene
46389-R1	West Sed	NA	2,6-Dimethylnaphthalene
46389-R2	West Sed	NA	2,6-Dimethylnaphthalene
46389-R2	West Sed	NA	2-Methylnaphthalene
46389-R1	West Sed	NA	Benz[a]anthracene
46389-R2	West Sed	NA	Benz[a]anthracene
46389-R1	West Sed	NA	Benzo[b]fluoranthene
46389-R2	West Sed	NA	Benzo[b]fluoranthene
46389-R1	West Sed	NA	Benzo[e]pyrene
46389-R2	West Sed	NA	Benzo[e]pyrene
46389-R1	West Sed	NA	Benzo[g,h,i]perylene
46389-R2	West Sed	NA	Benzo[g,h,i]perylene
46389-R1	West Sed	NA	Benzo[k]fluoranthene
46389-R2	West Sed	NA	Benzo[k]fluoranthene
46389-R1	West Sed	NA	Chrysene
46389-R2	West Sed	NA	Chrysene
46389-R2	West Sed	NA	Fluoranthene
46389-R1	West Sed	NA	Fluorene
46389-R2	West Sed	NA	Fluorene
46389-R1	West Sed	NA	Indeno[1,2,3-c,d]pyrene
46389-R2	West Sed	NA	Indeno[1,2,3-c,d]pyrene
46389-R1	West Sed	NA	Phenanthrene
46389-R2	West Sed	NA	Phenanthrene
46389-R1	West Sed	NA	Pyrene
46389-R2	West Sed	NA	Pyrene
46389-R1	West Sed	NA	Total Detectable PAHs
46389-R2	West Sed	NA	Total Detectable PAHs

Qualifier Summary for P 26217

Trace Metals

Sample ID	*Client Sample ID*	*Qualifier*	*Parameter*
46389-MS2	West Sed	Q1	Aluminum (Al)
46389-MS2	West Sed	Q1	Iron (Fe)

DATA REPORT

TRACE METAL RESULTS

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: West Sed COMPOSITE — Malibou Lake Sediment
Matrix: Sediment

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aluminum (Al)	NA	EPA 6020m	12300	µg/dry g	1	5	08-Nov-06	13-Nov-06	26217-15034
Antimony (Sb)	NA	EPA 6020m	0.356	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Arsenic (As)	NA	EPA 6020m	2.34	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Barium (Ba)	NA	EPA 6020m	81.64	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Beryllium (Be)	NA	EPA 6020m	0.269	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Cadmium (Cd)	NA	EPA 6020m	0.512	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Chromium (Cr)	NA	EPA 6020m	62.765	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Cobalt (Co)	NA	EPA 6020m	14.54	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Copper (Cu)	NA	EPA 6020m	40.436	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Iron (Fe)	NA	EPA 6020m	27100	µg/dry g	1	5	08-Nov-06	13-Nov-06	26217-15034
Lead (Pb)	NA	EPA 6020m	4.637	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Manganese (Mn)	NA	EPA 6020m	316.699	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Mercury (Hg)	NA	EPA 245.7m	0.033	µg/dry g	0.01	0.02	09-Nov-06	09-Nov-06	26217-2096
Molybdenum (Mo)	NA	EPA 6020m	1.037	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Nickel (Ni)	NA	EPA 6020m	49.06	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Selenium (Se)	NA	EPA 6020m	0.868	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Silver (Ag)	NA	EPA 6020m	0.066	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Strontium (Sr)	NA	EPA 6020m	37.99	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Thallium (Tl)	NA	EPA 6020m	J 0.047	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Tin (Sn)	NA	EPA 6020m	1.711	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Titanium (Ti)	NA	EPA 6020m	836.795	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Vanadium (V)	NA	EPA 6020m	63.661	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Zinc (Zn)	NA	EPA 6020m	49.864	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46390*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed COMPOSITE
Malibou Lake Sediment
Matrix: Sediment

Date Sampled: 02-Nov-06 10:00
Date Received: 02-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aluminum (Al)	NA	EPA 6020m	15630	µg/dry g	1	5	08-Nov-06	13-Nov-06	26217-15034
Antimony (Sb)	NA	EPA 6020m	0.949	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Arsenic (As)	NA	EPA 6020m	5.581	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Barium (Ba)	NA	EPA 6020m	118	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Beryllium (Be)	NA	EPA 6020m	0.477	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Cadmium (Cd)	NA	EPA 6020m	3.822	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Chromium (Cr)	NA	EPA 6020m	51.345	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Cobalt (Co)	NA	EPA 6020m	13.3	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Copper (Cu)	NA	EPA 6020m	40.946	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Iron (Fe)	NA	EPA 6020m	27840	µg/dry g	1	5	08-Nov-06	13-Nov-06	26217-15034
Lead (Pb)	NA	EPA 6020m	13.458	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Manganese (Mn)	NA	EPA 6020m	456.399	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Mercury (Hg)	NA	EPA 245.7m	ND	µg/dry g	0.01	0.02	09-Nov-06	09-Nov-06	26217-2096
Molybdenum (Mo)	NA	EPA 6020m	5.189	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Nickel (Ni)	NA	EPA 6020m	44.55	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Selenium (Se)	NA	EPA 6020m	2.322	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Silver (Ag)	NA	EPA 6020m	0.108	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Strontium (Sr)	NA	EPA 6020m	72.46	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Thallium (Tl)	NA	EPA 6020m	0.26	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Tin (Sn)	NA	EPA 6020m	2.387	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Titanium (Ti)	NA	EPA 6020m	683.795	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Vanadium (V)	NA	EPA 6020m	76.991	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Zinc (Zn)	NA	EPA 6020m	80.874	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46391*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: MCS-1 Malibou Lake Sediment
Matrix: Sediment

Date Sampled: 02-Nov-06 08:45
Date Received: 02-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aluminum (Al)	NA	EPA 6020m	671.6	µg/dry g	1	5	08-Nov-06	13-Nov-06	26217-15034
Antimony (Sb)	NA	EPA 6020m	0.421	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Arsenic (As)	NA	EPA 6020m	2.236	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Barium (Ba)	NA	EPA 6020m	77.16	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Beryllium (Be)	NA	EPA 6020m	0.208	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Cadmium (Cd)	NA	EPA 6020m	3.409	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Chromium (Cr)	NA	EPA 6020m	21.535	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Cobalt (Co)	NA	EPA 6020m	5.957	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Copper (Cu)	NA	EPA 6020m	12.366	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Iron (Fe)	NA	EPA 6020m	12790	µg/dry g	1	5	08-Nov-06	13-Nov-06	26217-15034
Lead (Pb)	NA	EPA 6020m	3.683	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Manganese (Mn)	NA	EPA 6020m	229.299	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Mercury (Hg)	NA	EPA 245.7m	ND	µg/dry g	0.01	0.02	09-Nov-06	09-Nov-06	26217-2096
Molybdenum (Mo)	NA	EPA 6020m	2.695	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Nickel (Ni)	NA	EPA 6020m	19.98	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Selenium (Se)	NA	EPA 6020m	1.21	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Silver (Ag)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Strontium (Sr)	NA	EPA 6020m	64.69	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Thallium (Tl)	NA	EPA 6020m	0.129	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Tin (Sn)	NA	EPA 6020m	0.893	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Titanium (Ti)	NA	EPA 6020m	344.695	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Vanadium (V)	NA	EPA 6020m	41.871	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Zinc (Zn)	NA	EPA 6020m	37.764	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*
Replicate #: R2
DILUTION FACTOR: 1

Sample Description: West Sed COMPOSITE
Malibou Lake Sediment
Matrix: Sediment

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aluminum (Al)	NA	EPA 6020m	12740	µg/dry g	1	5	08-Nov-06	13-Nov-06	26217-15034
Antimony (Sb)	NA	EPA 6020m	0.423	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Arsenic (As)	NA	EPA 6020m	2.583	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Barium (Ba)	NA	EPA 6020m	78.49	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Beryllium (Be)	NA	EPA 6020m	0.28	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Cadmium (Cd)	NA	EPA 6020m	0.6	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Chromium (Cr)	NA	EPA 6020m	63.765	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Cobalt (Co)	NA	EPA 6020m	15.21	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Copper (Cu)	NA	EPA 6020m	41.256	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Iron (Fe)	NA	EPA 6020m	28320	µg/dry g	1	5	08-Nov-06	13-Nov-06	26217-15034
Lead (Pb)	NA	EPA 6020m	4.378	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Manganese (Mn)	NA	EPA 6020m	315.599	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Mercury (Hg)	NA	EPA 245.7m	0.0408	µg/dry g	0.01	0.02	09-Nov-06	09-Nov-06	26217-2096
Molybdenum (Mo)	NA	EPA 6020m	1.067	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Nickel (Ni)	NA	EPA 6020m	49.75	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Selenium (Se)	NA	EPA 6020m	0.893	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Silver (Ag)	NA	EPA 6020m	0.06	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Strontium (Sr)	NA	EPA 6020m	35.66	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Thallium (Tl)	NA	EPA 6020m	J 0.049	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Tin (Sn)	NA	EPA 6020m	1.693	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Titanium (Ti)	NA	EPA 6020m	828.095	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Vanadium (V)	NA	EPA 6020m	67.601	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Zinc (Zn)	NA	EPA 6020m	51.264	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

AROCLOR-BASED PCB RESULTS

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Aroclor PCBs

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: West Sed COMPOSITE
Malibou Lake Sediment
Matrix: Sediment

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aroclor 1016	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1221	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1232	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1242	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1248	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1254	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1260	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Aroclor PCBs

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46390*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed COMPOSITE
Malibou Lake Sediment
Matrix: Sediment

Date Sampled: 02-Nov-06 10:00
Date Received: 02-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aroclor 1016	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1221	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1232	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1242	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1248	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1254	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1260	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Aroclor PCBs

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46391*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: MCS-1 Malibou Lake Sediment
Matrix: Sediment

Date Sampled: 02-Nov-06 08:45
Date Received: 02-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aroclor 1016	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1221	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1232	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1242	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1248	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1254	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037
Aroclor 1260	NA	EPA 8270Cm	ND	ng/dry g	10	20	09-Nov-06	17-Nov-06	26217-21037

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Chlorinated Pesticides

CRG Project ID: 26217

Client: *LFR*

CRG ID#: *46388*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank
Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Endrin Aldehyde	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Endrin Ketone	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Heptachlor	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Heptachlor Epoxide	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Methoxychlor	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Mirex	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Oxychlordane	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Perthane	NA	EPA 8270Cm	ND	ng/dry g	5	10	09-Nov-06	17-Nov-06	26217-21037
Total Chlordane	NA	EPA 8270Cm	0	ng/dry g			09-Nov-06	17-Nov-06	26217-21037
Total Detectable DDTs	NA	EPA 8270Cm	0	ng/dry g			09-Nov-06	17-Nov-06	26217-21037
Toxaphene	NA	EPA 8270Cm	ND	ng/dry g	10	50	09-Nov-06	17-Nov-06	26217-21037
trans-Nonachlor	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

PCB Congeners

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46388*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank — Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
PCB018	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB028	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB031	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB033	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB037	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB044	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB049	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB052	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB066	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB070	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB074	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB077	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB081	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB087	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB095	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB097	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB099	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB101	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB105	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB110	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB114	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB118	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB119	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB123	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB126	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

PCB Congeners

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46388*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank
Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
PCB128+167	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB138	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB141	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB149	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB151	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB153	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB156	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB157	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB158	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB168+132	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB169	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB170	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB177	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB180	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB183	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB187	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB189	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB194	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB200	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB201	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
PCB206	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Total Detectable PCBs	NA	EPA 8270Cm	0	ng/dry g			09-Nov-06	17-Nov-06	26217-21037

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46388*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank — Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
(d10-Acenaphthene)	NA	EPA 8270Cm	80	% Recovery			09-Nov-06	17-Nov-06	26217-21037
(d10-Phenanthrene)	NA	EPA 8270Cm	94	% Recovery			09-Nov-06	17-Nov-06	26217-21037
(d12-Chrysene)	NA	EPA 8270Cm	116	% Recovery			09-Nov-06	17-Nov-06	26217-21037
(d12-Perylene)	NA	EPA 8270Cm	114	% Recovery			09-Nov-06	17-Nov-06	26217-21037
(d8-Naphthalene)	NA	EPA 8270Cm	69	% Recovery			09-Nov-06	17-Nov-06	26217-21037
1-Methylnaphthalene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
1-Methylphenanthrene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
2,3,5-Trimethylnaphthalene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
2,6-Dimethylnaphthalene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
2-Methylnaphthalene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Acenaphthene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Acenaphthylene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Anthracene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Benz[a]anthracene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Benzo[a]pyrene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Benzo[b]fluoranthene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Benzo[e]pyrene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Benzo[g,h,i]perylene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Benzo[k]fluoranthene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Biphenyl	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Chrysene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Dibenz[a,h]anthracene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Dibenzothiophene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Fluoranthene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Fluorene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

46388 B1

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46388*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank
Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Indeno[1,2,3-c,d]pyrene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Naphthalene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Perylene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Phenanthrene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Pyrene	NA	EPA 8270Cm	ND	ng/dry g	1	5	09-Nov-06	17-Nov-06	26217-21037
Total Detectable PAHs	NA	EPA 8270Cm	0	ng/dry g			09-Nov-06	17-Nov-06	26217-21037

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46388*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank — Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aluminum (Al)	NA	EPA 6020m	ND	µg/dry g	1	5	08-Nov-06	13-Nov-06	26217-15034
Antimony (Sb)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Arsenic (As)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Barium (Ba)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Beryllium (Be)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Cadmium (Cd)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Chromium (Cr)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Cobalt (Co)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Copper (Cu)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Iron (Fe)	NA	EPA 6020m	ND	µg/dry g	1	5	08-Nov-06	13-Nov-06	26217-15034
Lead (Pb)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Manganese (Mn)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Mercury (Hg)	NA	EPA 245.7m	ND	µg/dry g	0.01	0.02	09-Nov-06	09-Nov-06	26217-2096
Molybdenum (Mo)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Nickel (Ni)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Selenium (Se)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Silver (Ag)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Strontium (Sr)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Thallium (Tl)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Tin (Sn)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Titanium (Ti)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Vanadium (V)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034
Zinc (Zn)	NA	EPA 6020m	ND	µg/dry g	0.025	0.05	08-Nov-06	13-Nov-06	26217-15034

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46388*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank — Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Percent Solids	NA	EPA 160.3	ND	Percent	0.1	0.1	08-Nov-06	08-Nov-06	26217-15034

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

ACCURACY DATA

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46392*
Replicate #: CRM1
Batch ID: 26217-15034
Instrument:

Sample Description: QAQC — Malibou Lake Sediment
Matrix: Sediment
Analyst: P. Hershelman

CRM (RTC016-050) Lot# BE016

Date Sampled:
Date Received:
Date Processed: 08-Nov-06
Date Analyzed: 13-Nov-06

CONSTITUENT	METHOD	RESULT	UNITS	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Aluminum (Al)	EPA 6020m	11370	µg/dry g	8920	2369 - 15471	PASS
Arsenic (As)	EPA 6020m	7.575	µg/dry g	7.76	3.73 - 8.49	PASS
Barium (Ba)	EPA 6020m	87.26	µg/dry g	79.3	56.9 - 101.8	PASS
Beryllium (Be)	EPA 6020m	0.499	µg/dry g	0.49	0 - 1.1	PASS
Cadmium (Cd)	EPA 6020m	0.518	µg/dry g	0.47	0 - 1.2	PASS
Chromium (Cr)	EPA 6020m	18.885	µg/dry g	14.5	1.1 - 28.0	PASS
Cobalt (Co)	EPA 6020m	6.568	µg/dry g	5.96	3.6 - 8.4	PASS
Copper (Cu)	EPA 6020m	14.926	µg/dry g	15.5	11.9 - 19.1	PASS
Iron (Fe)	EPA 6020m	18960	µg/dry g	16831	11698 - 21965	PASS
Lead (Pb)	EPA 6020m	12.688	µg/dry g	14.1	7.7 - 20.6	PASS
Manganese (Mn)	EPA 6020m	205.299	µg/dry g	180	144 - 216	PASS
Mercury (Hg)	EPA 245.7m	0.118	µg/dry g	0.158	0 - .357	PASS
Nickel (Ni)	EPA 6020m	17.62	µg/dry g	16.7	11.9 - 21.6	PASS
Vanadium (V)	EPA 6020m	31.991	µg/dry g	22.5	6.5 - 38.4	PASS
Zinc (Zn)	EPA 6020m	69.734	µg/dry g	69.7	49.1 - 90.3	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Level; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.
2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

CRG Project ID: 26217

Client: *LFR*

CRG ID#: *46392*
Replicate #: CRM2
Batch ID: 26217-15034
Instrument:

Sample Description: QAQC — CRM (RTC016-050) Lot# BE016 — Malibou Lake Sediment
Matrix: Sediment
Analyst: P. Hershelman

Date Sampled:
Date Received:
Date Processed: 08-Nov-06
Date Analyzed: 13-Nov-06

CONSTITUENT	METHOD	RESULT	UNITS	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Aluminum (Al)	EPA 6020m	13130	µg/dry g	8920	2369 - 15471	PASS
Arsenic (As)	EPA 6020m	7.484	µg/dry g	7.76	3.73 - 8.49	PASS
Barium (Ba)	EPA 6020m	98.04	µg/dry g	79.3	56.9 - 101.8	PASS
Beryllium (Be)	EPA 6020m	0.522	µg/dry g	0.49	0 - 1.1	PASS
Cadmium (Cd)	EPA 6020m	0.443	µg/dry g	0.47	0 - 1.2	PASS
Chromium (Cr)	EPA 6020m	20.345	µg/dry g	14.5	1.1 - 28.0	PASS
Cobalt (Co)	EPA 6020m	6.751	µg/dry g	5.96	3.6 - 8.4	PASS
Copper (Cu)	EPA 6020m	15.306	µg/dry g	15.5	11.9 - 19.1	PASS
Iron (Fe)	EPA 6020m	19990	µg/dry g	16831	11698 - 21965	PASS
Lead (Pb)	EPA 6020m	12.738	µg/dry g	14.1	7.7 - 20.6	PASS
Manganese (Mn)	EPA 6020m	213.999	µg/dry g	180	144 - 216	PASS
Mercury (Hg)	EPA 245.7m	0.129	µg/dry g	0.158	0 - .357	PASS
Nickel (Ni)	EPA 6020m	17.93	µg/dry g	16.7	11.9 - 21.6	PASS
Vanadium (V)	EPA 6020m	35.761	µg/dry g	22.5	6.5 - 38.4	PASS
Zinc (Zn)	EPA 6020m	70.704	µg/dry g	69.7	49.1 - 90.3	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Level; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261
46392 CRM2

CRG Marine Laboratories, Inc.
MATRIX SPIKE QAQC REPORT
Project ID: 26217

Sample ID: 46389-MS1/MS2 West Sed **COMPOSITE** **Date Sampled:** 11/2/2006

Parameter	Non-Spiked Sample Concentration			Matrix Spike Results					Matrix Spike Duplicate Results					Acceptance Range
	Rep-1	Rep-2	Mean	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	
Chlorinated Pesticides				**Batch ID: 26217-21037**										
(PCB030)	0	0	0	74.08	74.08	99.305	**75**	PASS	65.21	65.21	91.49	**71**	PASS	55 - 120%
(PCB112)	0	0	0	79.04	79.04	99.305	**80**	PASS	68.99	68.99	91.49	**75**	PASS	65 - 120%
(PCB198)	0	0	0	84.53	84.53	99.305	**85**	PASS	74.04	74.04	91.49	**81**	PASS	60 - 120%
(TCMX)	0	0	0	73.58	73.58	99.305	**74**	PASS	68.13	68.13	91.49	**74**	PASS	50 - 120%
2,4'-DDD	0	0	0	31.45	31.45	39.722	**79**	PASS	28.76	28.76	36.6	**79**	PASS	50 - 135%
2,4'-DDE	0	0	0	35.05	35.05	39.722	**88**	PASS	30.74	30.74	36.6	**84**	PASS	60 - 130%
2,4'-DDT	0	0	0	38.72	38.72	39.722	**97**	PASS	35.73	35.73	36.6	**98**	PASS	40 - 135%
4,4'-DDD	0	0	0	33.09	33.09	39.722	**83**	PASS	31.47	31.47	36.6	**86**	PASS	70 - 130%
4,4'-DDE	1.1	0	0.55	35.68	35.13	39.722	**88**	PASS	31.27	30.72	36.6	**84**	PASS	65 - 130%
4,4'-DDT	3.1	3.6	3.35	39.97	36.62	39.722	**92**	PASS	42.76	39.41	36.6	**108**	PASS	35 - 140%
Aldrin	0	0	0	29.88	29.88	39.722	**75**	PASS	19.72	19.72	36.6	**54**	PASS	50 - 125%
BHC-alpha	0	0	0	33.15	33.15	39.722	**83**	PASS	31.91	31.91	36.6	**87**	PASS	60 - 120%
BHC-beta	0	0	0	34.75	34.75	39.722	**87**	PASS	31.31	31.31	36.6	**86**	PASS	60 - 120%
BHC-delta	0	0	0	32.35	32.35	39.722	**81**	PASS	34.51	34.51	36.6	**94**	PASS	60 - 120%
BHC-gamma	0	0	0	31.50	31.50	39.722	**79**	PASS	31.72	31.72	36.6	**87**	PASS	60 - 120%

