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Protocol for Accessing and Sampling Archived Sediments from the San Francisco Estuary Regional Monitoring Program for Trace Substances

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1) General Information

Applied Marine Sciences, Inc. (AMS) is currently contracted to maintain the archived sediments from the RMP. The sediments are stored in commercial freezer space in Oakland, California. (Schaefer's Meats & Cold Storage, 1110 98th Ave., Oakland, California).

2) State of the Archived Samples

RMP archive samples have been collected since 1994. Requests for archived material will be able to be met for most of the samples collected from the inception of the RMP. However, past utilization of the archive samples, changes to the program over the years, and loss of archived samples (or loss of sample integrity) due to container breakage has resulted in an incomplete sample set. AMS maintains an archive sample log which is updated on a yearly basis.

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3) Accessing the Archive

All requests for archive samples must be presented to the RMP Program Manager of the San Francisco Estuary Institute (SFEI). He will review the requests and pass on his recommendations to both the requester and AMS personnel. Once a request is approved, a schedule for sampling the archive will be developed by the requester and AMS personnel. Requesters should be aware that due to the restraints imposed by the request review process, the commercial freezer operator, and potential scheduling constraints of AMS personnel, sampling requests should be presented at least one month prior to the intended sampling date.

4) Sub-Sampling Archived Samples

In general, applicants for archived samples should plan to receive not more than half of the available sediments (< 150 cc), to facilitate potential future use of the archived samples. However, there are some samples which may be used in their entirety either because of their size, their continued integrity for future use, or because they are duplicate samples. These samples may be given out without the necessity of sub-sampling.

Approximately 10% of the archived sample containers have been damaged over the years; these containers have been wrapped in aluminum foil. The integrity of these samples for future metal and organic analyses must be suspect. However, they may still be useful for

analysis of other parameters and may be made available without the necessity of sub-sampling. Requests for archived materials must be reviewed on an individual basis and assumptions about the availability of specific samples and amounts of sample available should not be made prior to the request review.

When requests for samples have been approved by SFEI, the logistics for delivering the samples will be developed between the applicant and AMS personnel. If sub-sampling is required, applicants should expect that at least two days will be required (samples will have to be brought to AMS and thawed so that they may be sub-sampled). Those applicants wishing to diminish the costs associated with obtaining the samples may provide their own labor to help with the sub-sampling. Sub-sampling will be conducted at AMS's Livermore facility.

The integrity of archived samples for potential future chemical analyses must be maintained by sub-sampling using a ocleana A techniques, the details of which are presented below. Once the requested samples are identified and removed from the freezer, they will be brought to AMS and allowed to thaw. Containers of thawed samples will then be opened and thoroughly mixed with a (pre-cleaned) coated stainless steel or Teflon® implement (mixing is necessary, as separation of the water and sediments occurs during the freezing process). Once mixed, the sub-sample will be removed and placed in containers provided by the requester. The sample container will then be re-sealed, and the sample re-frozen. Implements used for sub-sampling will be cleaned between samples using the same RMP protocol used to clean sampling implements when samples are originally collected (Alconox®, hydrochloric acid, and methanol, with deionized water rinses). The remaining samples will then be returned to the commercial freezer space. Chain of Custody forms will be created to track sub-samples, and a brief report will be produced for SFEI, describing the samples which have been sub-sampled, the requesting organization or individual, and the intended analyses to be conducted on the sub-sampled material. Eventual reporting of results of these analyses will be determined by SFEI and the applying organization or individual.

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5) Costs (A minimum of \$225.00 per sample set)

Schaefer's charges \$50.00 each time the samples are accessed. No work may be done on their premises, so there will be a minimum fee of \$100.00 for accessing the archived samples (\$50.00 to remove samples, and \$50.00 to return samples). Additionally, they require 24 hours notice for removal of samples. Other costs associated with sub-sampling of archived samples include the cost of dry ice to re-freeze samples and labor costs for AMS personnel to conduct the sub-sampling. Sub-sampling of archived samples has not been included in the existing contract between AMS and SFEI. It is therefore the responsibility of the applicant for archived samples and SFEI to determine who will pay the costs associated with requests for archived material. Cost estimates can be included in the request review process if desired by the applicant.

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