TECHNICAL SERVICES STUDY NUMBER 1

Study Title: Hydrocarbon Analytical Support Services and Analysis of Distribution and Weathering of Spilled Oil

Lead Agency: NOAA, USFWS

INTRODUCTION

To document the exposure of natural resources to oil spilled by the T/V Exxon Valdez, NRDA projects collected samples of these resources to be analyzed for petroleum hydrocarbons. The data from the analysis of these samples define the exposure of that resource to spilled oil, indicate the possible effects of the oil on the resource, and provide information on the subsurface transportation and residence time of the oil. These uses require that the analytical data be accurate, precise and comparable across projects and throughout the time of the NRDA process.

Technical Services #1, a cooperative project between NOAA and FWS coordinates the chemical analysis of all samples collected by the NRDA studies to develop a single set of analytical data from the Exxon Valdez NRDA effort. This dataset is made up of data and information from all the NRDA projects, supports all the NRDA projects and allows the synthesis of the individual project data and information to form general interpretations and system-wide conclusions.

The NOAA manages those samples from federal or state studies involving water, sediment, fish, shellfish and marine mammals - with the exception of sea otters. The NOAA-managed samples represent 90% of the samples in the sample inventory. The FWS manages those samples from studies involving birds, sea otters and terrestrial mammals. The majority of these samples are being analyzed through a FWS contract with Texas A&M University, the remainder by NOAA/NMFS laboratories. The NOAA bears main responsibility for implementing the Quality Assurance programs and updating and maintaining the sample inventory and analytical databases.

OBJECTIVES

1. Develop a single, integrated, coordinated set of analytical data from the Exxon Valdez NRDA effort. This dataset will consist of analytical data and information from all the NRDA projects, support all the NRDA projects and allow the synthesis of the

individual project data to form general interpretations and system-wide conclusions.

2 Develop and manage a Quality Assurance program to assure and demonstrate the accuracy, precision and comparability of all chemical analytical data developed by the NRDA.

METHODS

This project will coordinate the analysis of samples for petroleum hydrocarbons and the metabolites of petroleum hydrocarbons. In cooperation with the Project Leader, samples for analysis will be selected based on the quality and relevance of the sample. Samples will be selected for analysis in an iterative manner to provide the strongest description of injury for the minimum of cost. The project will arrange for analysis and track the samples through this process; provide analytical data to the Project Leader in a timely and useful fashion; and, if requested, assist in the interpretation of these data.

The project will:

- Develop and implement Quality Assurance programs for the measurement of petroleum hydrocarbons and their metabolites.
- Select analytical laboratories based on their performance.
- Review and maintain analytical SOPs.
- Develop and provide quality control materials for the metabolite assay.
- Monitor the data from the analysis of all quality control materials, i.e. field and analytical blanks and calibration, reference and control materials, to ensure compliance with data acceptance criteria.
- Plan and conduct intercomparison exercises to demonstrate the accuracy and comparability of the analytical data.
- Conduct audits of sample and data handling processes.
- Develop and implement electronic systems for a) sample inventory and tracking and b) the archival, manipulation and retrieval of the analytical data.
- Define samples in terms of the material collected or subsampled and document it to an exact field collection location and time.
- Assign a unique identification code to every sample and subsample to assist in sample and data archival and tracking.
- Archive all analytical data, bulk parameters and supporting QC data as hard copy, electronic copy and supporting documentation, e.g. chromatograms.

- Examine all data for reasonableness.
- Develop a preliminary interpretation of the data and return the results to the Project Leaders.

BUDGET ($K)

	NOAA	USFWS	Totals
Salaries	$ 100.5	$ 42.2	$ 142.7
Travel	1.5	1.5	3.0
Contracts	707.5	118.1	825.6
Supplies	0.5	0.2	0.7
Equipment	0.0	0.0	0.0
Subtotal	$ 810.0	$ 162.0	$ 972.0
General Administration	41.7	14.6	56.3
Total	$ 851.7	$ 176.6	$1028.3