Sample ID: 46389-MS1/MS2 West Sed | **COMPOSITE** | **Date Sampled:** 11/2/2006

Parameter	Non-Spiked Sample Concentration			Matrix Spike Results					Matrix Spike Duplicate Results					Acceptance Range
	Rep-1	Rep-2	Mean	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	
Chlordane-alpha	0	0	0	33.02	33.02	39.722	**83**	PASS	30.39	30.39	36.6	**83**	PASS	70 - 130%
Chlordane-gamma	0	0	0	33.05	33.05	39.722	**83**	PASS	31.74	31.74	36.6	**87**	PASS	60 - 120%
cis-Nonachlor	0	0	0	33.42	33.42	39.722	**84**	PASS	29.00	29.00	36.6	**79**	PASS	60 - 120%
DCPA (Dacthal)	0	0	0	35.78	35.78	39.722	**90**	PASS	30.74	30.74	36.6	**84**	PASS	60 - 140%
Dicofol	0	0	0	33.48	33.48	39.722	**84**	PASS	26.63	26.63	36.6	**73**	PASS	65 - 125%
Dieldrin	0	0	0	31.08	31.08	39.722	**78**	PASS	29.29	29.29	36.6	**80**	PASS	50 - 125%
Endosulfan Sulfate	0	0	0	36.02	36.02	39.722	**91**	PASS	30.8	30.8	36.6	**84**	PASS	25 - 125%
Endosulfan-I	0	0	0	21.25	21.25	39.722	**54**	PASS	19.32	19.32	36.6	**53**	PASS	45 - 125%
Endosulfan-II	0	0	0	26.84	26.84	39.722	**68**	PASS	28.82	28.82	36.6	**79**	PASS	25 - 145%
Endrin	0	0	0	34.26	34.26	39.722	**86**	PASS	34.46	34.46	36.6	**94**	PASS	60 - 125%
Endrin Aldehyde	0	0	0	0	0	39.722	**0**	FAIL	0	0	36.6	**0**	FAIL	60 - 120%
Endrin Ketone	0	0	0	30.31	30.31	39.722	**76**	PASS	31.17	31.17	36.6	**85**	PASS	45 - 125%
Heptachlor	0	0	0	33.79	33.79	39.722	**85**	PASS	42.35	42.35	36.6	**116**	PASS	45 - 125%
Heptachlor Epoxide	0	0	0	32.09	32.09	39.722	**81**	PASS	29.69	29.69	36.6	**81**	PASS	60 - 120%
Methoxychlor	0	0	0	39.97	39.97	39.722	**101**	PASS	41.55	41.55	36.6	**114**	PASS	35 - 140%
Mirex	0	0	0	33.45	33.45	39.722	**84**	PASS	30.4	30.4	36.6	**83**	PASS	50 - 130%
Oxychlordane	0	0	0	34.71	34.71	39.722	**87**	PASS	35	35	36.6	**96**	PASS	70 - 130%
Perthane	0	0	0	34.32	34.32	39.722	**86**	PASS	32.66	32.66	36.6	**89**	PASS	60 - 140%
trans-Nonachlor	0	0	0	33.42	33.42	39.722	**84**	PASS	29.00	29.00	36.6	**79**	PASS	60 - 120%
PCB Congeners				*Batch ID:* **26217-21037**										
PCB018	0	0	0	28.64	28.64	31.778	**90**	PASS	26.40	26.40	29.28	**90**	PASS	60 - 125%

Sample ID:	46389-MS1/MS2	West Sed	COMPOSITE										Date Sampled: 11/2/2006
Parameter	Non-Spiked Sample Concentration			Matrix Spike Results					Matrix Spike Duplicate Results					Acceptance Range
	Rep-1	Rep-2	Mean	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	
PCB028	0	0	0	30.35	30.35	31.778	**96**	PASS	28.43	28.43	29.28	**97**	PASS	60 - 125%
PCB031	0	0	0	28.93	28.93	31.778	**91**	PASS	26.78	26.78	29.28	**91**	PASS	60 - 125%
PCB033	0	0	0	30.52	30.52	31.778	**96**	PASS	27.45	27.45	29.28	**94**	PASS	60 - 125%
PCB037	0	0	0	35.20	35.20	31.778	**111**	PASS	31.91	31.91	29.28	**109**	PASS	60 - 125%
PCB044	0	0	0	31.17	31.17	31.778	**98**	PASS	27.47	27.47	29.28	**94**	PASS	60 - 125%
PCB049	0	0	0	29.28	29.28	31.778	**92**	PASS	26.88	26.88	29.28	**92**	PASS	60 - 125%
PCB052	0	0	0	29.53	29.53	31.778	**93**	PASS	27.17	27.17	29.28	**93**	PASS	60 - 125%
PCB066	0	0	0	32.16	32.16	31.778	**101**	PASS	29.7	29.7	29.28	**101**	PASS	60 - 125%
PCB070	0	0	0	30.93	30.93	31.778	**97**	PASS	29.19	29.19	29.28	**100**	PASS	60 - 125%
PCB074	0	0	0	32.67	32.67	31.778	**103**	PASS	31.46	31.46	29.28	**107**	PASS	60 - 125%
PCB077	0	0	0	37.84	37.84	31.778	**119**	PASS	32.89	32.89	29.28	**112**	PASS	60 - 125%
PCB081	0	0	0	34.25	34.25	31.778	**108**	PASS	31.06	31.06	29.28	**106**	PASS	60 - 125%
PCB087	0	0	0	31.12	31.12	31.778	**98**	PASS	29.32	29.32	29.28	**100**	PASS	60 - 125%
PCB095	0	0	0	27.98	27.98	31.778	**88**	PASS	25.44	25.44	29.28	**87**	PASS	60 - 125%
PCB097	0	0	0	31.71	31.71	31.778	**100**	PASS	28.64	28.64	29.28	**98**	PASS	60 - 125%
PCB099	0	0	0	30.61	30.61	31.778	**96**	PASS	27.37	27.37	29.28	**94**	PASS	60 - 125%
PCB101	0	0	0	30.98	30.98	31.778	**98**	PASS	27.87	27.87	29.28	**95**	PASS	60 - 125%
PCB105	0	0	0	33.22	33.22	31.778	**105**	PASS	31.56	31.56	29.28	**108**	PASS	60 - 125%
PCB110	0	0	0	31.93	31.93	31.778	**100**	PASS	29.11	29.11	29.28	**99**	PASS	60 - 125%
PCB114	0	0	0	36.05	36.05	31.778	**113**	PASS	32.54	32.54	29.28	**111**	PASS	60 - 125%
PCB118	0	0	0	34.08	34.08	31.778	**107**	PASS	31.18	31.18	29.28	**106**	PASS	60 - 125%

Sample ID:	**46389-MS1/MS2**	**West Sed**	**COMPOSITE**	*Date Sampled:* **11/2/2006**

Parameter	*Non-Spiked Sample Concentration*			*Matrix Spike Results*					*Matrix Spike Duplicate Results*					*Acceptance Range*
	Rep-1	*Rep-2*	*Mean*	*Gross Conc.*	*Net Conc.*	*Spike Conc.*	*Percent Recovery*	*Comment*	*Gross Conc.*	*Net Conc.*	*Spike Conc.*	*Percent Recovery*	*Comment*	
PCB119	0	0	0	31.02	31.02	31.778	**98**	PASS	28.56	28.56	29.28	**98**	PASS	60 - 125%
PCB123	0	0	0	33.88	33.88	31.778	**107**	PASS	30.88	30.88	29.28	**105**	PASS	60 - 125%
PCB126	0	0	0	35.66	35.66	31.778	**112**	PASS	32.08	32.08	29.28	**110**	PASS	60 - 125%
PCB128+167	0	0	0	72.97	72.97	63.555	**115**	PASS	62.01	62.01	58.55	**106**	PASS	60 - 125%
PCB138	0	0	0	34.03	34.03	31.778	**107**	PASS	31.11	31.11	29.28	**106**	PASS	60 - 125%
PCB141	0	0	0	32.48	32.48	31.778	**102**	PASS	28.68	28.68	29.28	**98**	PASS	60 - 125%
PCB149	0	0	0	29.44	29.44	31.778	**93**	PASS	26.45	26.45	29.28	**90**	PASS	60 - 125%
PCB151	0	0	0	30.42	30.42	31.778	**96**	PASS	26.92	26.92	29.28	**92**	PASS	60 - 125%
PCB153	0	0	0	32.89	32.89	31.778	**104**	PASS	29.32	29.32	29.28	**100**	PASS	60 - 125%
PCB156	0	0	0	39.03	39.03	31.778	**123**	PASS	34.36	34.36	29.28	**117**	PASS	60 - 125%
PCB157	0	0	0	36.04	36.04	31.778	**113**	PASS	32.32	32.32	29.28	**110**	PASS	60 - 125%
PCB158	0	0	0	33.71	33.71	31.778	**106**	PASS	30.41	30.41	29.28	**104**	PASS	60 - 125%
PCB168+132	0	0	0	62.76	62.76	63.555	**99**	PASS	55.68	55.68	58.55	**95**	PASS	60 - 125%
PCB169	0	0	0	33.92	33.92	31.778	**107**	PASS	33.53	33.53	29.28	**115**	PASS	60 - 125%
PCB170	0	0	0	34.20	34.20	31.778	**108**	PASS	33.63	33.63	29.28	**115**	PASS	60 - 125%
PCB177	0	0	0	32.45	32.45	31.778	**102**	PASS	29.41	29.41	29.28	**100**	PASS	60 - 125%
PCB180	0	0	0	34.93	34.93	31.778	**110**	PASS	31.45	31.45	29.28	**107**	PASS	60 - 125%
PCB183	0	0	0	32.69	32.69	31.778	**103**	PASS	28.46	28.46	29.28	**97**	PASS	60 - 125%
PCB187	0	0	0	31.26	31.26	31.778	**98**	PASS	28.69	28.69	29.28	**98**	PASS	60 - 125%
PCB189	0	0	0	33.54	33.54	31.778	**106**	PASS	32.62	32.62	29.28	**111**	PASS	60 - 125%
PCB194	0	0	0	35.03	35.03	31.778	**110**	PASS	32.78	32.78	29.28	**112**	PASS	60 - 125%

Sample ID:	46389-MS1/MS2	West Sed	COMPOSITE										Date Sampled: 11/2/2006
Parameter	Non-Spiked Sample Concentration			Matrix Spike Results					Matrix Spike Duplicate Results					Acceptance Range
	Rep-1	Rep-2	Mean	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	
PCB200	0	0	0	30.59	30.59	31.778	96	PASS	26.96	26.96	29.28	92	PASS	60 - 125%
PCB201	0	0	0	32.69	32.69	31.778	103	PASS	30.67	30.67	29.28	105	PASS	60 - 125%
PCB206	0	0	0	34.74	34.74	31.778	109	PASS	31.18	31.18	29.28	106	PASS	60 - 125%
Polynuclear Aromatic Hydrocarbons				Batch ID: 26217-21037										
(d10-Acenaphthene)	0	0	0	85.40	85.40	99.305	86	PASS	76.85	76.85	91.49	84	PASS	40 - 115%
(d10-Phenanthrene)	0	0	0	97.32	97.32	99.305	98	PASS	83.26	83.26	91.49	91	PASS	60 - 115%
(d12-Chrysene)	0	0	0	102.3	102.3	99.305	103	PASS	85.09	85.09	91.49	93	PASS	60 - 130%
(d12-Perylene)	0	0	0	94.34	94.34	99.305	95	PASS	86.00	86.00	91.49	94	PASS	55 - 135%
(d8-Naphthalene)	0	0	0	73.49	73.49	99.305	74	PASS	64.96	64.96	91.49	71	PASS	25 - 105%
1-Methylnaphthalene	5.1	1.3	3.2	80.24	77.04	79.444	97	PASS	64.78	61.58	73.19	84	PASS	40 - 120%
1-Methylphenanthrene	0	0	0	74.88	74.88	79.444	94	PASS	70.08	70.08	73.19	96	PASS	40 - 160%
2,3,5-Trimethylnaphthalene	2.4	0	1.2	90.76	89.56	79.444	113	PASS	76.03	74.83	73.19	102	PASS	45 - 120%
2,6-Dimethylnaphthalene	6.2	1.7	3.95	86	82.05	79.444	103	PASS	70.17	66.22	73.19	90	PASS	40 - 130%
2-Methylnaphthalene	13.6	3.1	8.35	85.00	76.65	79.444	96	PASS	67.43	59.08	73.19	81	PASS	35 - 125%
Acenaphthene	1.5	0	0.75	80.73	79.98	79.444	101	PASS	64.59	63.84	73.19	87	PASS	40 - 125%
Acenaphthylene	0	0	0	79.44	79.44	79.444	100	PASS	61.76	61.76	73.19	84	PASS	40 - 130%
Anthracene	1.7	0	0.85	71.30	70.45	79.444	89	PASS	65.6	64.75	73.19	88	PASS	45 - 150%
Benz[a]anthracene	4.2	2.2	3.2	78.95	75.75	79.444	95	PASS	67.25	64.05	73.19	88	PASS	50- 175%
Benzo[a]pyrene	0	2.5	1.25	76.07	74.82	79.444	94	PASS	69.72	68.47	73.19	94	PASS	50 - 160%
Benzo[b]fluoranthene	6.6	3.3	4.95	84.71	79.76	79.444	100	PASS	73.28	68.33	73.19	93	PASS	45 - 160%
Benzo[e]pyrene	6.1	3.1	4.6	86.1	81.5	79.444	103	PASS	72.19	67.59	73.19	92	PASS	40 - 160%

Sample ID: 46389-MS1/MS2 **West Sed** **COMPOSITE** **Date Sampled:** 11/2/2006

Parameter	Non-Spiked Sample Concentration			Matrix Spike Results					Matrix Spike Duplicate Results					Acceptance Range
	Rep-1	Rep-2	Mean	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	
Benzo[g,h,i]perylene	6.3	3.2	4.75	82.13	77.38	79.444	**97**	PASS	71.18	66.43	73.19	**91**	PASS	30 - 170%
Benzo[k]fluoranthene	5.7	3.3	4.5	81.13	76.63	79.444	**96**	PASS	68.25	63.75	73.19	**87**	PASS	50 - 150%
Biphenyl	2.5	0	1.25	83.42	82.17	79.444	**103**	PASS	69.44	68.19	73.19	**93**	PASS	45 - 120%
Chrysene	8.1	4.1	6.1	77.56	71.46	79.444	**90**	PASS	65.42	59.32	73.19	**81**	PASS	40 - 160%
Dibenz[a,h]anthracene	0	0	0	80.04	80.04	79.444	**101**	PASS	68.98	68.98	73.19	**94**	PASS	40 - 165%
Dibenzothiophene	0	1.4	0.7	77.46	76.76	79.444	**97**	PASS	81.34	80.64	73.19	**110**	PASS	65 - 125%
Fluoranthene	10.9	4.4	7.65	72.69	65.04	79.444	**82**	PASS	68.62	60.97	73.19	**83**	PASS	45 - 165%
Fluorene	3.5	1.1	2.3	89.47	87.17	79.444	**110**	PASS	68.98	66.68	73.19	**91**	PASS	55 - 150%
Indeno[1,2,3-c,d]pyrene	3.7	2.1	2.9	81.13	78.23	79.444	**98**	PASS	73.10	70.20	73.19	**96**	PASS	40 - 170%
Naphthalene	4.5	0	2.25	70.80	68.55	79.444	**86**	PASS	58.46	56.21	73.19	**77**	PASS	30 - 120%
Perylene	28	19.8	23.9	93.74	69.84	79.444	**88**	PASS	77.86	53.96	73.19	**74**	PASS	30 - 175%
Phenanthrene	9.2	3.6	6.4	80.14	73.74	79.444	**93**	PASS	84.63	78.23	73.19	**107**	PASS	35 - 160%
Pyrene	8.8	3.7	6.25	81.43	75.18	79.444	**95**	PASS	74.2	67.95	73.19	**93**	PASS	50 - 150%
Trace Metals				***Batch ID:* 26217-15034**										
Aluminum (Al)	578.6	578.6	578.6	581.2	2.600	2	**130**	PASS	582.8	4.200	2	**210**	FAIL Q1	10 - 180%
Antimony (Sb)	0	0	0	0.217	0.217	0.2	**108**	PASS	0.221	0.221	0.2	**111**	PASS	70 - 130%
Arsenic (As)	0.134	0.134	0.134	2.001	1.867	2	**93**	PASS	2.038	1.904	2	**95**	PASS	70 - 130%
Barium (Ba)	3.899	3.899	3.899	5.952	2.053	2	**103**	PASS	6.011	2.112	2	**106**	PASS	70 - 140%
Beryllium (Be)	0	0	0	1.722	1.722	2	**86**	PASS	1.724	1.724	2	**86**	PASS	50 - 120%
Cadmium (Cd)	0.03	0.03	0.03	0.22	0.19	0.2	**95**	PASS	0.225	0.195	0.2	**97**	PASS	70 - 130%
Chromium (Cr)	3.09	3.09	3.09	5.11	2.02	2	**101**	PASS	5.21	2.12	2	**106**	PASS	55 - 135%

Sample ID:	46389-MS1/MS2	West Sed		COMPOSITE									Date Sampled: 11/2/2006	
Parameter	Non-Spiked Sample Concentration			Matrix Spike Results					Matrix Spike Duplicate Results					Acceptance Range
	Rep-1	Rep-2	Mean	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	
Cobalt (Co)	0.691	0.691	0.691	2.713	2.022	2	**101**	PASS	2.752	2.061	2	**103**	PASS	65 - 125%
Copper (Cu)	1.903	1.903	1.903	3.801	1.898	2	**95**	PASS	3.839	1.936	2	**97**	PASS	65 - 125%
Iron (Fe)	1366	1366	1366	1367	1	2	**50**	PASS	1401	35	2	**1750**	FAIL Q1	50 - 140%
Lead (Pb)	0.206	0.206	0.206	1.821	1.615	2	**81**	PASS	1.911	1.705	2	**85**	PASS	55 - 120%
Manganese (Mn)	15.72	15.72	15.72	17.87	2.150	2	**108**	PASS	18.12	2.400	2	**120**	PASS	50 - 140%
Mercury (Hg)	0	0	0	1.254	1.254	1	**125**	PASS	1.18	1.18	1	**118**	PASS	65 - 140%
Molybdenum (Mo)	0.049	0.049	0.049	2.134	2.085	2	**104**	PASS	2.155	2.106	2	**105**	PASS	70 - 160%
Nickel (Ni)	2.366	2.366	2.366	4.237	1.871	2	**94**	PASS	4.278	1.912	2	**96**	PASS	70 - 130%
Selenium (Se)	0.043	0.043	0.043	1.926	1.883	2	**94**	PASS	1.95	1.907	2	**95**	PASS	60 - 125%
Silver (Ag)	0	0	0	0.164	0.164	0.2	**82**	PASS	0.17	0.17	0.2	**85**	PASS	50 - 120%
Strontium (Sr)	1.8	1.8	1.8	3.86	2.06	2	**103**	PASS	3.8	2	2	**100**	PASS	50 - 160%
Thallium (Tl)	0	0	0	1.527	1.527	2	**76**	PASS	1.59	1.59	2	**80**	PASS	65 - 125%
Tin (Sn)	0.086	0.086	0.086	2.14	2.054	2	**103**	PASS	2.139	2.053	2	**103**	PASS	70 - 150%
Titanium (Ti)	38.4	38.4	38.4	40.29	1.89	2	**94**	PASS	40.89	2.49	2	**124**	PASS	50 - 150%
Vanadium (V)	3.111	3.111	3.111	5.146	2.035	2	**102**	PASS	5.166	2.055	2	**103**	PASS	50 - 160%
Zinc (Zn)	2.419	2.419	2.419	4.176	1.757	2	**88**	PASS	4.251	1.832	2	**92**	PASS	60 - 120%

PRECISION DATA

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Chlorinated Pesticides

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*

Sample Description: West Sed COMPOSITE
Malibou Lake Sediment

Matrix: Sediment

Batch ID: 26217-21037

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06
Date Processed: 09-Nov-06
Date Analyzed: 17-Nov-06

CONSTITUENT	FRACTION	METHOD	MS1 ng	MS2 ng	% RPD	ACCEPTANCE RANGE	COMMENT	QUALIFIER MS1	QUALIFIER MS2
(PCB030)	NA	EPA 8270Cm	746	712.79	5	0 - 30%	PASS		
(PCB112)	NA	EPA 8270Cm	795.97	754.08	5	0 - 30%	PASS		
(PCB198)	NA	EPA 8270Cm	851.23	809.28	5	0 - 30%	PASS		
(TCMX)	NA	EPA 8270Cm	740.97	744.65	0	0 - 30%	PASS		
2,4'-DDD	NA	EPA 8270Cm	316.69	314.31	1	0 - 30%	PASS		
2,4'-DDE	NA	EPA 8270Cm	353	336.02	5	0 - 30%	PASS		
2,4'-DDT	NA	EPA 8270Cm	389.89	390.54	0	0 - 30%	PASS		
4,4'-DDD	NA	EPA 8270Cm	333.22	343.93	3	0 - 30%	PASS		
4,4'-DDE	NA	EPA 8270Cm	359.33	341.8	5	0 - 30%	PASS		
4,4'-DDT	NA	EPA 8270Cm	402.46	467.34	15	0 - 30%	PASS		
Aldrin	NA	EPA 8270Cm	300.92	265.54	12	0 - 30%	PASS		
BHC-alpha	NA	EPA 8270Cm	333.82	348.74	4	0 - 30%	PASS		
BHC-beta	NA	EPA 8270Cm	349.93	342.19	2	0 - 30%	PASS		
BHC-delta	NA	EPA 8270Cm	325.78	377.18	15	0 - 30%	PASS		
BHC-gamma	NA	EPA 8270Cm	317.22	346.71	9	0 - 30%	PASS		
Chlordane-alpha	NA	EPA 8270Cm	332.48	332.15	0	0 - 30%	PASS		
Chlordane-gamma	NA	EPA 8270Cm	332.83	346.92	4	0 - 30%	PASS		
cis-Nonachlor	NA	EPA 8270Cm	336.51	317.02	6	0 - 30%	PASS		
DCPA (Dacthal)	NA	EPA 8270Cm	360.29	336.01	7	0 - 30%	PASS		
Dicofol	NA	EPA 8270Cm	337.13	291.08	15	0 - 30%	PASS		
Dieldrin	NA	EPA 8270Cm	312.93	320.15	2	0 - 30%	PASS		
Endosulfan Sulfate	NA	EPA 8270Cm	362.76	336.64	7	0 - 30%	PASS		
Endosulfan-I	NA	EPA 8270Cm	214.02	211.16	1	0 - 30%	PASS		
Endosulfan-II	NA	EPA 8270Cm	270.27	314.99	15	0 - 30%	PASS		
Endrin	NA	EPA 8270Cm	344.96	376.63	9	0 - 30%	PASS		

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

46389

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Chlorinated Pesticides

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*

Batch ID: 26217-21037

Sample Description: West Sed COMPOSITE
Malibou Lake Sediment

Matrix: Sediment

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06
Date Processed: 09-Nov-06
Date Analyzed: 17-Nov-06

CONSTITUENT	FRACTION	METHOD	MS1 ng	MS2 ng	% RPD	ACCEPTANCE RANGE	COMMENT	QUALIFIER MS1	QUALIFIER MS2
Endrin Ketone	NA	EPA 8270Cm	305.24	340.69	11	0 - 30%	PASS		
Heptachlor	NA	EPA 8270Cm	440.28	462.91	5	0 - 30%	PASS		
Heptachlor Epoxide	NA	EPA 8270Cm	323.11	324.47	0	0 - 30%	PASS		
Methoxychlor	NA	EPA 8270Cm	402.45	454.19	12	0 - 30%	PASS		
Mirex	NA	EPA 8270Cm	336.82	332.24	1	0 - 30%	PASS		
Oxychlordane	NA	EPA 8270Cm	349.54	382.55	9	0 - 30%	PASS		
Perthane	NA	EPA 8270Cm	345.64	357	3	0 - 30%	PASS		
trans-Nonachlor	NA	EPA 8270Cm	336.51	317.02	6	0 - 30%	PASS		

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Chlorinated Pesticides

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*

Batch ID: 26217-21037

Sample Description: West Sed COMPOSITE
Malibou Lake Sediment

Matrix: Sediment

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06
Date Processed: 09-Nov-06
Date Analyzed: 17-Nov-06

CONSTITUENT	FRACTION	METHOD	R1 % Recovery	R2 % Recovery	% RPD	ACCEPTANCE RANGE	COMMENT	QUALIFIER R1	QUALIFIER R2
(PCB030)	NA	EPA 8270Cm	73	71	3	0 - 30%	PASS		
(PCB112)	NA	EPA 8270Cm	78	75	4	0 - 30%	PASS		
(PCB198)	NA	EPA 8270Cm	82	80	2	0 - 30%	PASS		
(TCMX)	NA	EPA 8270Cm	78	72	8	0 - 30%	PASS		
4,4'-DDT	NA	EPA 8270Cm	3.1	3.6	15	0 - 30%	PASS		
Total Detectable DDTs	NA	EPA 8270Cm	4.2	3.6	15	0 - 30%	PASS		

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

PCB Congeners

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*

Batch ID: 26217-21037

Sample Description: West Sed COMPOSITE
Malibou Lake Sediment

Matrix: Sediment

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06
Date Processed: 09-Nov-06
Date Analyzed: 17-Nov-06

CONSTITUENT	FRACTION	METHOD	MS1 ng	MS2 ng	% RPD	ACCEPTANCE RANGE	COMMENT	QUALIFIER MS1	QUALIFIER MS2
PCB018	NA	EPA 8270Cm	288.4	288.6	0	0 - 30%	PASS		
PCB028	NA	EPA 8270Cm	305.6	310.7	2	0 - 30%	PASS		
PCB031	NA	EPA 8270Cm	291.3	292.7	0	0 - 30%	PASS		
PCB033	NA	EPA 8270Cm	307.3	300	2	0 - 30%	PASS		
PCB037	NA	EPA 8270Cm	354.5	348.8	2	0 - 30%	PASS		
PCB044	NA	EPA 8270Cm	313.9	300.3	4	0 - 30%	PASS		
PCB049	NA	EPA 8270Cm	294.8	293.8	0	0 - 30%	PASS		
PCB052	NA	EPA 8270Cm	297.4	297	0	0 - 30%	PASS		
PCB066	NA	EPA 8270Cm	323.9	324.6	0	0 - 30%	PASS		
PCB070	NA	EPA 8270Cm	311.5	319.1	2	0 - 30%	PASS		
PCB074	NA	EPA 8270Cm	329	343.9	4	0 - 30%	PASS		
PCB077	NA	EPA 8270Cm	381	359.5	6	0 - 30%	PASS		
PCB081	NA	EPA 8270Cm	344.9	339.5	2	0 - 30%	PASS		
PCB087	NA	EPA 8270Cm	313.4	320.5	2	0 - 30%	PASS		
PCB095	NA	EPA 8270Cm	281.8	278.1	1	0 - 30%	PASS		
PCB097	NA	EPA 8270Cm	319.3	313	2	0 - 30%	PASS		
PCB099	NA	EPA 8270Cm	308.2	299.2	3	0 - 30%	PASS		
PCB101	NA	EPA 8270Cm	312	304.6	2	0 - 30%	PASS		
PCB105	NA	EPA 8270Cm	334.5	344.9	3	0 - 30%	PASS		
PCB110	NA	EPA 8270Cm	321.5	318.2	1	0 - 30%	PASS		
PCB114	NA	EPA 8270Cm	363	355.7	2	0 - 30%	PASS		
PCB118	NA	EPA 8270Cm	343.2	340.8	1	0 - 30%	PASS		
PCB119	NA	EPA 8270Cm	312.4	312.2	0	0 - 30%	PASS		
PCB123	NA	EPA 8270Cm	341.2	337.5	1	0 - 30%	PASS		
PCB126	NA	EPA 8270Cm	359.1	350.6	2	0 - 30%	PASS		

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

46389

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

PCB Congeners

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*

Sample Description: West Sed COMPOSITE
Malibou Lake Sediment

Batch ID: 26217-21037

Matrix: Sediment

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06
Date Processed: 09-Nov-06
Date Analyzed: 17-Nov-06

CONSTITUENT	FRACTION	METHOD	MS1 ng	MS2 ng	% RPD	ACCEPTANCE RANGE	COMMENT	QUALIFIER MS1	QUALIFIER MS2
PCB128+167	NA	EPA 8270Cm	734.8	677.8	8	0 - 30%	PASS		
PCB138	NA	EPA 8270Cm	342.7	340	1	0 - 30%	PASS		
PCB141	NA	EPA 8270Cm	327.1	313.5	4	0 - 30%	PASS		
PCB149	NA	EPA 8270Cm	296.5	289.1	3	0 - 30%	PASS		
PCB151	NA	EPA 8270Cm	306.3	294.2	4	0 - 30%	PASS		
PCB153	NA	EPA 8270Cm	331.2	320.5	3	0 - 30%	PASS		
PCB156	NA	EPA 8270Cm	393	375.6	5	0 - 30%	PASS		
PCB157	NA	EPA 8270Cm	362.9	353.3	3	0 - 30%	PASS		
PCB158	NA	EPA 8270Cm	339.5	332.4	2	0 - 30%	PASS		
PCB168+132	NA	EPA 8270Cm	632	608.6	4	0 - 30%	PASS		
PCB169	NA	EPA 8270Cm	341.6	366.5	7	0 - 30%	PASS		
PCB170	NA	EPA 8270Cm	344.4	367.6	7	0 - 30%	PASS		
PCB177	NA	EPA 8270Cm	326.8	321.4	2	0 - 30%	PASS		
PCB180	NA	EPA 8270Cm	351.7	343.7	2	0 - 30%	PASS		
PCB183	NA	EPA 8270Cm	329.2	311.1	6	0 - 30%	PASS		
PCB187	NA	EPA 8270Cm	314.8	313.6	0	0 - 30%	PASS		
PCB189	NA	EPA 8270Cm	337.7	356.5	5	0 - 30%	PASS		
PCB194	NA	EPA 8270Cm	352.8	358.3	2	0 - 30%	PASS		
PCB200	NA	EPA 8270Cm	308	294.7	4	0 - 30%	PASS		
PCB201	NA	EPA 8270Cm	329.2	335.2	2	0 - 30%	PASS		
PCB206	NA	EPA 8270Cm	349.8	340.8	3	0 - 30%	PASS		

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

46389

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*

Sample Description: West Sed COMPOSITE Malibou Lake Sediment

Batch ID: 26217-21037

Matrix: Sediment

Date Sampled: 02-Nov-06 11:15

Date Received: 02-Nov-06

Date Processed: 09-Nov-06

Date Analyzed: 17-Nov-06

CONSTITUENT	FRACTION	METHOD	MS1 ng	MS2 ng	% RPD	ACCEPTANCE RANGE	COMMENT	QUALIFIER MS1	QUALIFIER MS2
(d10-Acenaphthene)	NA	EPA 8270Cm	860	840	2	0 - 30%	PASS		
(d10-Phenanthrene)	NA	EPA 8270Cm	980	910	7	0 - 30%	PASS		
(d12-Chrysene)	NA	EPA 8270Cm	1030	930	10	0 - 30%	PASS		
(d12-Perylene)	NA	EPA 8270Cm	950	940	1	0 - 30%	PASS		
(d8-Naphthalene)	NA	EPA 8270Cm	740	710	4	0 - 30%	PASS		
1-Methylnaphthalene	NA	EPA 8270Cm	808	708	13	0 - 30%	PASS		
1-Methylphenanthrene	NA	EPA 8270Cm	754	766	2	0 - 30%	PASS		
2,3,5-Trimethylnaphthalene	NA	EPA 8270Cm	914	831	10	0 - 30%	PASS		
2,6-Dimethylnaphthalene	NA	EPA 8270Cm	866	767	12	0 - 30%	PASS		
2-Methylnaphthalene	NA	EPA 8270Cm	856	737	15	0 - 30%	PASS		
Acenaphthene	NA	EPA 8270Cm	813	706	14	0 - 30%	PASS		
Acenaphthylene	NA	EPA 8270Cm	800	675	17	0 - 30%	PASS		
Anthracene	NA	EPA 8270Cm	718	717	0	0 - 30%	PASS		
Benz[a]anthracene	NA	EPA 8270Cm	795	735	8	0 - 30%	PASS		
Benzo[a]pyrene	NA	EPA 8270Cm	766	762	1	0 - 30%	PASS		
Benzo[b]fluoranthene	NA	EPA 8270Cm	853	801	6	0 - 30%	PASS		
Benzo[e]pyrene	NA	EPA 8270Cm	867	789	9	0 - 30%	PASS		
Benzo[g,h,i]perylene	NA	EPA 8270Cm	827	778	6	0 - 30%	PASS		
Benzo[k]fluoranthene	NA	EPA 8270Cm	817	746	9	0 - 30%	PASS		
Biphenyl	NA	EPA 8270Cm	840	759	10	0 - 30%	PASS		
Chrysene	NA	EPA 8270Cm	781	715	9	0 - 30%	PASS		
Dibenz[a,h]anthracene	NA	EPA 8270Cm	806	754	7	0 - 30%	PASS		
Dibenzothiophene	NA	EPA 8270Cm	780	889	13	0 - 30%	PASS		
Fluoranthene	NA	EPA 8270Cm	732	750	2	0 - 30%	PASS		
Fluorene	NA	EPA 8270Cm	901	754	18	0 - 30%	PASS		

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

46389

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*

Batch ID: 26217-21037

Sample Description: West Sed COMPOSITE Malibou Lake Sediment

Matrix: Sediment

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06
Date Processed: 09-Nov-06
Date Analyzed: 17-Nov-06

CONSTITUENT	FRACTION	METHOD	MS1 ng	MS2 ng	% RPD	ACCEPTANCE RANGE	COMMENT	QUALIFIER MS1	QUALIFIER MS2
Indeno[1,2,3-c,d]pyrene	NA	EPA 8270Cm	817	799	2	0 - 30%	PASS		
Naphthalene	NA	EPA 8270Cm	713	639	11	0 - 30%	PASS		
Perylene	NA	EPA 8270Cm	944	851	10	0 - 30%	PASS		
Phenanthrene	NA	EPA 8270Cm	807	925	14	0 - 30%	PASS		
Pyrene	NA	EPA 8270Cm	820	811	1	0 - 30%	PASS		

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

46389

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*

Sample Description: West Sed COMPOSITE; Malibou Lake Sediment

Batch ID: 26217-21037

Matrix: Sediment

Date Sampled: 02-Nov-06 11:15

Date Received: 02-Nov-06

Date Processed: 09-Nov-06

Date Analyzed: 17-Nov-06

CONSTITUENT	FRACTION	METHOD	R1 % Recovery	R2 % Recovery	% RPD	ACCEPTANCE RANGE	COMMENT	QUALIFIER R1	QUALIFIER R2
(d10-Acenaphthene)	NA	EPA 8270Cm	78	81	4	0 - 30%	PASS		
(d10-Phenanthrene)	NA	EPA 8270Cm	84	93	10	0 - 30%	PASS		
(d12-Chrysene)	NA	EPA 8270Cm	102	98	4	0 - 30%	PASS		
(d12-Perylene)	NA	EPA 8270Cm	97	94	3	0 - 30%	PASS		
(d8-Naphthalene)	NA	EPA 8270Cm	58	77	28	0 - 30%	PASS		
1-Methylnaphthalene	NA	EPA 8270Cm	5.1	1.3	119	0 - 30%	FAIL	NA	NA
2,6-Dimethylnaphthalene	NA	EPA 8270Cm	6.2	1.7	114	0 - 30%	FAIL	NA	NA
2-Methylnaphthalene	NA	EPA 8270Cm	13.6	3.1	126	0 - 30%	FAIL		NA
Benz[a]anthracene	NA	EPA 8270Cm	4.2	2.2	62	0 - 30%	FAIL	NA	NA
Benzo[b]fluoranthene	NA	EPA 8270Cm	6.6	3.3	67	0 - 30%	FAIL	NA	NA
Benzo[e]pyrene	NA	EPA 8270Cm	6.1	3.1	65	0 - 30%	FAIL	NA	NA
Benzo[g,h,i]perylene	NA	EPA 8270Cm	6.3	3.2	65	0 - 30%	FAIL	NA	NA
Benzo[k]fluoranthene	NA	EPA 8270Cm	5.7	3.3	53	0 - 30%	FAIL	NA	NA
Chrysene	NA	EPA 8270Cm	8.1	4.1	66	0 - 30%	FAIL	NA	NA
Fluoranthene	NA	EPA 8270Cm	10.9	4.4	85	0 - 30%	FAIL		NA
Fluorene	NA	EPA 8270Cm	3.5	1.1	104	0 - 30%	FAIL	NA	NA
Indeno[1,2,3-c,d]pyrene	NA	EPA 8270Cm	3.7	2.1	55	0 - 30%	FAIL	NA	NA
Perylene	NA	EPA 8270Cm	28	19.8	34	0 - 30%	FAIL		
Phenanthrene	NA	EPA 8270Cm	9.2	3.6	88	0 - 30%	FAIL	NA	NA
Pyrene	NA	EPA 8270Cm	8.8	3.7	82	0 - 30%	FAIL	NA	NA
Total Detectable PAHs	NA	EPA 8270Cm	138.6	63.9	74	0 - 30%	FAIL	NA	NA

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

46389

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*

Sample Description: West Sed COMPOSITE
Malibou Lake Sediment

Batch ID: 26217-15034

Matrix: Sediment

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06
Date Processed: 08-Nov-06
Date Analyzed: 14-Nov-06

CONSTITUENT	FRACTION	METHOD	MS1 µg/dry g	MS2 µg/dry g	% RPD	ACCEPTANCE RANGE	COMMENT	QUALIFIER MS1	QUALIFIER MS2
Aluminum (Al)	NA	EPA 6020m	581.2	582.8	0	0 - 30%	PASS		Q1
Antimony (Sb)	NA	EPA 6020m	0.217	0.221	2	0 - 30%	PASS		
Arsenic (As)	NA	EPA 6020m	2.001	2.038	2	0 - 30%	PASS		
Barium (Ba)	NA	EPA 6020m	5.952	6.011	1	0 - 30%	PASS		
Beryllium (Be)	NA	EPA 6020m	1.722	1.724	0	0 - 30%	PASS		
Cadmium (Cd)	NA	EPA 6020m	0.22	0.225	2	0 - 30%	PASS		
Chromium (Cr)	NA	EPA 6020m	5.11	5.21	2	0 - 30%	PASS		
Cobalt (Co)	NA	EPA 6020m	2.713	2.752	1	0 - 30%	PASS		
Copper (Cu)	NA	EPA 6020m	3.801	3.839	1	0 - 30%	PASS		
Iron (Fe)	NA	EPA 6020m	1367	1401	2	0 - 30%	PASS		Q1
Lead (Pb)	NA	EPA 6020m	1.821	1.911	5	0 - 30%	PASS		
Manganese (Mn)	NA	EPA 6020m	17.87	18.12	1	0 - 30%	PASS		
Mercury (Hg)	NA	EPA 245.7m	1.254	1.18	6	0 - 30%	PASS		
Molybdenum (Mo)	NA	EPA 6020m	2.134	2.155	1	0 - 30%	PASS		
Nickel (Ni)	NA	EPA 6020m	4.237	4.278	1	0 - 30%	PASS		
Selenium (Se)	NA	EPA 6020m	1.926	1.95	1	0 - 30%	PASS		
Silver (Ag)	NA	EPA 6020m	0.164	0.17	4	0 - 30%	PASS		
Strontium (Sr)	NA	EPA 6020m	3.86	3.8	2	0 - 30%	PASS		
Thallium (Tl)	NA	EPA 6020m	1.527	1.59	4	0 - 30%	PASS		
Tin (Sn)	NA	EPA 6020m	2.14	2.139	0	0 - 30%	PASS		
Titanium (Ti)	NA	EPA 6020m	40.29	40.89	1	0 - 30%	PASS		
Vanadium (V)	NA	EPA 6020m	5.146	5.166	0	0 - 30%	PASS		
Zinc (Zn)	NA	EPA 6020m	4.176	4.251	2	0 - 30%	PASS		

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

46389

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217*

CRG ID#: *46389*

Sample Description: West Sed COMPOSITE
Malibou Lake Sediment

Matrix: Sediment

Batch ID: 26217-15034

Date Sampled: 02-Nov-06 11:15
Date Received: 02-Nov-06
Date Processed: 08-Nov-06
Date Analyzed: 13-Nov-06

CONSTITUENT	FRACTION	METHOD	R1 µg/dry g	R2 µg/dry g	% RPD	ACCEPTANCE RANGE	COMMENT	QUALIFIER R1	QUALIFIER R2
Aluminum (Al)	NA	EPA 6020m	12300	12740	4	0 - 30%	PASS		
Antimony (Sb)	NA	EPA 6020m	0.356	0.423	17	0 - 30%	PASS		
Arsenic (As)	NA	EPA 6020m	2.34	2.583	10	0 - 30%	PASS		
Barium (Ba)	NA	EPA 6020m	81.64	78.49	4	0 - 30%	PASS		
Beryllium (Be)	NA	EPA 6020m	0.269	0.28	4	0 - 30%	PASS		
Cadmium (Cd)	NA	EPA 6020m	0.512	0.6	16	0 - 30%	PASS		
Chromium (Cr)	NA	EPA 6020m	62.765	63.765	2	0 - 30%	PASS		
Cobalt (Co)	NA	EPA 6020m	14.54	15.21	5	0 - 30%	PASS		
Copper (Cu)	NA	EPA 6020m	40.436	41.256	2	0 - 30%	PASS		
Iron (Fe)	NA	EPA 6020m	27100	28320	4	0 - 30%	PASS		
Lead (Pb)	NA	EPA 6020m	4.637	4.378	6	0 - 30%	PASS		
Manganese (Mn)	NA	EPA 6020m	316.699	315.599	0	0 - 30%	PASS		
Mercury (Hg)	NA	EPA 245.7m	33	40.8	21	0 - 30%	PASS		
Molybdenum (Mo)	NA	EPA 6020m	1.037	1.067	3	0 - 30%	PASS		
Nickel (Ni)	NA	EPA 6020m	49.06	49.75	1	0 - 30%	PASS		
Selenium (Se)	NA	EPA 6020m	0.868	0.893	3	0 - 30%	PASS		
Silver (Ag)	NA	EPA 6020m	0.066	0.06	10	0 - 30%	PASS		
Strontium (Sr)	NA	EPA 6020m	37.99	35.66	6	0 - 30%	PASS		
Thallium (Tl)	NA	EPA 6020m	0.047	0.049	4	0 - 30%	PASS		
Tin (Sn)	NA	EPA 6020m	1.711	1.693	1	0 - 30%	PASS		
Titanium (Ti)	NA	EPA 6020m	836.795	828.095	1	0 - 30%	PASS		
Vanadium (V)	NA	EPA 6020m	63.661	67.601	6	0 - 30%	PASS		
Zinc (Zn)	NA	EPA 6020m	49.864	51.264	3	0 - 30%	PASS		

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261
46389

SUB-CONTRACT LAB REPORT

Applied Marine Sciences, Inc.

502 N. Hwy 3, Suite B, League City, TX 77573, (281) 554-7272 Fax (281) 554-6356

ANALYTICAL RESULTS

Client: CRG Marine Laboratories
Project Number: P26217
Project Name: N/A
Client Sample ID: East Sed
AMS Sample ID: 25758

AMS Project Number: 2006-598-79
Date Sampled: 11/2/2006
Date Received: 11/7/2006

Parameter	Result	Unit	Data Qualifier	LOD	LOQ	Method	Matrix	Date Analyzed
Total Organic Carbon	3.50	%		0.01	0.03	EPA 9060A	Sediment	11/16/2006

Quality Assurance: These analyses were performed in accordance with EPA guidelines, the 2006 DoD Quality Systems Manual for Environmental Laboratories (Version 3) and the 2003 NELAC Standard, with the following exceptions:

* TOC sample not analyzed in quadruplicate
* TOC spike duplicate not analyzed every 10 samples

KS Davis, P.G.
AMS, Inc. Technical Director

Accredited in accordance with nelac
Laboratory No. E87956

Applied Marine Sciences, Inc.

502 N. Hwy 3, Suite B, League City, TX 77573, (281) 554-7272 Fax (281) 554-6356

ANALYTICAL RESULTS

Client:	CRG Marine Laboratories	AMS Project Number:	2006-598-79
Project Number:	P26217	Date Sampled:	11/2/2006
Project Name:	N/A	Date Received:	11/7/2006
Client Sample ID:	MCS-1		
AMS Sample ID:	25759		

Parameter	Result	Unit	Data Qualifier	LOD	LOQ	Method	Matrix	Date Analyzed
Total Organic Carbon	0.34	%		0.01	0.03	EPA 9060A	Sediment	11/16/2006

Quality Assurance: These analyses were performed in accordance with EPA guidelines, the 2006 DoD Quality Systems Manual for Environmental Laboratories (Version 3) and the 2003 NELAC Standard, with the following exceptions:

* TOC sample not analyzed in quadruplicate
* TOC spike duplicate not analyzed every 10 samples

KS Davis, P.G.
AMS, Inc. Technical Director

ACCREDITED IN ACCORDANCE WITH nelac
Laboratory No. E87956

Applied Marine Sciences, Inc.

502 N. Hwy 3, Suite B, League City, TX 77573, (281) 554-7272 Fax (281) 554-6356

ANALYTICAL RESULTS

Client:	CRG Marine Laboratories	AMS Project Number:	2006-598-79
Project Number:	P26217	Date Sampled:	11/2/2006
Project Name:	N/A	Date Received:	11/7/2006
Client Sample ID:	West Sed		
AMS Sample ID:	25760		

Parameter	Result	Unit	Data Qualifier	LOD	LOQ	Method	Matrix	Date Analyzed
Total Organic Carbon	0.72	%		0.01	0.03	EPA 9060A	Sediment	11/16/2006

Quality Assurance: These analyses were performed in accordance with EPA guidelines, the 2006 DoD Quality Systems Manual for Environmental Laboratories (Version 3) and the 2003 NELAC Standard, with the following exceptions:

* TOC sample not analyzed in quadruplicate
* TOC spike duplicate not analyzed every 10 samples

KS Davis, P.G.
AMS, Inc. Technical Director

ACCREDITED IN ACCORDANCE WITH nelac
Laboratory No. E87956

Applied Marine Sciences, Inc.

502 N. Hwy 3, Suite B, League City, TX 77573, (281) 554-7272 Fax (281) 554-6356

QUALITY CONTROL RESULTS

Client: CRG Marine Laboratories
Project Number: P26217
Project Name: N/A
Matrix: Sediment
Method: EPA 9060A

AMS Project Number: 2006-598-79
Date Analyzed: 11/16/2006
Batch ID: 111606-01

Method Blank (Batch Continuing Blank (CB)), Continuing Calibration Verification (CCV) and Independent Continuing Calibration Verification (ICCV) Results:

AMS Sample ID	Parameter	Result (%)	CCV Conc. (%)	Relative % Difference (%)	Data Qualifier	LOD (%)	LOQ (%)	QC Limits (%)
CB-01	TOC	0.01	0.01	--	**U**	0.01	0.03	≤ 0.03
CCV-01	TOC	4.98	4.80	3.68		0.01	0.03	≤ 5 RPD
ICCV-01	TOC	2.09	2.00	4.40		0.01	0.03	≤ 5 RPD

Sample Duplicate Results:

AMS Sample ID	Parameter	Result (%)	Duplicate Result (%)	Relative % Difference (%)	Data Qualifier	LOD (%)	LOQ (%)	QC Limits
25771	TOC	0.70	0.72	2.82		0.01	0.03	≤ 25 RPD

Samples in Batch (AMS ID):

25758	25761	25764	25767	25770
25759	25762	25765	25768	25771
25760	25763	25766	25769	

Quality Assurance: These analyses were performed in accordance with EPA guidelines, the 2006 DoD Quality Systems Manual for Environmental Laboratories (Version 3) and the 2003 NELAC Standard, with the following exceptions:

* TOC sample not analyzed in quadruplicate
* TOC spike duplicate not analyzed every 10 samples

Project-specific Quality Assurance requirements supersede those provided by the above quality systems and documents. Measurements of uncertainty are available upon request.

KS Davis, P.G.
AMS, Inc. Technical Director

ACCREDITED IN ACCORDANCE WITH nelac
Laboratory No. E87956

Applied Marine Sciences, Inc.

502 N. Hwy 3, Suite B, League City, TX 77573, (281) 554-7272 Fax (281) 554-6356

QUALITY CONTROL RESULTS

Client:	CRG Marine Laboratories	AMS Project Number: 2006-598-79
Project Number:	P26217	Date Analyzed: 11/16/2006
Project Name:	N/A	
Matrix:	Sediment	
Method:	EPA 9060A	

Data Qualifiers:

U	Undetected at the Limit of Detection (LOD): The associated value is the Limit of Detection, adjusted by any dilution factor used in the analysis.
J	The analyte was positively identified, but was below the Limit of Quantitation (LOQ). The quantitation is an estimate.
B	Blank contamination: The analyte was detected above one-half the LOD in an associated blank.
Q	One or more Quality Control criteria failed. Data usability should be carefully assessed by the Project Team.
I	Insufficient sample was provided to perform required Quality Control analyses and/or to meet method-specific sample volume recommendations.

Definitions:

LOD	The Limit of Detection (LOD) is determined by quantitative establishment of the Method Detection Limit (MDL), as defined in 40 CFR 136(b).
LOQ	The Limit of Quantitation (LOQ) is the minimum level, concentration or quantity of a target variable (target analyte) that can be quantitatively reported with a specified level of confidence. As defined in DoD QSM §D.1.2.2, the LOQ value must be a minimum of 3 times the LOD, although the specified level of confidence may have a lower quantitative value.

Quality Assurance: These analyses were performed in accordance with EPA guidelines, the 2006 DoD Quality Systems Manual for Environmental Laboratories (Version 3) and the 2003 NELAC Standard, with the following exceptions:

* TOC sample not analyzed in quadruplicate
* TOC spike duplicate not analyzed every 10 samples

Project-specific Quality Assurance requirements supersede those provided by the above quality systems and documents. Measurements of uncertainty are available upon request.

KS Davis, P.G.
AMS, Inc. Technical Director

ACCREDITED IN ACCORDANCE WITH nelac
Laboratory No. E87956

November 16th,, 2006

CRG Marine Laboratories
Rich Gossett
2020 Del Amo Blvd., Suite 200
Torrance, CA 90501

Invoice No(s): CRG1061.103

Dear Mr. Gossett:

The attached reports and invoices cover services rendered by Aquatic Bioassay and Consulting for particle size analysis. Grain size test are conducted under guidelines prescribed in *Standard Methods for the Examination of Water and Wastewater* (APHA, 20th Edition), Section 2560 D.

Please contact me with any questions or issues you may have regarding this invoice.

Yours very truly,

Scott Johnson
Director of Environmental Programs
(805) 643-5621 ex 11

Project ID: P26217
Client: CRG Laboratories
Analysis: Grain Size
Matrix: Sediment
Delivered: November 16, 2006

		phi Size																										
		<-1	-0.5	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	>12
		Microns																										
		>2000	1410	1000	710	500	354	250	177	125	88.4	62.5	44.2	31.3	22.1	15.6	11.1	7.8	5.5	3.9	2.8	1.95	1.38	0.98	0.69	0.49	0.35	<0.24
Sample ID	Lab Rep.	coarse sand	coarse sand	med sand	med sand	med sand	med sand	fine sand	very fine sand	very fine sand	very fine sand	very fine sand	very fine sand	course silt	course silt	course silt	silt	fine silt	very fine silt	very fine silt	clay	clay	clay	clay	clay	clay	clay	clay
MCS-1	1	0.00	0.00	0.00	0.07	1.96	13.14	24.48	15.56	7.62	4.17	3.21	3.19	3.48	3.65	3.59	3.56	3.16	2.63	1.92	1.62	1.03	0.63	0.57	0.52	0.24	0.00	0.00
MCS-1	2	0.00	0.00	0.00	0.10	2.73	15.22	23.23	13.73	7.25	4.33	3.42	3.35	3.59	3.73	3.63	3.59	3.17	2.62	1.90	1.58	1.00	0.60	0.53	0.46	0.23	0.00	0.00
EAST SEDIMENT	1	0.00	0.00	0.00	0.00	0.00	0.04	0.70	3.68	8.75	12.03	11.01	9.20	8.27	7.68	7.00	6.61	5.75	4.91	3.76	3.48	2.41	1.44	1.32	1.16	0.65	0.15	0.00
WEST SEDIMENT	1	0.00	0.00	0.00	0.00	0.28	1.58	5.05	8.60	9.56	9.12	8.38	7.93	7.81	7.55	6.95	6.50	5.44	4.36	3.11	2.69	1.76	1.03	0.96	0.85	0.47	0.03	0.00

Project ID: P26217
Client: CRG Laboratories
Analysis: Grain Size
Matrix: Sediment
Delivered: November 16, 2006

Sample ID	Lab Rep.	Analysis Date	Summary (Percent)					Percentile (microns)					Percentile (phi)					Microns			phi			Dispersion or Sorting Index	Distribution (phi)	
			Gravel*	Sand	Silt	Clay	Silt-Clay	5%	16%	50%	84%	95%	5%	16%	50%	84%	95%	Mean	Median	Mode	Mean	Median	Mode		Skewness	Kurtosis
MCS-1	1	15-Dec-06	38.36	70.21	25.19	4.60	29.79	3.00	11.23	140.44	247.10	327.25	8.39	6.48	2.83	2.01	1.60	139.25	140.44	206.80	2.84	2.83	2.27	2.24	0.01	-2.52
MCS-1	2	15-Dec-06	**	70.01	25.59	4.40	29.99	3.11	11.43	141.89	261.93	336.81	8.34	6.46	2.81	1.92	1.56	143.40	141.89	212.70	2.80	2.81	2.23	2.27	-0.01	-2.50
EAST SEDIMENT	1	15-Dec-06	0.00	36.21	53.17	10.62	63.79	1.44	4.37	25.80	81.47	122.18	9.46	7.85	5.28	3.61	3.03	40.44	25.80	71.94	4.63	5.28	3.79	2.12	-0.31	-2.52
WEST SEDIMENT	1	15-Dec-06	0.00	42.57	49.64	7.78	57.43	1.92	5.77	31.99	122.80	201.66	9.04	7.45	4.97	3.02	2.30	59.22	31.99	104.13	4.08	4.97	3.26	2.21	-0.40	-2.52

*Percentage of the sample retained on a 2 mm sieve.
**Not enough sample to complete replicate gravel analysis

CHAIN-OF-CUSTODY

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

PAGE 1 OF 1

SAMPLE COLLECTOR: LFR LEVINE•FRICKE
301 South Miller Street, Suite 210
Santa Maria, California 93454
Phone: (805) 349-7180
Fax: (805) 349-7176

PROJECT NO.: 021-10172-00 | PHASE NO.: | DATE: 11-2-06 | SAMPLER'S INITIALS: EOB | SERIAL NO.: 05022

PROJECT NAME: MALIBU LAKE SEDIMENT | SAMPLER (Signature): Erik Bjurlof, Donald Eley

	Sample ID.	Date	Time	Lab Sample No.	No. of Containers	TYPE: Soil	TYPE: Water	TYPE: Sediment	ANALYSES: TPH-d (EPA-8015M)	ANALYSES: TPH/TO (EPA/8015M) PAHs	ANALYSES: TRPH (EPA-8015M) Rest.	ANALYSES: BTEX (EPA/8021) PCBs	ANALYSES: TTLC 22-Suite-of-Analytes	ANALYSES: Bioassay w/elutriate	ANALYSES: Particle Size	ANALYSES: Total Solids	ANALYSES: TOC	ANALYSES: Metals (no Mercury)	ANALYSES: Mercury	TAT: Standard	TAT: RUSH:	TAT: HOLD	REMARKS
1	WEST SED COMPOSITE	11-2-06	1115		4	X		X	X	X	X			X	X	X	X	X	X	X			
2	EAST SED COMPOSITE		1000		4	X		X	X	X	X			X	X	X	X	X	X	X			
3	EQUIP. BLANK		1115		1		X														X		
4	MLS-1		0845		3	X		X	X	X	X				X	X	X	X	X	X			
5	MLS-1A		1100		5	X		X	USE FOR ELUTRIATE														use items 5+6 to create elutriate from items 1, 2
6	MLS-4	↓	0945		4	X		X															
7																							Bioassay = acute ceriodaphnia
8																							Test Elutriate Samples for: PAHs, PCBs & OCPs by EPA Method 625(m)/8270C(m)
9																							
10																							
11																							
12																							
13																							
14																							
15																							

SAMPLE RECEIPT: ☐ Intact ☐ Cold ☐ On Ice ☐ Ambient | Cooler Temp: | Cooler No:

Preservative Correct? ☐ Yes ☐ No ☐ N/A

METHOD OF SHIPMENT: deliver

FAX RESULTS TO: (805) 349-7176 Don Eley

SEND HARDCOPY TO:

SEND EDD TO:

UNOCAL PROJECT CODE:

UNOCAL BILLING CODE:

ZYMAX WRS/COC#:

RELINQUISHED BY:
SIGNATURE: Donald Eley
PRINT: Donald S. Eley
COMPANY: LFR Inc.
DATE: 11/2/06 TIME: 13:17

RECEIVED BY:
SIGNATURE: Lina Lee
PRINT: Lina
COMPANY: CR6
DATE: 11-2-06 TIME: 1317

RELINQUISHED BY:
SIGNATURE:
PRINT:
COMPANY:
DATE: TIME:

RECEIVED BY:
SIGNATURE:
PRINT:
COMPANY:
DATE: TIME:

Lab/Shipping Copy (White) File Copy (Yellow) Field Copy (Pink)

FORM NO: 2001/COC/TWT

PAGE ____ OF ____

CRG
Marine Laboratories, Inc.

SAMPLE RECEIVING

CRG Project ID
P26217

CLIENT NAME LFR

DATE RECEIVED 11/2/06

COURIER INFORMATION		
☐ CRG	☐ FEDEX	TRACKING NUMBER
☑ OTHER*	☐ UPS	

TEMPERATURE		
14	°C	☑ BLUE ICE ☑ WET ICE ☐ NO ICE

Chain-of-Custody
☑ INCLUDED
☑ SIGNED
☐ NOT INCLUDED

SAMPLE MATRIX
☑ LIQUID
☑ SOLID
☐ OTHER*

CONDITION OF SAMPLES UPON ARRIVAL

	YES	NO*	NA
All sample containers intact and good condition	☐	☐	☐
All samples listed on COC are present	☐	☐	☐
Sample ID on containers consistent with COC	☐	☐	☐
Correct containers used for analyses requested	☐	☐	☐
All samples received within method holding time	☐	☐	☐

*NOTES

COMPLETED BY: JV

2020 Del Amo Boulevard Suite 200, Torrance, CA 90501 · (310) 533-5190 · FAX (310) 533-5003

AQUATIC
BIOASSAY &
CONSULTING
LABORATORIES, INC.

TOXICITY TESTING • OCEANOGRAPHIC RESEARCH

January 23, 2007

Ms. Misty Mercier
CRG Marine Laboratories, Inc.
2020 Del Amo Blvd., Suite 200
Torrance, CA 90501-1206

Dear Ms. Mercier:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-012.* Results were as follows:

CLIENT:	CRG Marine Labs.,Inc.
SAMPLE I.D.:	East Sed P26217b
DATE RECEIVED:	17 Nov - 06
DATE SAMPLED:	14 Nov - 06
ABC LAB. NO.:	CRG1106.179

96 HOUR ACUTE CERIODAPHNIA SURVIVAL BIOASSAY

LC50 =	100 % Survival in 100% Sample
TU(a) =	0.00
STATUS =	Pass

Yours very truly,

Thomas (Tim) Mikel
Laboratory Director

Ceriodaphnia Survival Test-96 Hr

Start Date:	11/17/2006	Test ID:	CRG1106179	Sample ID:	CA000000
End Date:	11/21/2006	Lab ID:	ABC LABORA	Sample Type:	EFF1-POTW
Sample Date:	11/14/2006	Protocol:	EPA-821-R-02-012	Test Species:	CD-Ceriodaphnia dubia
Comments:	East Sed P26217b				

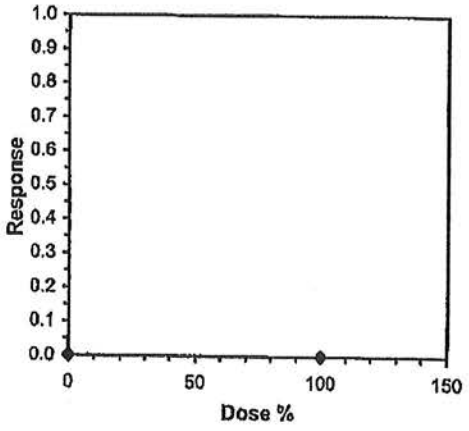
Conc-%	1	2	3	4
Control	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Isot
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Mean
Control	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	
100	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	

Auxiliary Tests	Statistic	Critical	Skew
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	1	0.749	
Equality of variance cannot be confirmed			

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



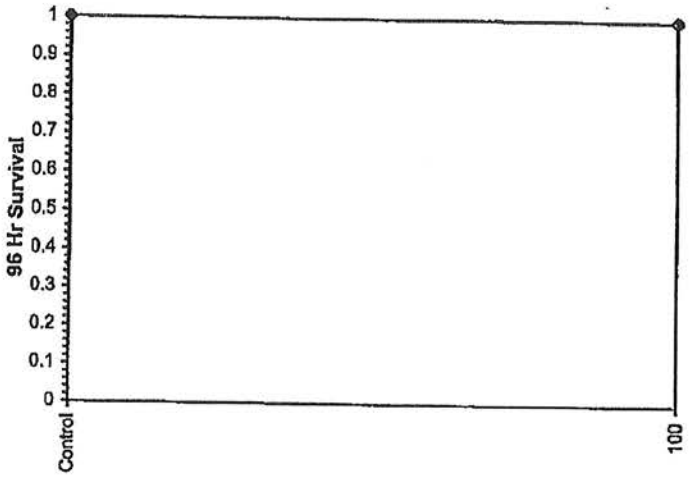
ToxCalc v5.0.23

Reviewed by:

Ceriodaphnia Survival Test-96 Hr

Start Date:	11/17/2006	Test ID:	CRG1106179	Sample ID:	CA000000
End Date:	11/21/2006	Lab ID:	ABC LABORA	Sample Type:	EFF1-POTW
Sample Date:	11/14/2006	Protocol:	EPA-821-R-02-012	Test Species:	CD-Ceriodaphnia dubia
Comments:	East Sed P26217b				

Dose-Response Plot



ToxCalc v5.0.23

Revlewed by:

Ceriodaphnia Survival Test-96 Hr

Start Date:	11/17/2006	Test ID:	CRG1106179	Sample ID:	CA000000
End Date:	11/21/2006	Lab ID:	ABC LABORA	Sample Type:	EFF1-POTW
Sample Date:	11/14/2006	Protocol:	EPA-821-R-02-012	Test Species:	CD-Ceriodaphnia dubia
Comments:	East Sed P26217b				

Auxiliary Data Summary

Conc-%	Parameter	Mean	Min	Max	SD	CV%	N
Control	Temp C	24.87	24.00	25.80	0.90	3.82	3
100		24.83	24.00	25.70	0.85	3.71	3
Control	pH	8.20	8.00	8.30	0.17	5.08	3
100		8.20	8.20	8.20	0.00	0.00	3
Control	DO mg/L	6.97	6.60	7.30	0.35	8.51	3
100		6.37	6.00	6.70	0.35	9.31	3
Control	Hardness mg/L	96.67	96.00	98.00	1.15	1.11	3
100		250.00	250.00	250.00	0.00	0.00	3
Control	Cond-umhos	336.67	326.00	344.00	9.45	0.91	3
100		1881.33	1880.00	1882.00	1.15	0.06	3
Control	Alkalinity mg/L	67.00	66.00	68.00	1.00	1.49	3
100		226.00	226.00	226.00	0.00	0.00	3

ToxCalc v5.0.23

Reviewed by:

AQUATIC BIOASSAY & CONSULTING
LABORATORIES, INC.

TOXICITY TESTING • OCEANOGRAPHIC RESEARCH

January 23, 2007

Ms. Misty Mercier
CRG Marine Laboratories, Inc.
2020 Del Amo Blvd., Suite 200
Torrance, CA 90501-1206

Dear Ms. Mercier:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-012.* Results were as follows:

CLIENT:	CRG Marine Labs.,Inc.
SAMPLE I.D.:	West Sed P26217b
DATE RECEIVED:	17 Nov - 06
DATE SAMPLED:	14 Nov - 06
ABC LAB. NO.:	CRG1106.180

96 HOUR ACUTE CERIODAPHNIA SURVIVAL BIOASSAY

LC50 =	100 % Survival in 100% Sample
TU(a) =	0.00
STATUS =	Pass

Yours very truly,

Thomas (Tim) Mikel
Laboratory Director

29 NORTH OLIVE STREET, VENTURA, CA 93001 • (805) 643-5621

Ceriodaphnia Survival Test-96 Hr

Start Date:	11/17/2006	Test ID:	CRG1106180	Sample ID:	CA000000
End Date:	11/21/2006	Lab ID:	ABC LABORA	Sample Type:	EFF1-POTW
Sample Date:	11/14/2006	Protocol:	EPA-821-R-02-012	Test Species:	CD-Ceriodaphnia dubia
Comments:	West Sed P26217b				

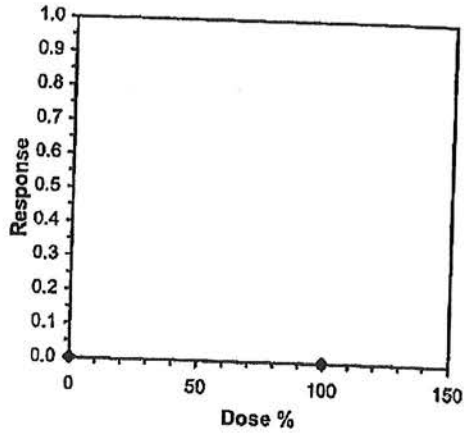
Conc-%	1	2	3	4
Control	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Transform: Arcsin Square Root Mean	Min	Max	CV%	N	Isot Mean
Control	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	
100	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	

Auxiliary Tests	Statistic	Critical	Skew
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	1	0.749	
Equality of variance cannot be confirmed			

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



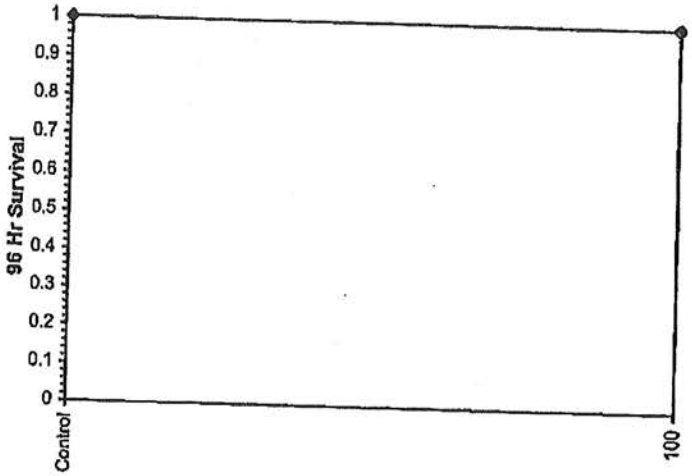
ToxCalc v5.0.23

Reviewed by:

Ceriodaphnia Survival Test-96 Hr

Start Date:	11/17/2006	Test ID:	CRG1106180	Sample ID:	CA000000
End Date:	11/21/2006	Lab ID:	ABC LABORA	Sample Type:	EFF1-POTW
Sample Date:	11/14/2006	Protocol:	EPA-821-R-02-012	Test Species:	CD-Ceriodaphnia dubia
Comments:	West Sed P26217b				

Dose-Response Plot



ToxCalc v5.0.23

Reviewed by:

Ceriodaphnia Survival Test-96 Hr

Start Date:	11/17/2006	Test ID:	CRG1106180	Sample ID:	CA000000
End Date:	11/21/2006	Lab ID:	ABC LABORA	Sample Type:	EFF1-POTW
Sample Date:	11/14/2006	Protocol:	EPA-821-R-02-012	Test Species:	CD-Ceriodaphnia dubia
Comments:	West Sed P26217b				

Auxiliary Data Summary

Conc-%	Parameter	Mean	Min	Max	SD	CV%	N
Control	Temp C	24.87	24.00	25.80	0.90	3.82	3
100		24.87	24.00	25.80	0.90	3.82	3
Control	pH	8.20	8.00	8.30	0.17	5.08	3
100		8.10	8.00	8.20	0.10	3.90	3
Control	DO mg/L	6.97	6.60	7.30	0.35	8.51	3
100		6.27	5.30	6.80	0.84	14.61	3
Control	Hardness mg/L	96.67	96.00	98.00	1.15	1.11	3
100		250.00	250.00	250.00	0.00	0.00	3
Control	Cond-umhos	336.67	326.00	344.00	9.45	0.91	3
100		2435.67	2431.00	2445.00	8.08	0.12	3
Control	Alkalinity mg/L	67.00	66.00	68.00	1.00	1.49	3
100		250.00	250.00	250.00	0.00	0.00	3

Reviewed by:

CRG Marine Laboratories
2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206
Phone: (310)533-5190 Fax: (310)533-5003

CHAIN-OF-CUSTODY RECORD

To: ABC

Client Name:	CRG Marine Laboratories, Inc.
Address:	2020 Del Amo Blvd. Suite 200 Torrance, CA 90501
Sampled By:	L.F. ***Project ID:*** P26217b
Project Manager:	Misty Mercier
Phone:	(310)533-5190 x 106
Fax:	(310)533-5003
Email:	mmercier@crglabs.com

Sampling Comments:
Total # of Samples: 2
Correct Containers: Yes
Sample Temperature: Cold
Sample Preservation: No

Reporting Comments:
Report Format: pdf + EDD
Turn-Around Time: Standard

Please email Report+EDD or questions to subcontract@crglabs.com

Client SID:	*Sample Date:*	*Sample Time:*	*Matrix:*	*Containers:*	*Analyses:*
East Sed	11/14/2006		Water	Plastic	Toxicity
West Sed	11/14/2006		Water	Plastic	Toxicity

Temp @ Receipt = 2.3 °C

Relinquished By: CRG Marine Laboratories, Inc.
Signature: _____ *Date:* _____
Print: _____ *Time:* _____

Received By: ABC
Signature: [signature] *Date:* 11.17.06
Print: Elizabeth Matsuura *Time:* 1245

Please Return All Coolers Upon Receival Of Samples. Thank you.

Project ID: P26217
Client: CRG Laboratories
Analysis: Grain Size
Matrix: Sediment
Delivered: November 16, 2006

		phi Size																											
		<-1	-0.5	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	>12
		Microns																										
		>2000	1410	1000	710	500	354	250	177	125	88.4	62.5	44.2	31.3	22.1	15.6	11.1	7.8	5.5	3.9	2.8	1.95	1.38	0.98	0.69	0.49	0.35	<0.24
Sample ID	Lab Rep.	coarse sand	coarse sand	med sand	med sand	med sand	med sand	fine sand	very fine sand	very fine sand	very fine sand	very fine sand	very fine sand	course silt	course silt	course silt	silt	fine silt	very fine silt	very fine silt	clay	clay	clay	clay	clay	clay	clay	clay
MCS-1	1	0.00	0.00	0.00	0.07	1.96	13.14	24.48	15.56	7.62	4.17	3.21	3.19	3.48	3.65	3.59	3.56	3.16	2.63	1.92	1.62	1.03	0.63	0.57	0.52	0.24	0.00	0.00
MCS-1	2	0.00	0.00	0.00	0.10	2.73	15.22	23.23	13.73	7.25	4.33	3.42	3.35	3.59	3.73	3.63	3.59	3.17	2.62	1.90	1.58	1.00	0.60	0.53	0.46	0.23	0.00	0.00
EAST SEDIMENT	1	0.00	0.00	0.00	0.00	0.00	0.04	0.70	3.68	8.75	12.03	11.01	9.20	8.27	7.68	7.00	6.61	5.75	4.91	3.76	3.48	2.41	1.44	1.32	1.16	0.65	0.15	0.00
WEST SEDIMENT	1	0.00	0.00	0.00	0.00	0.28	1.58	5.05	8.60	9.56	9.12	8.38	7.93	7.81	7.55	6.95	6.50	5.44	4.36	3.11	2.69	1.76	1.03	0.96	0.85	0.47	0.03	0.00

Project ID: P26217
Client: CRG Laboratories
Analysis: Grain Size
Matrix: Sediment
Delivered: November 16, 2006

		phi Size																											
		<-1	-0.5	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	>12
		Microns																										
		>2000	1410	1000	710	500	354	250	177	125	88.4	62.5	44.2	31.3	22.1	15.6	11.1	7.8	5.5	3.9	2.8	1.95	1.38	0.98	0.69	0.49	0.35	<0.24
Sample ID	Lab Rep.	coarse sand	coarse sand	med sand	med sand	med sand	med sand	fine sand	very fine sand	very fine sand	very fine sand	very fine sand	very fine sand	course silt	course silt	course silt	silt	fine silt	very fine silt	very fine silt	clay	clay	clay	clay	clay	clay	clay	clay	clay
MCS-1	1	0.00	0.00	0.00	0.07	1.96	13.14	24.48	15.56	7.62	4.17	3.21	3.19	3.48	3.65	3.59	3.56	3.16	2.63	1.92	1.62	1.03	0.63	0.57	0.52	0.24	0.00	0.00
MCS-1	2	0.00	0.00	0.00	0.10	2.73	15.22	23.23	13.73	7.25	4.33	3.42	3.35	3.59	3.73	3.63	3.59	3.17	2.62	1.90	1.58	1.00	0.60	0.53	0.46	0.23	0.00	0.00
EAST SEDIMENT	1	0.00	0.00	0.00	0.00	0.00	0.04	0.70	3.68	8.75	12.03	11.01	9.20	8.27	7.68	7.00	6.61	5.75	4.91	3.76	3.48	2.41	1.44	1.32	1.16	0.65	0.15	0.00
WEST SEDIMENT	1	0.00	0.00	0.00	0.00	0.28	1.58	5.05	8.60	9.56	9.12	8.38	7.93	7.81	7.55	6.95	6.50	5.44	4.36	3.11	2.69	1.76	1.03	0.96	0.85	0.47	0.03	0.00

CRG Marine Laboratories, Inc.
"A Center for Excellence in Analytical Chemistry and Environmental Microbiology"

December 13, 2006

LFR
301 South Miller Street
Suite 210
Santa Maria, CA

Re: CRG Marine Laboratories — Project ID: P26217b
LFR — Project ID: Malibou Lake Sediment

ATTN: Don Eley

CRG Laboratories is pleased to provide you with the enclosed analytical data report for your Malibou Lake Sediment project. According to the chain-of-custody, 2 samples were received intact at CRG on 11/15/2006 . Per your instructions, the samples were analyzed for:

- Dissolved Orthophosphate as P Using Method EPA 300.0
- pH Using Method EPA 150.1
- Nitrate-N Using Method EPA 300.0
- Total Hardness as CaCO3 Using Method SM 2340 B
- Trace Metals By ICPMS Using Method EPA 200.8m
- Mercury (Hg) By CVAFS Using Method EPA 245.7m
- Aroclor PCBs By GCMS Using Method EPA 625m
- Chlorinated Pesticides By GCMS Using Method EPA 625m
- PCB Congeners By GCMS Using Method EPA 625m
- Polynuclear Aromatic Hydrocarbons By GCMS Using Method EPA 625m

The following analysis were subcontracted to other laboratories, results are included:

- DOC

Please don't hesitate to call if you have any questions and thank you very much for using our laboratory for your analtytical needs.

Regards,
Misty Mercier

Reviewed and Approved_____

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Project Sample List

LFR

CRG Project ID: **26217b**

Project Officer: Don Eley

Project Description: Malibou Lake Sediment

CRG Sample ID#	*Client Sample ID*	*Sample Description*	*Date Sampled*	*Matrix*
47574	West Sed	ELUTRIATE	14-Nov-06	Water
47591	East Sed	ELUTRIATE	14-Nov-06	Water

CRG's QUALITY ASSURANCE PROGRAM SUMMARY

BATCH: CRG's Quality Assurance Program Document defines a batch as a group of 20 or fewer samples of similar matrix, processed together under the same conditions and with the same reagents. Quality control samples are associated with each batch and are used to assess the validity of the sample analyses. CRG typically uses batch sizes of 10-15 samples.

PROCEDURAL BLANKS: Laboratory contamination was controlled through the analysis of procedural blanks on a minimum frequency of 1 per batch. CRG's Quality Assurance Program Document requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the blanks be flagged in the sample results. The Procedural Blanks are presented in the Procedural Blank section of this report.

ACCURACY: Accuracy of the project data was indicated by analysis of matrix spikes, surrogate spikes, certified reference materials, and/or laboratory control materials on a minimum frequency of 1 per batch. CRG's Quality Assurance Program Document requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits. The Acceptance Ranges are presented in the Accuracy Data section of this report.

PRECISION: Precision of the project data was determined by analysis of duplicate matrix spikes, blank spikes, and/or duplicate test sample analysis on a minimum frequency of 1 per batch. CRG's Quality Assurance Program Document requires that for 95% of the compounds >10 times the MDL, the % Relative Percent Difference (%RPD) should be within the specified acceptance range. The %RPD for the duplicate test sample analysis can be significantly affected by the homogeneity of the sample matrix within the sample container itself causing additional variability in the analytical results. In these cases, the QA/QC Acceptance Limits may be exceeded. The %RPD and Acceptance Ranges are presented in the Precision Data section of this report.

GLOSSARY OF TERMS

Qualifier	Definition
B	Analyte was detected in the associated method blank.
E	Analyte concentration exceeds the calibration range
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
M1	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference.
M2	The MS/MSD RPD was out of control due to matrix interference.
M3	Detection of the analyte was difficult due to matrix interference.
M4	Spike or surrogate compound recovery was out of control due to matrix interference. The associated method blank spike or surrogate compound was in control and therefore the sample data was reported without further clarification.
ND or U	Parameter not detected at the indicated reporting limit.
NES	Not enough sample.
Q1	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration.
Q2	The sample RPD was out of control. Sample is heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices.
R	Analyte was removed by the sample preparation/extraction procedure as seen by the MS/MSD recoveries. RPD acceptance ranges do not apply.

DATA REPORT

TRACE METAL RESULTS

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47574*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: West Sed ELUTRIATE Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aluminum (Al)	Dissolved	EPA 200.8m	ND	µg/L	5	10	10-Dec-06	10-Dec-06	26217b-15074
Antimony (Sb)	Dissolved	EPA 200.8m	1.3	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Arsenic (As)	Dissolved	EPA 200.8m	2.6	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Barium (Ba)	Dissolved	EPA 200.8m	83.7	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Beryllium (Be)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Cadmium (Cd)	Dissolved	EPA 200.8m	0.4	µg/L	0.2	0.4	10-Dec-06	10-Dec-06	26217b-15074
Chromium (Cr)	Dissolved	EPA 200.8m	0.6	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Cobalt (Co)	Dissolved	EPA 200.8m	J 0.3	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Copper (Cu)	Dissolved	EPA 200.8m	3.3	µg/L	0.4	0.8	10-Dec-06	10-Dec-06	26217b-15074
Iron (Fe)	Dissolved	EPA 200.8m	161	µg/L	5	10	10-Dec-06	10-Dec-06	26217b-15074
Lead (Pb)	Dissolved	EPA 200.8m	ND	µg/L	0.05	0.1	10-Dec-06	10-Dec-06	26217b-15074
Manganese (Mn)	Dissolved	EPA 200.8m	270.5	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Mercury (Hg)	Dissolved	EPA 245.7m	ND	µg/L	0.01	0.02	05-Dec-06	05-Dec-06	26217b-2114
Molybdenum (Mo)	Dissolved	EPA 200.8m	25.8	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Nickel (Ni)	Dissolved	EPA 200.8m	3.7	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Selenium (Se)	Dissolved	EPA 200.8m	2.8	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Silver (Ag)	Dissolved	EPA 200.8m	ND	µg/L	0.5	1	10-Dec-06	10-Dec-06	26217b-15074
Strontium (Sr)	Dissolved	EPA 200.8m	1006	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Thallium (Tl)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Tin (Sn)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Titanium (Ti)	Dissolved	EPA 200.8m	0.6	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Vanadium (V)	Dissolved	EPA 200.8m	11.7	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Zinc (Zn)	Dissolved	EPA 200.8m	7.6	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47591*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aluminum (Al)	Dissolved	EPA 200.8m	ND	µg/L	5	10	10-Dec-06	10-Dec-06	26217b-15074
Antimony (Sb)	Dissolved	EPA 200.8m	2.1	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Arsenic (As)	Dissolved	EPA 200.8m	3.3	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Barium (Ba)	Dissolved	EPA 200.8m	83.9	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Beryllium (Be)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Cadmium (Cd)	Dissolved	EPA 200.8m	0.4	µg/L	0.2	0.4	10-Dec-06	10-Dec-06	26217b-15074
Chromium (Cr)	Dissolved	EPA 200.8m	0.6	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Cobalt (Co)	Dissolved	EPA 200.8m	J 0.3	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Copper (Cu)	Dissolved	EPA 200.8m	4.1	µg/L	0.4	0.8	10-Dec-06	10-Dec-06	26217b-15074
Iron (Fe)	Dissolved	EPA 200.8m	129	µg/L	5	10	10-Dec-06	10-Dec-06	26217b-15074
Lead (Pb)	Dissolved	EPA 200.8m	J 0.05	µg/L	0.05	0.1	10-Dec-06	10-Dec-06	26217b-15074
Manganese (Mn)	Dissolved	EPA 200.8m	110.5	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Mercury (Hg)	Dissolved	EPA 245.7m	ND	µg/L	0.01	0.02	05-Dec-06	05-Dec-06	26217b-2114
Molybdenum (Mo)	Dissolved	EPA 200.8m	27.5	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Nickel (Ni)	Dissolved	EPA 200.8m	3.1	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Selenium (Se)	Dissolved	EPA 200.8m	1.6	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Silver (Ag)	Dissolved	EPA 200.8m	ND	µg/L	0.5	1	10-Dec-06	10-Dec-06	26217b-15074
Strontium (Sr)	Dissolved	EPA 200.8m	691.8	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Thallium (Tl)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Tin (Sn)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Titanium (Ti)	Dissolved	EPA 200.8m	J 0.4	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Vanadium (V)	Dissolved	EPA 200.8m	4.7	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Zinc (Zn)	Dissolved	EPA 200.8m	7.1	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47574*
Replicate #: R2
DILUTION FACTOR: 1

Sample Description: West Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aluminum (Al)	Dissolved	EPA 200.8m	ND	µg/L	5	10	10-Dec-06	10-Dec-06	26217b-15074
Antimony (Sb)	Dissolved	EPA 200.8m	1.3	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Arsenic (As)	Dissolved	EPA 200.8m	2.6	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Barium (Ba)	Dissolved	EPA 200.8m	85.3	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Beryllium (Be)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Cadmium (Cd)	Dissolved	EPA 200.8m	0.4	µg/L	0.2	0.4	10-Dec-06	10-Dec-06	26217b-15074
Chromium (Cr)	Dissolved	EPA 200.8m	0.6	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Cobalt (Co)	Dissolved	EPA 200.8m	J 0.3	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Copper (Cu)	Dissolved	EPA 200.8m	3.2	µg/L	0.4	0.8	10-Dec-06	10-Dec-06	26217b-15074
Iron (Fe)	Dissolved	EPA 200.8m	174	µg/L	5	10	10-Dec-06	10-Dec-06	26217b-15074
Lead (Pb)	Dissolved	EPA 200.8m	ND	µg/L	0.05	0.1	10-Dec-06	10-Dec-06	26217b-15074
Manganese (Mn)	Dissolved	EPA 200.8m	271.6	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Mercury (Hg)	Dissolved	EPA 245.7m	ND	µg/L	0.01	0.02	05-Dec-06	05-Dec-06	26217b-2114
Molybdenum (Mo)	Dissolved	EPA 200.8m	26.1	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Nickel (Ni)	Dissolved	EPA 200.8m	3.8	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Selenium (Se)	Dissolved	EPA 200.8m	2.4	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Silver (Ag)	Dissolved	EPA 200.8m	ND	µg/L	0.5	1	10-Dec-06	10-Dec-06	26217b-15074
Strontium (Sr)	Dissolved	EPA 200.8m	1003	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Thallium (Tl)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Tin (Sn)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Titanium (Ti)	Dissolved	EPA 200.8m	0.5	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Vanadium (V)	Dissolved	EPA 200.8m	11.8	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Zinc (Zn)	Dissolved	EPA 200.8m	7.6	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

AROCLOR-BASED PCB RESULTS

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Aroclor PCBs

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47574*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: West Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aroclor 1016	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1221	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1232	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1242	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1248	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1254	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1260	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Aroclor PCBs

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47591*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aroclor 1016	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1221	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1232	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1242	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1248	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1254	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1260	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CHLORINATED PESTICIDE RESULTS

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Chlorinated Pesticides

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47574*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: West Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
(PCB030)	Dissolved	EPA 625m	79	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(PCB112)	Dissolved	EPA 625m	84	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(PCB198)	Dissolved	EPA 625m	89	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(TCMX)	Dissolved	EPA 625m	73	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
2,4'-DDD	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,4'-DDE	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,4'-DDT	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
4,4'-DDD	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
4,4'-DDE	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
4,4'-DDT	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Aldrin	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-alpha	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-beta	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-delta	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-gamma	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Chlordane-alpha	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Chlordane-gamma	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
cis-Nonachlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
DCPA (Dacthal)	Dissolved	EPA 625m	ND	ng/L	5	10	20-Nov-06	04-Dec-06	26217b-21115
Dicofol	Dissolved	EPA 625m	ND	ng/L	50	100	20-Nov-06	04-Dec-06	26217b-21115
Dieldrin	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endosulfan Sulfate	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endosulfan-I	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endosulfan-II	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endrin	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Chlorinated Pesticides

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47574*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: West Sed ELUTRIATE, Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Endrin Aldehyde	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endrin Ketone	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Heptachlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Heptachlor Epoxide	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Methoxychlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Mirex	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Oxychlordane	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Perthane	Dissolved	EPA 625m	ND	ng/L	5	10	20-Nov-06	04-Dec-06	26217b-21115
Total Chlordane	Dissolved	EPA 625m	0	ng/L			20-Nov-06	04-Dec-06	26217b-21115
Total Detectable DDTs	Dissolved	EPA 625m	0	ng/L			20-Nov-06	04-Dec-06	26217b-21115
Toxaphene	Dissolved	EPA 625m	ND	ng/L	10	50	20-Nov-06	04-Dec-06	26217b-21115
trans-Nonachlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Chlorinated Pesticides

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47591*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
(PCB030)	Dissolved	EPA 625m	83	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(PCB112)	Dissolved	EPA 625m	89	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(PCB198)	Dissolved	EPA 625m	97	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(TCMX)	Dissolved	EPA 625m	77	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
2,4'-DDD	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,4'-DDE	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,4'-DDT	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
4,4'-DDD	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
4,4'-DDE	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
4,4'-DDT	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Aldrin	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-alpha	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-beta	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-delta	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-gamma	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Chlordane-alpha	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Chlordane-gamma	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
cis-Nonachlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
DCPA (Dacthal)	Dissolved	EPA 625m	ND	ng/L	5	10	20-Nov-06	04-Dec-06	26217b-21115
Dicofol	Dissolved	EPA 625m	ND	ng/L	50	100	20-Nov-06	04-Dec-06	26217b-21115
Dieldrin	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endosulfan Sulfate	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endosulfan-I	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endosulfan-II	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endrin	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Chlorinated Pesticides

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47591*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Endrin Aldehyde	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endrin Ketone	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Heptachlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Heptachlor Epoxide	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Methoxychlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Mirex	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Oxychlordane	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Perthane	Dissolved	EPA 625m	ND	ng/L	5	10	20-Nov-06	04-Dec-06	26217b-21115
Total Chlordane	Dissolved	EPA 625m	0	ng/L			20-Nov-06	04-Dec-06	26217b-21115
Total Detectable DDTs	Dissolved	EPA 625m	0	ng/L			20-Nov-06	04-Dec-06	26217b-21115
Toxaphene	Dissolved	EPA 625m	ND	ng/L	10	50	20-Nov-06	04-Dec-06	26217b-21115
trans-Nonachlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

GENERAL CHEMISTRY
RESULTS

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47574* **Sample Description:** West Sed ELUTRIATE
Replicate #: R1 Malibou Lake Sediment
DILUTION FACTOR: 1 **Matrix:** Water
Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Dissolved Orthophosphate as P	NA	EPA 300.0	ND	mg/L	0.0075	0.01	16-Nov-06	16-Nov-06	26217b-111606
Nitrate-N	NA	EPA 300.0	0.03	mg/L	0.01	0.05	16-Nov-06	16-Nov-06	26217b-111606
pH	NA	EPA 150.1	8	pH Units	0.1	0.2	20-Nov-06	20-Nov-06	26217b-1416001
Total Hardness as CaCO3	N/A	SM 2340 B	586	mg/L	1	5	18-Jan-07	18-Jan-07	26217-15074

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47591*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Dissolved Orthophosphate as P	NA	EPA 300.0	0.0172	mg/L	0.0075	0.01	16-Nov-06	16-Nov-06	26217b-111606
Nitrate-N	NA	EPA 300.0	0.06	mg/L	0.01	0.05	16-Nov-06	16-Nov-06	26217b-111606
pH	NA	EPA 150.1	8.4	pH Units	0.1	0.2	20-Nov-06	20-Nov-06	26217b-1416001
Total Hardness as CaCO3	N/A	SM 2340 B	425.8	mg/L	1	5	18-Jan-07	18-Jan-07	26217-15074

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47574*
Replicate #: R2
DILUTION FACTOR: 1

Sample Description: West Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
pH	NA	EPA 150.1	8	pH Units	0.1	0.2	20-Nov-06	20-Nov-06	26217b-1416001
Total Hardness as CaCO3	N/A	SM 2340 B	577.7	mg/L	1	5	18-Jan-07	18-Jan-07	26217-15074

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.
2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47591* **Sample Description:** East Sed ELUTRIATE
Replicate #: R2 Malibou Lake Sediment
DILUTION FACTOR: 1 **Matrix:** Water
Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Dissolved Orthophosphate as P	NA	EPA 300.0	0.0191	mg/L	0.0075	0.01	16-Nov-06	16-Nov-06	26217b-111606
Nitrate-N	NA	EPA 300.0	0.07	mg/L	0.01	0.05	16-Nov-06	16-Nov-06	26217b-111606
Total Hardness as CaCO3	N/A	SM 2340 B	426.3	mg/L	1	5	18-Jan-07	18-Jan-07	26217-15074

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CONGENER-BASED PCB RESULTS

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

PCB Congeners

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47574*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: West Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
PCB018	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB028	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB031	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB033	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB037	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB044	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB049	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB052	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB066	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB070	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB074	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB077	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB081	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB087	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB095	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB097	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB099	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB101	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB105	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB110	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB114	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB118	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB119	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB123	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB126	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

PCB Congeners

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47574*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: West Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
PCB128+167	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB138	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB141	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB149	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB151	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB153	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB156	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB157	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB158	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB168+132	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB169	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB170	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB177	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB180	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB183	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB187	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB189	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB194	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB200	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB201	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB206	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Total Detectable PCBs	Dissolved	EPA 625m	0	ng/L			20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

PCB Congeners

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47591*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
PCB018	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB028	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB031	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB033	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB037	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB044	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB049	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB052	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB066	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB070	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB074	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB077	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB081	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB087	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB095	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB097	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB099	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB101	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB105	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB110	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB114	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB118	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB119	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB123	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB126	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

PCB Congeners

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47591*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
PCB128+167	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB138	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB141	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB149	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB151	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB153	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB156	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB157	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB158	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB168+132	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB169	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB170	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB177	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB180	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB183	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB187	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB189	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB194	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB200	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB201	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB206	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Total Detectable PCBs	Dissolved	EPA 625m	0	ng/L			20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

POLYNUCLEAR AROMATIC HYDROCARBON RESULTS

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47574*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: West Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
(d10-Acenaphthene)	Dissolved	EPA 625m	92	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d10-Phenanthrene)	Dissolved	EPA 625m	94	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d12-Chrysene)	Dissolved	EPA 625m	81	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d12-Perylene)	Dissolved	EPA 625m	100	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d8-Naphthalene)	Dissolved	EPA 625m	93	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
1-Methylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
1-Methylphenanthrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,3,5-Trimethylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,6-Dimethylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2-Methylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Acenaphthene	Dissolved	EPA 625m	J 2.7	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Acenaphthylene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Anthracene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benz[a]anthracene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[a]pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[b]fluoranthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[e]pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[g,h,i]perylene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[k]fluoranthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Biphenyl	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Chrysene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Dibenz[a,h]anthracene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Dibenzothiophene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Fluoranthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Fluorene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47574*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: West Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Indeno[1,2,3-c,d]pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Naphthalene	Dissolved	EPA 625m	6.6	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Perylene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Phenanthrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Total Detectable PAHs	Dissolved	EPA 625m	9.3	ng/L			20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47591*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed ELUTRIATE Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
(d10-Acenaphthene)	Dissolved	EPA 625m	93	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d10-Phenanthrene)	Dissolved	EPA 625m	95	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d12-Chrysene)	Dissolved	EPA 625m	81	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d12-Perylene)	Dissolved	EPA 625m	99	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d8-Naphthalene)	Dissolved	EPA 625m	95	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
1-Methylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
1-Methylphenanthrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,3,5-Trimethylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,6-Dimethylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2-Methylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Acenaphthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Acenaphthylene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Anthracene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benz[a]anthracene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[a]pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[b]fluoranthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[e]pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[g,h,i]perylene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[k]fluoranthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Biphenyl	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Chrysene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Dibenz[a,h]anthracene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Dibenzothiophene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Fluoranthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Fluorene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47591*
Replicate #: R1
DILUTION FACTOR: 1

Sample Description: East Sed ELUTRIATE
Malibou Lake Sediment
Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Indeno[1,2,3-c,d]pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Naphthalene	Dissolved	EPA 625m	5.3	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Perylene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Phenanthrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Total Detectable PAHs	Dissolved	EPA 625m	5.3	ng/L			20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

QUALITY CONTROL REPORT

PROCEDURAL BLANK RESULTS

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47573*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank
Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aluminum (Al)	Dissolved	EPA 200.8m	ND	µg/L	5	10	10-Dec-06	10-Dec-06	26217b-15074
Antimony (Sb)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Arsenic (As)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Barium (Ba)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Beryllium (Be)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Cadmium (Cd)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.4	10-Dec-06	10-Dec-06	26217b-15074
Chromium (Cr)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Cobalt (Co)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Copper (Cu)	Dissolved	EPA 200.8m	ND	µg/L	0.4	0.8	10-Dec-06	10-Dec-06	26217b-15074
Iron (Fe)	Dissolved	EPA 200.8m	ND	µg/L	5	10	10-Dec-06	10-Dec-06	26217b-15074
Lead (Pb)	Dissolved	EPA 200.8m	ND	µg/L	0.05	0.1	10-Dec-06	10-Dec-06	26217b-15074
Manganese (Mn)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Mercury (Hg)	Dissolved	EPA 245.7m	ND	µg/L	0.01	0.02	05-Dec-06	05-Dec-06	26217b-2114
Molybdenum (Mo)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Nickel (Ni)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Selenium (Se)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Silver (Ag)	Dissolved	EPA 200.8m	ND	µg/L	0.5	1	10-Dec-06	10-Dec-06	26217b-15074
Strontium (Sr)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Thallium (Tl)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Tin (Sn)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074
Titanium (Ti)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Vanadium (V)	Dissolved	EPA 200.8m	ND	µg/L	0.2	0.5	10-Dec-06	10-Dec-06	26217b-15074
Zinc (Zn)	Dissolved	EPA 200.8m	ND	µg/L	0.1	0.5	10-Dec-06	10-Dec-06	26217b-15074

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Aroclor PCBs

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47573*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank
Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Aroclor 1016	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1221	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1232	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1242	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1248	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1254	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115
Aroclor 1260	Dissolved	EPA 625m	ND	ng/L	10	20	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Chlorinated Pesticides

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47573*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank — Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
(PCB030)	Dissolved	EPA 625m	64	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(PCB112)	Dissolved	EPA 625m	82	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(PCB198)	Dissolved	EPA 625m	101	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(TCMX)	Dissolved	EPA 625m	60	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
2,4'-DDD	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,4'-DDE	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,4'-DDT	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
4,4'-DDD	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
4,4'-DDE	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
4,4'-DDT	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Aldrin	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-alpha	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-beta	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-delta	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
BHC-gamma	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Chlordane-alpha	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Chlordane-gamma	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
cis-Nonachlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
DCPA (Dacthal)	Dissolved	EPA 625m	ND	ng/L	5	10	20-Nov-06	04-Dec-06	26217b-21115
Dicofol	Dissolved	EPA 625m	ND	ng/L	50	100	20-Nov-06	04-Dec-06	26217b-21115
Dieldrin	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endosulfan Sulfate	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endosulfan-I	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endosulfan-II	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endrin	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Chlorinated Pesticides

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47573*
Replicate #: B1
DILUTION FACTOR: 1
Sample Description: QAQC Procedural Blank — Malibou Lake Sediment
Matrix: DI Water
Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Endrin Aldehyde	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Endrin Ketone	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Heptachlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Heptachlor Epoxide	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Methoxychlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Mirex	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Oxychlordane	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Perthane	Dissolved	EPA 625m	ND	ng/L	5	10	20-Nov-06	04-Dec-06	26217b-21115
Total Chlordane	Dissolved	EPA 625m	0	ng/L			20-Nov-06	04-Dec-06	26217b-21115
Total Detectable DDTs	Dissolved	EPA 625m	0	ng/L			20-Nov-06	04-Dec-06	26217b-21115
Toxaphene	Dissolved	EPA 625m	ND	ng/L	10	50	20-Nov-06	04-Dec-06	26217b-21115
trans-Nonachlor	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47573*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank
Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Dissolved Orthophosphate as P	NA	EPA 300.0	ND	mg/L	0.0075	0.01	16-Nov-06	16-Nov-06	26217b-111606
Nitrate-N	NA	EPA 300.0	ND	mg/L	0.01	0.05	16-Nov-06	16-Nov-06	26217b-111606
pH	NA	EPA 150.1	6.1	pH Units	0.1	0.2	20-Nov-06	20-Nov-06	26217b-1416001
Total Hardness as CaCO3	N/A	SM 2340 B	ND	mg/L	1	5	18-Jan-07	18-Jan-07	26217-15074

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

PCB Congeners

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47573*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank — Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
PCB018	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB028	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB031	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB033	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB037	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB044	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB049	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB052	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB066	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB070	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB074	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB077	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB081	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB087	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB095	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB097	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB099	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB101	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB105	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB110	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB114	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB118	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB119	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB123	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB126	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

PCB Congeners

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47573*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank — Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
PCB128+167	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB138	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB141	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB149	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB151	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB153	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB156	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB157	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB158	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB168+132	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB169	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB170	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB177	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB180	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB183	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB187	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB189	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB194	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB200	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB201	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
PCB206	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Total Detectable PCBs	Dissolved	EPA 625m	0	ng/L			20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47573*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank; Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
(d10-Acenaphthene)	Dissolved	EPA 625m	82	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d10-Phenanthrene)	Dissolved	EPA 625m	92	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d12-Chrysene)	Dissolved	EPA 625m	97	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d12-Perylene)	Dissolved	EPA 625m	110	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
(d8-Naphthalene)	Dissolved	EPA 625m	84	% Recovery			20-Nov-06	04-Dec-06	26217b-21115
1-Methylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
1-Methylphenanthrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,3,5-Trimethylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2,6-Dimethylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
2-Methylnaphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Acenaphthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Acenaphthylene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Anthracene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benz[a]anthracene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[a]pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[b]fluoranthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[e]pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[g,h,i]perylene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Benzo[k]fluoranthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Biphenyl	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Chrysene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Dibenz[a,h]anthracene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Dibenzothiophene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Fluoranthene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Fluorene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Polynuclear Aromatic Hydrocarbons

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47573*
Replicate #: B1
DILUTION FACTOR: 1

Sample Description: QAQC Procedural Blank
Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DATE PROCESSED	DATE ANALYZED	BATCH ID
Indeno[1,2,3-c,d]pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Naphthalene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Perylene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Phenanthrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Pyrene	Dissolved	EPA 625m	ND	ng/L	1	5	20-Nov-06	04-Dec-06	26217b-21115
Total Detectable PAHs	Dissolved	EPA 625m	0	ng/L			20-Nov-06	04-Dec-06	26217b-21115

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; J= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable; MI = Matrix Interferance

California ELAP Certificate # 2261

ACCURACY DATA

CRG Marine Laboratories, Inc.
MATRIX SPIKE QAQC REPORT
Project ID: 26217b

Sample ID: 47574-MS1/MS2 West Sed | **ELUTRIATE** | **Date Sampled:** 11/14/2006

Parameter	Non-Spiked Sample Concentration			Matrix Spike Results					Matrix Spike Duplicate Results					Acceptance Range
	Rep-1	Rep-2	Mean	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	Gross Conc.	Net Conc.	Spike Conc.	Percent Recovery	Comment	
Trace Metals				*Batch ID:* **26217b-15074**										
Aluminum (Al)	0	0	0	95.6	95.6	100	**96**	PASS	95.5	95.5	100	**95**	PASS	50 - 140%
Antimony (Sb)	1.3	1.3	1.3	8.1	6.8	10	**68**	PASS	8.6	7.3	10	**73**	PASS	65 - 135%
Arsenic (As)	2.6	2.6	2.6	104.4	101.8	100	**102**	PASS	101.3	98.7	100	**99**	PASS	70 - 130%
Barium (Ba)	83.7	85.3	84.5	176.2	91.7	100	**92**	PASS	180.9	96.4	100	**96**	PASS	70 - 130%
Beryllium (Be)	0	0	0	79	79	100	**79**	PASS	79.1	79.1	100	**79**	PASS	60 - 130%
Cadmium (Cd)	0.4	0.4	0.4	9.5	9.1	10	**91**	PASS	9.8	9.400	10	**94**	PASS	75 - 130%
Chromium (Cr)	0.6	0.6	0.6	111	110.4	100	**110**	PASS	105.1	104.5	100	**104**	PASS	70 - 130%
Cobalt (Co)	0.3	0.3	0.3	105	104.7	100	**105**	PASS	101.9	101.6	100	**102**	PASS	70 - 130%
Copper (Cu)	3.3	3.2	3.25	103.6	100.4	100	**100**	PASS	100.6	97.35	100	**97**	PASS	70 - 130%
Iron (Fe)	161	174	167.5	256.6	89.10	100	**89**	PASS	249.2	81.7	100	**82**	PASS	55 - 140%
Lead (Pb)	0	0	0	82.81	82.81	100	**83**	PASS	84.88	84.88	100	**85**	PASS	65 - 135%
Manganese (Mn)	270.5	271.6	271.05	374.9	103.9	100	**104**	PASS	374.5	103.5	100	**103**	PASS	70 - 130%
Mercury (Hg)	0	0	0	1.23	1.23	1	**123**	PASS	1.21	1.21	1	**121**	PASS	60 - 140%
Molybdenum (Mo)	25.8	26.1	25.95	130.5	104.6	100	**105**	PASS	131.8	105.9	100	**106**	PASS	70 - 130%
Nickel (Ni)	3.7	3.8	3.75	104.1	100.4	100	**100**	PASS	100.9	97.15	100	**97**	PASS	70 - 130%

Sample ID:	**47574-MS1/MS2**	**West Sed**	**ELUTRIATE**	*Date Sampled:* **11/14/2006**

Parameter	*Non-Spiked Sample Concentration*			*Matrix Spike Results*					*Matrix Spike Duplicate Results*					*Acceptance Range*
	Rep-1	*Rep-2*	*Mean*	*Gross Conc.*	*Net Conc.*	*Spike Conc.*	*Percent Recovery*	*Comment*	*Gross Conc.*	*Net Conc.*	*Spike Conc.*	*Percent Recovery*	*Comment*	
Selenium (Se)	2.8	2.4	2.6	100.4	97.8	100	**98**	PASS	99.4	96.8	100	**97**	PASS	60 - 150%
Silver (Ag)	0	0	0	10.6	10.6	10	**106**	PASS	11.2	11.2	10	**112**	PASS	50 - 155%
Strontium (Sr)	1006	1003	1004.5	1124	119.5	100	**120**	PASS	1126	121.5	100	**122**	PASS	70 - 130%
Thallium (Tl)	0	0	0	81.5	81.5	100	**81**	PASS	87	87	100	**87**	PASS	70 - 130%
Tin (Sn)	0	0	0	81	81	100	**81**	PASS	85.1	85.1	100	**85**	PASS	65 - 140%
Titanium (Ti)	0.6	0.5	0.55	107.1	106.6	100	**107**	PASS	102	101.5	100	**101**	PASS	70 - 130%
Vanadium (V)	11.7	11.8	11.75	129	117.3	100	**117**	PASS	121.7	110	100	**110**	PASS	70 - 130%
Zinc (Zn)	7.6	7.6	7.6	87.6	80	100	**80**	PASS	85.4	77.8	100	**78**	PASS	50 - 150%

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47573*
Replicate #: BS1
Batch ID: 26217b-111606

Sample Description: QAQC Procedural Blank; Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:
Date Processed: 16-Nov-06
Date Analyzed: 16-Nov-06

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Dissolved Orthophosphate as P	NA	EPA 300.0	101	0.165 mg/L	70 - 130%	PASS
Nitrate-N	NA	EPA 300.0	85	0.5 mg/L	70 - 130%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47573*
Replicate #: BS2
Batch ID: 26217b-111606

Sample Description: QAQC Procedural Blank — Malibou Lake Sediment
Matrix: DI Water

Date Sampled:
Date Received:
Date Processed: 16-Nov-06
Date Analyzed: 16-Nov-06

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Dissolved Orthophosphate as P	NA	EPA 300.0	95	0.165 mg/L	70 - 130%	PASS
Nitrate-N	NA	EPA 300.0	84	0.5 mg/L	70 - 130%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#:	*47591*	**Sample Description:**	East Sed ELUTRIATE	**Date Sampled:**	14-Nov-06
Replicate #:	MS1		Malibou Lake Sediment	**Date Received:**	15-Nov-06
Batch ID:	26217b-111606	**Matrix:**	Water	**Date Processed:**	16-Nov-06
				Date Analyzed:	16-Nov-06

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Dissolved Orthophosphate as P	NA	EPA 300.0	101	0.165 mg/L	70 - 130%	PASS
Nitrate-N	NA	EPA 300.0	96	0.5 mg/L	70 - 130%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#: *47591* **Sample Description:** East Sed ELUTRIATE **Date Sampled:** 14-Nov-06
Replicate #: MS2 Malibou Lake Sediment **Date Received:** 15-Nov-06
Batch ID: 26217b-111606 **Matrix:** Water **Date Processed:** 16-Nov-06
Date Analyzed: 16-Nov-06

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Dissolved Orthophosphate as P	NA	EPA 300.0	103	0.165 mg/L	70 - 130%	PASS
Nitrate-N	NA	EPA 300.0	96	0.5 mg/L	70 - 130%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

PRECISION DATA

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47573*

Sample Description: QAQC Procedural Blank — Malibou Lake Sediment

Matrix: DI Water

Batch ID: 26217b-111606

Date Sampled:

Date Received:

Date Processed: 16-Nov-06

Date Analyzed: 16-Nov-06

CONSTITUENT	FRACTION	METHOD	BS1 % Recovery	BS2 % Recovery	% RPD	ACCEPTANCE RANGE	COMMENT
Dissolved Orthophosphate as P	NA	EPA 300.0	101	95	6	0 - 30%	PASS
Nitrate-N	NA	EPA 300.0	85	84	1	0 - 30%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47591*

Sample Description: East Sed ELUTRIATE
Malibou Lake Sediment

Batch ID: 26217b-111606

Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06
Date Processed: 16-Nov-06
Date Analyzed: 16-Nov-06

CONSTITUENT	FRACTION	METHOD	MS1 % Recovery	MS2 % Recovery	% RPD	ACCEPTANCE RANGE	COMMENT
Dissolved Orthophosphate as P	NA	EPA 300.0	101	103	2	0 - 30%	PASS
Nitrate-N	NA	EPA 300.0	96	96	0	0 - 30%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#:	*47574*	**Sample Description:**	West Sed ELUTRIATE Malibou Lake Sediment	**Date Sampled:**	14-Nov-06
				Date Received:	15-Nov-06
Batch ID:	26217b-1416001	**Matrix:**	Water	**Date Processed:**	20-Nov-06
				Date Analyzed:	20-Nov-06

CONSTITUENT	FRACTION	METHOD	R1 pH Units	R2 pH Units	% RPD	ACCEPTANCE RANGE	COMMENT
pH	NA	EPA 150.1	8	8	0	0 - 30%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

General Chemistry

Client: *LFR* **CRG Project ID:** *26217b*

CRG ID#:	*47591*	**Sample Description:**	East Sed ELUTRIATE	**Date Sampled:**	14-Nov-06
			Malibou Lake Sediment	**Date Received:**	15-Nov-06
Batch ID:	26217b-111606	**Matrix:**	Water	**Date Processed:**	16-Nov-06
				Date Analyzed:	16-Nov-06

CONSTITUENT	FRACTION	METHOD	R1 mg/L	R2 mg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Dissolved Orthophosphate as P	NA	EPA 300.0	0.0172	0.0191	10	0 - 30%	PASS
Nitrate-N	NA	EPA 300.0	0.06	0.07	15	0 - 30%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

47591

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47574*

Sample Description: West Sed ELUTRIATE
Malibou Lake Sediment

Batch ID: 26217b-15074

Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06
Date Processed: 10-Dec-06
Date Analyzed: 10-Dec-06

CONSTITUENT	FRACTION	METHOD	MS1 µg	MS2 µg	% RPD	ACCEPTANCE RANGE	COMMENT
Aluminum (Al)	Dissolved	EPA 200.8m	95.6	95.5	0	0 - 30%	PASS
Antimony (Sb)	Dissolved	EPA 200.8m	8.1	8.6	6	0 - 30%	PASS
Arsenic (As)	Dissolved	EPA 200.8m	104.4	101.3	3	0 - 30%	PASS
Barium (Ba)	Dissolved	EPA 200.8m	176.2	180.9	3	0 - 30%	PASS
Beryllium (Be)	Dissolved	EPA 200.8m	79	79.1	0	0 - 30%	PASS
Cadmium (Cd)	Dissolved	EPA 200.8m	9.5	9.8	3	0 - 30%	PASS
Chromium (Cr)	Dissolved	EPA 200.8m	111	105.1	5	0 - 30%	PASS
Cobalt (Co)	Dissolved	EPA 200.8m	105	101.9	3	0 - 30%	PASS
Copper (Cu)	Dissolved	EPA 200.8m	103.6	100.6	3	0 - 30%	PASS
Iron (Fe)	Dissolved	EPA 200.8m	256.6	249.2	3	0 - 30%	PASS
Lead (Pb)	Dissolved	EPA 200.8m	82.81	84.88	2	0 - 30%	PASS
Manganese (Mn)	Dissolved	EPA 200.8m	374.9	374.5	0	0 - 30%	PASS
Mercury (Hg)	Dissolved	EPA 245.7m	1.23	1.21	2	0 - 30%	PASS
Molybdenum (Mo)	Dissolved	EPA 200.8m	130.5	131.8	1	0 - 30%	PASS
Nickel (Ni)	Dissolved	EPA 200.8m	104.1	100.9	3	0 - 30%	PASS
Selenium (Se)	Dissolved	EPA 200.8m	100.4	99.4	1	0 - 30%	PASS
Silver (Ag)	Dissolved	EPA 200.8m	10.6	11.2	6	0 - 30%	PASS
Strontium (Sr)	Dissolved	EPA 200.8m	1124	1126	0	0 - 30%	PASS
Thallium (Tl)	Dissolved	EPA 200.8m	81.5	87	7	0 - 30%	PASS
Tin (Sn)	Dissolved	EPA 200.8m	81	85.1	5	0 - 30%	PASS
Titanium (Ti)	Dissolved	EPA 200.8m	107.1	102	5	0 - 30%	PASS
Vanadium (V)	Dissolved	EPA 200.8m	129	121.7	6	0 - 30%	PASS
Zinc (Zn)	Dissolved	EPA 200.8m	87.6	85.4	3	0 - 30%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Trace Metals

Client: *LFR*

CRG Project ID: *26217b*

CRG ID#: *47574*

Sample Description: West Sed ELUTRIATE
Malibou Lake Sediment

Batch ID: 26217b-15074

Matrix: Water

Date Sampled: 14-Nov-06
Date Received: 15-Nov-06
Date Processed: 10-Dec-06
Date Analyzed: 10-Dec-06

CONSTITUENT	FRACTION	METHOD	R1 µg/L	R2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Antimony (Sb)	Dissolved	EPA 200.8m	1.3	1.3	0	0 - 30%	PASS
Arsenic (As)	Dissolved	EPA 200.8m	2.6	2.6	0	0 - 30%	PASS
Barium (Ba)	Dissolved	EPA 200.8m	83.7	85.3	2	0 - 30%	PASS
Cadmium (Cd)	Dissolved	EPA 200.8m	0.4	0.4	0	0 - 30%	PASS
Chromium (Cr)	Dissolved	EPA 200.8m	0.6	0.6	0	0 - 30%	PASS
Cobalt (Co)	Dissolved	EPA 200.8m	0.3	0.3	0	0 - 30%	PASS
Copper (Cu)	Dissolved	EPA 200.8m	3.3	3.2	3	0 - 30%	PASS
Iron (Fe)	Dissolved	EPA 200.8m	161	174	8	0 - 30%	PASS
Manganese (Mn)	Dissolved	EPA 200.8m	270.5	271.6	0	0 - 30%	PASS
Molybdenum (Mo)	Dissolved	EPA 200.8m	25.8	26.1	1	0 - 30%	PASS
Nickel (Ni)	Dissolved	EPA 200.8m	3.7	3.8	3	0 - 30%	PASS
Selenium (Se)	Dissolved	EPA 200.8m	2.8	2.4	15	0 - 30%	PASS
Strontium (Sr)	Dissolved	EPA 200.8m	1006	1003	0	0 - 30%	PASS
Titanium (Ti)	Dissolved	EPA 200.8m	0.6	0.5	18	0 - 30%	PASS
Vanadium (V)	Dissolved	EPA 200.8m	11.7	11.8	1	0 - 30%	PASS
Zinc (Zn)	Dissolved	EPA 200.8m	7.6	7.6	0	0 - 30%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Reporting Limit; E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261
47574

SUB-CONTRACT LAB REPORT

CHAIN-OF-CUSTODY

CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.
7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1427
TEL: (714) 895-5494 • FAX: (714) 894-7501

TO: CRG Marine Lab
Torrance, CA

CHAIN OF CUSTODY RECORD

Date 11-14-06

Page 1 of 1

LABORATORY CLIENT: CRG Marine Labs
ADDRESS:
CITY: Torrance STATE: CA ZIP:
TEL: E-MAIL:

CLIENT PROJECT NAME / NUMBER: 06-11-0351 (P26217)
PROJECT CONTACT: Misty Mercier
SAMPLER(S): (PRINT)
COELT LOG CODE
P.O. NO.:
LAB USE ONLY
COOLER RECEIPT TEMP = °C

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐

SPECIAL INSTRUCTIONS:
See Misty re: These elutriate samples.

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (G)	TPH (D) or	BTEX / MTBE (8260B) or	OXYGENATES (8260B)	VOCs (8260B)	5035 ENCORE PREP	SVOCs (8270C)	PEST (8081A)	PCBs (8082)	CAC, T22 METALS (6010B) / 747	PNAs (8310) or (8270C)	VOCs (TO-14A) or (TO-15)	TPH(G) (TO-3M)	Toxicity	Organics	Metals	Nutrients + pH
	East Sed Elutriate		11-14-06		W	5														X	X	X	X
	West Sed Elutriate		11-14-06		W	5														X	X	X	X

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 11-15-06	Time: 1445
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

05/10/06 Revision

Q&Q Graphic 714-898-9702

CRG
Marine Laboratories, Inc.

SAMPLE RECEIVING

CRG Project ID
P262176

CLIENT NAME: ~~Cal Science~~ LFR (MW)

DATE RECEIVED: 11.15.06

COURIER INFORMATION		
☐ CRG	☐ FEDEX	TRACKING NUMBER
☑ OTHER*	☐ UPS	

TEMPERATURE		
11 °C	☐ BLUE ICE	
	☑ WET ICE	
	☐ NO ICE	

Chain-of-Custody
☑ INCLUDED
☑ SIGNED
☐ NOT INCLUDED

SAMPLE MATRIX
☑ LIQUID
☐ SOLID
☐ OTHER*

CONDITION OF SAMPLES UPON ARRIVAL

	YES	NO*	NA
All sample containers intact and good condition	☑	☐	☐
All samples listed on COC are present	☑	☐	☐
Sample ID on containers consistent with COC	☑	☐	☐
Correct containers used for analyses requested	☑	☐	☐
All samples received within method holding time	☑	☐	☐

*NOTES

COMPLETED BY: JV

2020 Del Amo Boulevard Suite 200, Torrance, CA 90501 · (310) 533-5190 · FAX (310) 533-5003

LFR

Environmental Consulting, Engineering, and Management

Date	10/3/06
Time	10:00
From	Don Eley

Deliver To	Misty Mercier		
Name of Firm	CRG Marine Lab		
FAX Number	(310) 533-0211	Project No.	021-10172-01

Message:

Pages 12 - 14 from our workplan; elutriate testing parameters & target reporting limits.

Don

(805) 878-4900

NUMBER OF PAGES: This cover page plus 3 pages (s)
For Voice Contact Call: (714) 444-0111
For Return Facsimile Message (714) 444-0117

3150 Bristol Street, Suite 250
Costa Mesa, California 92626
Phone (714) 444-0111
Fax (714) 444-0117

5.2.1 Elutriate General Parameters

General parameters nitrogen as nitrate, ortho-phosphate will be determined by EPA Method 300.1 (or, the former by EPA Method 365.1), and pH will be determined using EPA Method 150.1, SW 9045 or SW 9040.

Table 5: Elutriate Testing Parameters and Target Reporting Limits

Parameter	Target Reporting Limit
Nutrients (mg/L) and Other	
Dissolved Nitrate as Nitrogen (NO3-N)	0.05
Dissolved Ortho-phosphate	0.01
pH	N/A
Dissolved Organic Carbon	0.03
Dissolved Metals (ug/L)	
Mercury (Hg)	0.02
Cadmium (Cd)	0.2
Arsenic (As), Total Chromium (Cr), Copper (Cu), Lead (Pb), Nickel (Ni), Silver (Ag), Zinc (Zi)	0.5
Selenium (Se)	1
Organic Compounds (ng/L)	
Polynuclear Aromatic Hydrocarbons (PAHs)	5 each
Polychlorinated Biphenyls (PCBs) as Aroclors	20 each
PCBs as Congeners	5 each
Organochlorine Pesticides	5 each
Bioassays	
Acute Toxicity	N/A

25°

volume ? less 1 gal

5.2.2 Elutriate Metals

Analysis of metals in the elutriate will conducted by EPA Method 200.8, with the exception of analysis for mercury, which will be conducted by EPA Method 245.7.

5.2.3 Elutriate Organic Compounds

Analysis of Organic Compounds (PAHs, PCBs and Organochlorine Pesticides) will be conducted by EPA Method 625(m)/8270C(m).

5.2.4 Elutriate Bioassay

The elutriate samples will be subjected to an acute toxicity test, using 100% concentration elutriate and water fleas (*Ceriodaphnia*).

The screening guideline for toxicity is no significant toxicity. For the elutriate bioassays, this criterion is met when the survival of organisms in effluent has a median value of not less than 90%, and a 90th percentile value of not less than 70% survival (SFBRWQCB 2000).

5.3 Laboratory Analysis Protocols

Laboratory analytical protocols will conform to the Inland Testing Manual (EPA 1998). Several details of these procedures are discussed below.

5.3.1 Chain-of-Custody

A chain-of-custody record for each set of samples will be maintained throughout all sampling activities and will accompany samples and shipment to the laboratory. Information tracked by the chain-of-custody records in the laboratory include sample identification number, date and time of sample receipt, analytical parameters required, location and conditions of storage, date and time of removal from and return to storage, signature of person removing and returning the sample, reason for removing from storage, and final disposition of the sample.

5.3.2 Reporting Limits

For purposes of testing, reporting limits of all chemicals of concern must be at or below the target concentrations listed in Tables 4 and 5 as feasible. While the laboratory will be instructed to attempt to meet these recommended reporting limits, it should be noted that some of these are very low (e.g. Aroclors and congeners) and may be unobtainable. All reasonable means, including additional cleanup steps and method modifications, will be used to bring all limits-of-detection below the targeted reporting

limits. In addition, an aliquot (250 ml) of each sediment sample for analysis will be archived and preserved at -18 C for additional analysis if necessary.

In all cases, to avoid potential problems and leave open the option for retesting, sediments or extracts will be kept under proper storage conditions until the laboratory is notified that the samples may be disposed.

5.3.3 Holding Times

All samples for physical and chemical analysis will be maintained at the testing laboratory at the temperatures specified in Table 3 and analyzed within the holding times shown in the table. Sediment samples reserved for potential bioassays will be stored under chain-of-custody by CRG Marine Laboratory.

5.3.4 Quality Assurance/Quality Control

The chemistry QA/QC procedures found in Table 6 will be followed.

Table 6: Minimum Laboratory QA/QC

Analysis Type	Method Blank[2]	Duplicate[2]	RM[2,4]	Matrix Spikes[2]	Surrogates[7]
Pesticides/PCBs[1]	X	X[3]	X[5]	X	X
Organochlorine Pesticides	X	X[3]	X[5]	X	X
Metals	X	X	X[5]	X	
Total Organic Carbon	X	X	X[6]		
Total Solids		X			
Particle Size		X			

Notes:

1. Initial calibration required before any samples are analyzed, after each major disruption of equipment, and when ongoing calibration fails to meet criteria. Ongoing calibration required at the beginning of each work shift, every 10-12 samples or every 12 hours (whichever is more frequent), and at the end of each shift.
2. Frequency of Analysis = one per batch
3. Matrix spike duplicate will be run
4. Reference Material
5. Canadian standard SRM-1
6. NIST certified reference material 2704

Calscience
Environmental
Laboratories, Inc.

December 05, 2006

Misty Mercier
CRG Marine Laboratories, Inc.
2020 Del Amo Blvd, Ste 200
Torrance, CA 90501-1206

Subject: **Calscience Work Order No.: 06-11-1577**
Client Reference: P26217b

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 11/28/2006 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Ranjit K. K. Clarke

Calscience Environmental
Laboratories, Inc.
Ranjit Clarke
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

CRG Marine Laboratories, Inc.		Date Received:	11/28/06
2020 Del Amo Blvd, Ste 200		Work Order No:	06-11-1577
Torrance, CA 90501-1206		Preparation:	N/A
		Method:	EPA 415.1

Project: P26217b

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
East Sed	**06-11-1577-1**	**11/14/06**	**Aqueous**	**11/28/06**	**11/29/06**	**61229DOCL1**

Parameter	Result	RL	DF	Qual	Units
Carbon, Dissolved Organic	8.1	0.5	1		mg/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
West Sed	**06-11-1577-2**	**11/14/06**	**Aqueous**	**11/28/06**	**11/29/06**	**61229DOCL1**

Parameter	Result	RL	DF	Qual	Units
Carbon, Dissolved Organic	9.7	0.5	1		mg/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	**099-05-115-544**	**N/A**	**Aqueous**	**11/28/06**	**11/29/06**	**61229DOCL1**

Parameter	Result	RL	DF	Qual	Units
Carbon, Dissolved Organic	ND	0.50	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

CRG Marine Laboratories, Inc.
2020 Del Amo Blvd, Ste 200
Torrance, CA 90501-1206

Date Received: 11/28/06
Work Order No: 06-11-1577
Preparation: N/A
Method: EPA 415.1

Project P26217b

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
West Sed	**Aqueous**	**TOC 2**	**11/28/06**	**11/29/06**	**61129DOCS1**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Carbon, Dissolved Organic	130	132	70-130	1	0-25	3

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

CRG Marine Laboratories, Inc.
2020 Del Amo Blvd, Ste 200
Torrance, CA 90501-1206

Date Received: N/A
Work Order No: 06-11-1577
Preparation: N/A
Method: EPA 415.1

Project: P26217b

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-05-115-544	Aqueous	TOC 2	11/28/06	11/29/06	61229DOCL1

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Carbon, Dissolved Organic	105	104	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 06-11-1577

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

1577

CRG Marine Laboratories

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206
Phone: (310)533-5190 Fax: (310)533-5003

CHAIN-OF-CUSTODY RECORD

To: Calscience

Client Name:	CRG Marine Laboratories, Inc.
Address:	2020 Del Amo Blvd. Suite 200 Torrance, CA 90501
Sampled By:	L.F. **Project ID:** P26217b
Project Manager:	Misty Mercier
Phone:	(310)533-5190 x 106
Fax:	(310)533-5003
Email:	mmercier@crglabs.com

Sampling Comments:

Total # of Samples: 2
Correct Containers: Yes
Sample Temperature: Cold
Sample Preservation: No

Reporting Comments:

Report Format: pdf + EDD
Turn-Around Time: Standard

Please email Report+EDD or questions to subcontract@crglabs.com

Client SID:	Sample Date:	Sample Time:	Matrix:	Containers:	Analyses:
East Sed	11/14/2006		Water	250mL Plastic	DOC
West Sed	11/14/2006		Water	250mL Plastic	DOC

Relinquished By: CRG Marine Laboratories, Inc.
Signature: [signature] *Date:* 11-28-06
Print: Lisa *Time:* 1415

Received By: Calscience
Signature: [signature] *Date* 11-28-06
Print: MATTHEW ELECTRONIC *Time:* 14:14

Please Return All Coolers Upon Receival Of Samples. Thank you.

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 06 - 11-1577

Cooler _____ of _____

SAMPLE RECEIPT FORM

CLIENT: CRG MARINE DATE: NOV. 28, 2006

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

_____ Chilled, cooler with temperature blank provided.
_____ Chilled, cooler without temperature blank.
YES Chilled and placed in cooler with wet ice.
_____ Ambient and placed in cooler with wet ice.
_____ Ambient temperature.
3.9 °C Temperature blank.

LABORATORY (Other than Calscience Courier):

_____ °C Temperature blank.
_____ °C IR thermometer.
_____ Ambient temperature.

Initial: MD

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Present: _____

Initial: MD

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sampler's name indicated on COC	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers and volume for analyses requested	✓		
Proper preservation noted on sample label(s)	✓		
VOA vial(s) free of headspace.			✓
Tedlar bag(s) free of condensation			✓

Initial: MD

COMMENTS:

APPENDIX F

Quality Assurance Report

Quality Assurance Report
Malibou Lake Sediment Sampling
Agoura, Los Angeles County, California

January 24, 2007
002-10330-10-003

021-10172-01

Prepared For
Malibou Lake Mountian Club Ltd.
Agoura Hills, Los Angeles County, California

Prepared By
Steven C. Beadle, PhD, PG, PE
LFR Inc.
Santa Maria, California

CONTENTS

1.0 INTRODUCTION

This Quality Assurance Report has been prepared to evaluate the quality assurance and quality control (QA/QC) data associated with LFR's Malibou Lake sediment characterization project (LFR 2006b). The Quality Assurance Report addresses both field sampling issues and laboratory analytical issues.

Field procedures were originally proposed in the Sampling and Analysis Plan (SAP; LFR 2006a). Certain deviations from the SAP procedures were described in the project report (LFR 2006b), and are discussed in Section 2.0 below.

The SAP also proposed analytical procedures, QA/QC procedures, and reporting limits for the laboratory program (LFR 2006a). The results of the laboratory QA/QC analyses and the achieved reporting limits are discussed in Sections 3.0 to 7.0 below.

Four different laboratories conducted chemical, physical, or toxicity analyses for this project:

- **CRG Marine Laboratories** (CRG), of Torrance, California, performed the analyses for chlorinated pesticides, polychlorinated biphenyls (PCBs) as Aroclors, PCB congeners, polynuclear aromatic compounds (PAHs), metals (including mercury), nitrate, orthophosphate, pH, and percent solids.

- **Applied Marine Sciences** (AMS) of League City, Texas, performed the analyses for total organic carbon (TOC).

- **Calscience Environmental Laboratories** (Calscience) of Garden Grove, California, performed the analyses for dissolved organic carbon (DOC) and total suspended solids (TSS).

- **Aquatic Bioassay & Consulting** (ABC) of Ventura, California, performed the grain size analyses and bioassays.

Full laboratory results were provided in an appendix to the project report (LFR 2006b, Appendix E).

2.0 SAMPLE COLLECTION AND HANDLING

Three deviations from the SAP were noted in the project report:

- **Sample Locations.** Two of the seven sediment sampling locations were moved slightly from the originally proposed locations (LFR 2006b, sec. 2.1). Location MLS-3 was moved slightly, for safer sampling conditions. Location TCS-1 was moved slightly, because the sediment at the original location was too coarse to be

effectively collected with the sampling equipment. The exact sample locations were not deemed critical, and so these deviations are not regarded as a significant QA/QC issue.

The sampled material from TCS-1 was later composited into the West Sed sample (LFR 2006b, table B), which was then analyzed for grain size distribution. Since the TCS-1 location was changed specifically because of sediment grain size, this change probably affected the results of the West Sed grain size analysis. However, it does not affect the validity of the analysis results.

- **Sample Depths**. The SAP called for shallow sediment sampling at depths of approximately 1 to 2.5 feet below the sediment/water interface. However, at two of the seven sampling locations, TCS-1 and MLS-5, the sampler met refusal at a depth of approximately 1.6 feet. At these locations, the retrieved sample represents depths of approximately 0 to 1.6 feet below the sediment/water interface (LFR 2006b, table A). Such depths only overlap partially with the target sampling depths.

  The exact sample depths were not deemed critical, and so these deviations are not regarded as a significant QA/QC issue.

- **Rinse Water**. The SAP called a tap water rinse, followed by a second distilled water rinse, for decontamination of the sampling system. In the field, two distilled water rinses were used instead (LFR 2006b, sec. 2.3). This deviation is not regarded as a significant QA/QC issue.

3.0 LABORATORY ANALYSES: ORGANIC COMPOUNDS

3.1 Chlorinated Pesticides and PCBs

3.1.1 QA/QC Data

Chlorinated pesticides, polychlorinated biphenyls (PCBs) as Aroclors, and PCB congeners were evaluated by CRG, using U.S. Environmental Protection Agency (EPA) Method 8270Cm for the sediment samples and EPA Method 625m for the elutriate samples.

- **Method Blanks.** Method blanks were associated with the sediment samples (CRG # 46388-B1) and elutriate samples (CRG # 47573-B1). No chlorinated pesticides, PCBs as Aroclors, or PCB congeners were detected in the method blanks.

- **Surrogate Recoveries.** Four surrogate compounds were added to each analyzed sediment or elutriate sample. The resulting surrogate recoveries were consistently within the laboratory acceptance range.

- **Matrix Spike Recoveries.** Two matrix spikes were analyzed for chlorinated pesticides, PCB congeners, and four surrogate compounds, using the West Sed sediment sample (CRG #46389-MS1/MS2). The resulting spike and spike duplicate recoveries were within the laboratory acceptance range for 33 of the 34 analyzed compounds.

  The only exception was endrin aldehyde: there was no recovery of this compound in either the matrix spike or matrix spike duplicate. According to Ms. Rhonda Moeller of CRG, zero recovery of endrin aldehyde is not unusual, depending on the sample matrix.

  Endrin aldehyde is not a pesticide itself; it is an impurity and breakdown product of the pesticide endrin (U.S. Agency for Toxic Substances and Disease Registry [ATSDR] 1997). CRG achieved acceptable matrix spike recoveries for endrin, and also for endrin ketone (another endrin breakdown product). No endrin or endrin ketone was detected in the analyzed sediment samples. The non-recovery of endrin aldehyde in the matrix spikes is therefore not regarded as a significant issue, because its presence would not be expected in the absence of endrin, its parent compound.

- **Reference Material.** The SAP (LFR 2006a, table 6)) proposed to include tests of reference materials as part of the QA/QC for pesticide and PCB analyses. The QA/QC results provided by CRG did not include reference material analyses for these compounds. However, this is not regarded as a significant QA/QC issue, because the surrogate, matrix spike, and matrix spike duplicate recoveries indicate that accurate pesticide and PCB results were achieved with the sample matrix.

- **Matrix Spike RPDs.** The relative percent differences (RPDs) for the matrix spike duplicates were consistently within the laboratory acceptance range.

- **Duplicate Samples.** Duplicate analyses were performed using the West Sed sediment sample (CRG #46389-R1/R2). The RPDs for detected compounds, which included DDTs and four surrogate compounds, were consistently within the laboratory acceptance range.

3.1.2 Reporting Limits

The SAP proposed reporting limits (RLs) of 20 nanograms per gram (ng/g) or nanograms per liter (ng/L) for PCBs as Aroclors, 5 ng/g or ng/L for PCB congeners, and 5 ng/g or ng/L for chlorinated pesticides. CRG achieved these RLs for PCBs as Aroclors, PCB congeners, and most (27 of 31) chlorinated pesticides.

The RLs were elevated above the 5 ng/g or 5 ng/l level for four chlorinated pesticides. However the elevated RLs in these cases are not considered a significant issue, because EPA Method 8270C appears to have inherent limitations for detecting these specific compounds, as outlined below:

- **DCPA (Dacthal).** The RLs were 10 ng/g in sediment, and 10 ng/L in elutriate. This compound is not included on the official Method 8270C target compound list (TCL) published by EPA (1996). The MDL for this compound was 5 ng/g or ng/L.
- **Dicofol.** The RLs were 5 ng/g in sediment, but 100 ng/L in elutriate. This compound is not included on the official Method 8270C TCL. The MDL for this compound in elutriate was 50 ng/L.
- **Perthane.** The RLs were 10 ng/g in sediment, and 10 ng/L in elutriate. This compound is not included on the official Method 8270C TCL. The MDL for this compound was 5 ng/g or ng/L.
- **Toxaphene.** The RLs were 50 ng/g in sediment, and 50 ng/L in elutriate. This compound is included on the official TCL. However, EPA (1996, p. 8) has acknowledged that Method 8270C has "limited sensitivity" to toxaphene, because toxaphene is a "multicomponent analyte," rather than a pure chemical compound. The MDL for this compound was 10 ng/g or ng/L.

The method detection limits (MDLs) achieved by CRG for PCBs as Aroclors (10 ng/g or ng/L), PCB congeners (1 ng/g or ng/L) and most chlorinated pesticides (1 ng/g or ng/L) were lower than the RLs. In some cases, CRG reported "J-flagged" estimated values, at concentrations below the applicable RLs but above the applicable MDLs.

The MDLs achieved by CRG for DCPA and perthane were 5 ng/g or ng/L, equivalent to the target RLs. Since CRG was capable of detecting and estimating concentrations between the MDLs and the RLs, DCPA and perthane would still have been detected and reported (as "J-flagged" values) at concentrations equivalent to or below the RLs.

The elutriate MDLs for Dicofol (50 ng/l) and the MDLs for toxaphene (10 ng/g or ng/L) were above the applicable target RLs.

3.2 Polynuclear Aromatic Hydrocarbons

3.2.1 QA/QC Data

Polynuclear aromatic hydrocarbons (PAHs) were evaluated by CRG, using EPA Method 8270m for the sediment samples and EPA Method 625m for the elutriate samples.

- **Method Blanks.** Method blanks were associated with the sediment samples (CRG # 46388-B1) and elutriate samples (CRG # 47573-B1). No PAHs were detected in the method blanks.
- **Surrogate Recoveries.** Five surrogate compounds were added to each analyzed sediment or elutriate sample. The resulting surrogate recoveries were consistently within the laboratory acceptance range.

- **Matrix Spike Recoveries.** Two matrix spikes were analyzed for PNAs and five surrogates, using the West Sed sediment sample (CRG #46389-MS1/MS2). The resulting spike recoveries were consistently within the laboratory acceptance range.

- **Matrix Spike RPDs.** The RPDs for the matrix spike duplicates were consistently within the laboratory acceptance range.

- **Duplicate Samples.** Duplicate analyses were performed for PAHs and five surrogate compounds, using the West Sed sediment sample (CRG #46389-R1/R2). The RPDs for the surrogate compounds were consistently within the laboratory acceptance range.

  However, the RPDs for the other PAHs were consistently outside the acceptance range; the reported values for the R1 analysis were consistently greater than those for the R2 analysis. This anomaly did not affect the PAH surrogates and matrix spikes; the recoveries and RPDs for the surrogates and matrix spikes were consistently within the acceptance range. This pattern suggests that the anomaly represents variation of the sample matrix within the sample container, rather than inconsistent analytical performance. As noted in CRG laboratory report:

  > "The %RPD for the duplicate test sample analysis can be significantly affected by the homogeneity of the sample matrix within the sample container itself causing additional variability in the analytical results. In these cases, the QA/QC Acceptance Limits may be exceeded."

3.2.2 Reporting Limits

The SAP proposed RLs of 5 ng/g or ng/L for PAHs. CRG achieved these target RLs. CRG achieved MDLs of 1 ng/g or ng/L.

4.0 LABORATORY ANALYSES: ORGANIC CARBON

4.1 Total Organic Carbon

4.1.1 QA/QC Data

Total organic carbon (TOC) was evaluated in the sediment samples by AMS, using EPA Method 9060A.

- **Method Blanks.** A method blank was associated with the sediment samples (AMS # 111606-01, CB-01). TOC was not detected in the method blank.

- **Control Samples.** Two "continuing calibration verification" samples, with different TOC concentrations, were associated with the sediment samples (AMS #111606-01, CCV-01/ICCV-01). The results obtained from these two control

samples were within the laboratory acceptance range. These samples are equivalent to the "reference material" samples proposed in the SAP (LFR 2006a, table 6).

- **Duplicate Sample.** The three analyzed sediment samples from Malibou Lake were analyzed as part of AMS batch #111606-01. A duplicate analysis was performed using sample AMS # 25771 from this batch, which represents an unrelated project. The RPD for the duplicate analyses was within the laboratory acceptance range.

4.1.2 Reporting Limits

The SAP proposed an RL of 0.05 % for TOC. AMS achieved a lower "Limit of Quantitation" (LOQ) of 0.03 %, which exceeds the requirement of the SAP. AMS achieved an MDL, or "Limit of Detection" (LOD), of 0.01 %.

4.2 Dissolved Organic Carbon

4.2.1 QA/QC Data

Dissolved organic carbon (DOC) was evaluated by Calscience, using EPA Method 415.1. Both the elutriate samples and the lake water used to prepare the elutriate were analyzed for DOC.

- **Method Blanks.** Method blanks were associated with the elutriate samples (Calscience project # P26217, no sample number specified) and water samples (Calscience # 099-05-115-544). DOC was not detected in the method blanks.

- **Control Samples.** Quality control samples were associated with the elutriate samples (Calscience # 099-05-115-542) and water samples (Calscience # 099-05-115-544). The results obtained from the control samples were consistently within the laboratory acceptance range.

- **Matrix Spike Recoveries.** Duplicate matrix spike samples were analyzed for DOC, using the East Sed elutriate sample (Calscience project # P26217, no sample numbers specified) and West Sed water sample (Calscience project # P26217b, batch # 61129DOCS1). Three of the four matrix spike recoveries were within the laboratory acceptance range.

  The remaining result, which was the matrix spike duplicate for the West Sed water sample, slightly exceeded the laboratory acceptance range (the recovery was 132%, while the reported range was 70 – 130%). The laboratory qualified the result as attributable to matrix interference. The laboratory reported the result "without further clarification" since the associated laboratory control sample yielded results within the acceptance range, as described above.

- **Matrix Spike RPDs.** The RPDs for the matrix spike duplicates were within the laboratory acceptance range.

4.2.2 Reporting Limits

The SAP proposed an RL of 0.03 milligrams per liter (mg/L) for DOC. Calscience achieved a higher RL of 0.5 mg/L. However, this is not considered a significant issue, because the reported DOC concentrations in the two analyzed elutriate samples (15 and 17 mg/L) significantly exceeded both the target and actual RLs.

5.0 LABORATORY ANALYSES: INORGANIC COMPOUNDS

5.1 Metals

5.1.1 QA/QC Data

Metals were evaluated by CRG, using EPA Method 6020m for the sediment samples, and EPA Method 200.8m for the elutriate samples. Mercury was analyzed using EPA Method 245.7m, for both the sediment and elutriate samples.

- **Method Blanks.** Method blanks were associated with the sediment samples (CRG # 46388-B1) and the elutriate samples (CRG # 47573-B1). No metals were detected in the method blanks.

- **Reference Material.** Two analyses of certified reference materials (CRG #46392-CRM1/CRM2) were associated with the sediment sample analyses. The reported metals results in the reference material samples were consistently within the laboratory acceptance range.

  The specific reference material used by CRG (RTC016-050, Lot # BE016) apparently differed from that specified in the SAP (NIST 2704). This is not regarded as a significant QA/QC issue.

- **Matrix Spike Recoveries.** Two matrix spikes were analyzed for trace metals, using the West Sed sediment sample (CRG #46389-MS1/MS2) and the West Sed elutriate sample (CRG #46574-MS1/MS2). The resulting spike recoveries were consistently within the laboratory acceptance range, except for iron and aluminum in the sediment sample.

  For these two metals, the spike recoveries were out of range, and the results were qualified by the laboratory. This is not regarded a significant issue, because the anomalous results appear to be attributable to the relatively high concentrations of iron and aluminum in the unspiked sediment samples. Natural soils and sediments typically contain high concentrations of these two metals.

  The spike concentrations of iron and aluminum were too low to significantly affect the pre-existing concentrations of these metals in the samples. As noted in the CRG laboratory report:

"Spike recovery and RPD control limits [for iron and aluminum] do not apply resulting from the parameter concentration in the sample exceeding the spike concentration."

- **Matrix Spike RPDs.** The RPDs for the matrix spike duplicates were consistently within the laboratory acceptance range. The results for iron and aluminum were qualified by the laboratory, due to the matrix spike recovery issues described above.

- **Duplicate Samples.** Duplicate analyses were performed on the West Sed sediment sample (CRG #46389-R1/R2) and the West Sed elutriate sample (CRG #47574-R1/R2). The RPDs for detected metals were consistently within the laboratory acceptance range.

5.1.2 Reporting Limits

The SAP proposed RLs of 0.05 milligrams per kilogram (mg/kg) for arsenic, cadmium, total chromium, copper, lead, nickel, selenium, silver, and zinc in sediment, and an RL of 0.02 mg/kg for mercury in sediment. CRG achieved all of these RLs for the sediment samples.

The SAP proposed RLs of 0.5 micrograms per liter (μg/l) for arsenic, chromium, copper, lead, nickel, silver, and zinc in elutriate, an RL of 1 μg/l for selenium in elutriate, an RL of 0.2 μg/l for cadmium in elutriate, and an RL of 0.02 μg/l for mercury in elutriate. CRG achieved most of these target RLs.

The target RLs were not achieved for cadmium (0.4 μg/L), copper (0.8 μg/L), and silver (1 μg/L) in elutriate. However, the MDLs for cadmium (0.2 μg/L), copper (0.4 μg/L), and silver (0.5 μg/L) were at or below the target RLs. Since CRG was capable of detecting and estimating metals concentrations between the MDLs and the RLs, these metals would still have been detected and reported (as "J-flagged" values) at concentrations equivalent to or below the RLs. The elevated RLs for these compounds are therefore not regarded as a significant issue.

5.2 Nitrate and Phosphate

5.2.1 QA/QC Data

Dissolved orthophosphate and nitrate were evaluated in the elutriate samples by CRG, using EPA Method 300.0.

- **Method Blank.** A method blank was associated with the elutriate sample (CRG # 47573-B1). No dissolved orthophosphate or nitrate was detected in the method blank.

- **Control Sample Recovery.** Duplicate quality control samples were associated with the elutriate samples (CRG # 47573-BS1/BS2). The recoveries from the control samples were consistently within the laboratory acceptance range.

- **Control Sample RPDs.** The RPDs from the control samples were consistently within the laboratory acceptance range.

- **Matrix Spike Recovery.** Duplicate matrix spike samples were analyzed for nitrate and dissolved orthophosphate, using the East Sed elutriate sample (CRG #47591-MS1/MS2). The resulting spike recoveries were consistently within the laboratory acceptance range.

- **Matrix Spike Sample RPDs.** The RPDs for the matrix spike duplicates were within the laboratory acceptance range.

5.2.2 Reporting Limits

The SAP proposed RLs of 0.05 milligrams per liter (mg/L) for as nitrogen, and 0.01 mg/L for dissolved orthophosphate. CRG achieved the target RLs. CRG achieved MDLs of 0.01 mg/l for dissolved nitrate and 0.0075 mg/l for dissolved orthophosphate.

5.3 pH

5.3.1 QA/QC Data

Analyses for pH were conducted on the elutriate samples by CRG, using EPA Method 150.1.

- **Method Blank.** A method blank was associated with the elutriate sample (CRG # 47573-B1). A normal pH level (6.1) was measured in the method blank.

- **Duplicate Samples.** Duplicate analyses were performed on the West Sed elutriate samples (CRG #47574-R1/R2). The RPD was within the laboratory acceptance range.

5.3.2 Reporting Limits

The SAP did not propose a specific RL for pH. CRG achieved an RL of 0.2 pH units, and an MDL of 0.1 pH units.

6.0 LABORATORY ANALYSES: PHYSICAL PARAMETERS

6.1 Percent Solids

6.1.1 QA/QC Data

Percent solids were evaluated in the sediment samples by CRG, using EPA Method 160.3.

- **Method Blanks.** A method blank was associated with the sediment samples (CRG # 46388-B1). No solids were detected in the method blank.

- **Duplicate Samples.** Duplicate analyses were performed on the West Sed sediment samples (CRG #46389-R1/R2). No laboratory acceptance criteria were reported by CRG. However, the duplicate sample results appeared to be reasonably consistent, with an RPD of 2.9%.

6.1.2 Reporting Limits

The SAP proposed an RLs of 0.1 percent for percent solids. CRG achieved the target RL. The MDL was equivalent to the RL for this analysis.

6.2 Total Suspended Solids

Total suspended solids (TSS) were evaluated in the elutriate samples by Calscience, using EPA Method 160.2.

- **Method Blanks.** A method blank was associated with the elutriate sample (Calscience project # P26217, no sample number specified). No TSS was detected in the method blank.

- **Control Sample RPD.** Duplicate quality control samples were associated with the elutriate samples (Calscience # 6-11-0856-1). The RPD obtained from the duplicate control samples was within the laboratory acceptance range.

6.2.2 Reporting Limits

The SAP did not propose a specific RL for TSS. Calscience achieved an RL of 1 mg/L. TSS was detected in both of the analyzed samples, at concentrations well above the RL.

6.3 Grain Size Distribution

Grain size was evaluated in the sediment samples by ABC, using Standard Method 2560D.

- **Duplicate Samples.** Duplicate analyses were performed on the MCS-1 sediment sample (ABC # MCS-1-R1/R2). No laboratory acceptance criteria were reported by ABC. However, the duplicate sample results appeared to be reasonably consistent. The replicate samples contained measurable quantities of sediment in 22 grain size classes; the RPDs for these size classes were consistently less than 15%.

Reporting limits are not applicable for this physical analysis.

7.0 LABORATORY ANALYSES: BIOASSAYS

Bioassays were conducted on the East Sed and West Sed sediment samples by ABC, using the EPA Freshwater protocol and *Ceriodaphnia dubia*.

- **Duplicate Samples.** Four replicate chambers were used for each sample. There was 100% survival in all sample chambers.

- **Control Samples.** Four control chambers were used for each sample. There was 100% survival in all control chambers.

Reporting limits are not applicable for this biological analysis.

8.0 CONCLUSIONS

The QA/QC analyses conducted by CRG, AMS, Calscience, AMS, and ABC for the Malibou Lake sediment and elutriate samples were evaluated in detail. The results for each type of analysis are briefly summarized below.

- **Field Sampling and Collection Procedures.** No significant QA/QC issues were noted. There were three minor issues, but it is unlikely that they significantly affected the validity of the results:

    - *Deviations in sample locations.* Two of the seven sampling locations were changed slightly in the field. However, the exact sample locations were not deemed critical, and so these deviations are not regarded as a significant QA/QC issue.

      In one case, TCS-1, the sample location was changed because the sediment at the original location was too coarse to be effectively collected by the sampler. This change probably affected the results of the West Sed grain size analysis,

which included material from TCS-1. However, it does not affect the validity of the analysis results.

- *Deviations in sample depth.* At two of seven sampling locations, the sampler was refused at relatively shallow depth, and so the actual sampling interval only partially overlapped with the target sampling interval. However, the exact sample depths were not deemed critical, and so these deviations are not regarded as a significant QA/QC issue.

- *A distilled water rinse was substituted for a tap water rinse during decontamination.* This is not regarded as a significant QA/QC issue.

- **Chlorinated Pesticides and PCBs.** No significant QA/QC issues were noted. There were three minor issues, but it is unlikely that they significantly affected the validity of the results:

  - *One compound, endrin aldehyde, was not recovered in matrix spikes.* Endrin aldehyde occurs as an impurity or breakdown product in the pesticide endrin. There were no issues with the recovery of endrin (the parent compound) or endrin ketone (another breakdown product) in the matrix spikes. Furthermore, there was no evidence of endrin or endrin ketone in the Site samples.

    The non-recovery of endrin aldehyde in the matrix spikes is therefore not regarded as a significant QA/QC issue. The presence of endrin aldehyde would not be expected in the Site samples, given the documented absence of endrin, its parent compound.

  - *No reference material analyses were reported by the laboratory.* This is not regarded as a significant QA/QC issue, because the surrogate, matrix spike, and matrix spike duplicate recoveries suggest that accurate pesticide and PCB results were achieved with the sample matrix.

  - *The target RLs were not achieved for DCPA, dicofol, perthane, and toxaphene.* These represent four of the 31 chlorinated pesticides analyzed in sediment or elutriate samples. However, this is not regarded as a significant QA/QC issue, because EPA Method 8270C appears to have inherent limitations for detecting these specific compounds.

    DCPA (dacthal), dicofol, perthane are not on the official Target Compound List (TCL) for EPA Method 8270C (EPA 1996, section 1.1). Toxaphene is on the official TCL, but EPA (1996, p. 8) has acknowledged that Method 8270C has "limited sensitivity" to this compound, due to its "multicomponent" nature.

    The MDLs for DCPA and perthane were at or below the target RLs. Since CRG was capable of detecting and estimating pesticide concentrations between the MDLs and the RLs, these metals would still have been detected and reported (as "J-flagged" values) at concentrations equivalent to the RLs.

- **PAHs.** No significant QA/QC issues were noted. There was one minor issue, but it is unlikely that it significantly affected the validity of the results:

  - *Non-reproducible results in duplicate samples.* Duplicate analyses were performed for PAHs and five surrogate compounds, using the West Sed sediment sample. The reported PAH values for the R1 analysis were consistently greater than those for the R2 analysis, and the resulting RPDs were consistently outside the acceptance range.

    However, this anomaly did not affect the PAH surrogates and matrix spikes: the recoveries and RPDs for the surrogates and matrix spikes were consistently within the acceptance range. This pattern suggests that the anomaly represents variation of the sample matrix within the sample container, rather than inconsistent analytical performance. CRG presented the same interpretation in the laboratory report. The non-reproducible results in the duplicate PAH analyses are therefore not regarded as a significant QA/QC issue.

- **Total Organic Carbon.** No QA/QC issues were noted.

- **Dissolved Organic Carbon.** No significant QA/QC issues were noted. There were two minor issues, but it unlikely that they significantly affected the validity of the results:

  - *One matrix spike recovery was slightly out of range.* One of the four matrix spike recoveries for water samples was slightly above the acceptance range. The laboratory attributed the result to matrix interference. This is not regarded as a significant QA/QC issue, since the associated laboratory control sample yielded results within the acceptance range.

  - *The target RL was not achieved for DOC.* This is not regarded as a significant QA/QC issue, because the measured DOC concentrations significantly exceeded both the target and actual RLs.

- **Metals.** No significant QA/QC issues were noted. There were three minor issues, but it is unlikely that they significantly affected the validity of the results:

  - *Matrix spike recoveries and RPDs for iron and aluminum in the sediment sample were out of range.* The unspiked samples, like most natural soils, had relatively high concentrations of iron and aluminum. The spike concentrations were too low to significantly affect the total concentrations of these metals, and so the matrix spike analytical results are not applicable. CRG presented the same interpretation in the laboratory report.

    This anomaly is therefore not regarded as a significant QA/QC issue. The results of other QA/QC analyses, including the analysis of duplicate samples and reference material samples, suggest that CRG's iron and aluminum measurements are accurate.

- *The reference material used by the laboratory differed from that specified in the SAP.* This is not regarded as a significant QA/QC issue. The analytical results for the alternative reference material analyses were within acceptable ranges.

- *The target RLs were not achieved for cadmium, copper, or silver in elutriate.* This is not regarded as a significant QA/QC issue, because the MDLs for these metals were at or below the target RLs. Since CRG was capable of detecting and estimating metals concentrations between the MDLs and the RLs, these metals would still have been detected and reported (as "J-flagged" values) at concentrations equivalent to or below the RLs.

- **Nitrate and Phosphate.** No QA/QC issues were noted.

- **pH.** No QA/QC issues were noted.

- **Percent Solids.** No QA/QC issues were noted.

- **Total Suspended Solids.** No QA/QC issues were noted.

- **Grain Size Distribution.** No QA/QC issues were noted.

- **Bioassays.** No QA/QC issues were noted.

Based on the results of this QA/QC evaluation, there appear to be no significant issues with the validity of the field sampling procedures or reported laboratory results for the Malibou Lake sediment sampling project.

8.0 REFERENCES

LFR. 2006a. Sampling and Analysis Plan, Malibou Lake, Agoura, Los Angeles County, California. August 1.

LFR. 2006b. Sediment Sampling Report, Malibou Lake,Agoura, Los Angeles County, California. In preparation.

United States Agency for Toxic Substances and Disease Registry (ATSDR). 1997. ToxFAQs for Endrin (Endrina), CAS# 72-20-8 . September. http://www.atsdr.cdc.gov/tfacts89.html

United States Environmental Protection Agency (EPA). 1996. EPA Publication SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. Method 8270C, Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS). Revision 3. December. http://www.epa.gov/epaoswer/hazwaste/test/pdfs/8270c.pdf