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ENVIRONMENTAL AND ECONOMIC ASSESSMENT OF DISCHARGES FROM  
GULF OF MEXICO REGION OIL AND GAS OPERATIONS

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By:  
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Continental Shelf Associates, Inc.  
Jupiter, Florida

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Environmental and Economic Assessment of Discharges from Gulf of Mexico Region Oil  
and Gas Operations

By  
David A. Gettleson, Ph.D.

October 1999

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## TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY .....	1
INTRODUCTION .....	2
PROJECT DESCRIPTION .....	3
PROJECT STATUS .....	4
PLANNED ACTIVITIES .....	5
SUMMARY .....	6
REPORT DISTRIBUTION LIST .....	7
REFERENCES (NONE)	
PUBLICATIONS (NONE)	

## **EXECUTIVE SUMMARY**

Tasks 3 (Environmental Field Sampling and Analysis of NORM, Heavy Metals, and Organics) and 4 (Monitoring of the Recovery of Impacted Wetland and Open Bay Produced Water Discharge Sites in Coastal Louisiana and Texas) activities involved final report writing. Task 5 (Assessment of Economic Impacts of Offshore and Coastal Discharge Requirements on Present and Future Operations in the Gulf of Mexico Region) was issued as a final report during the previous reporting period. Task 6 (Synthesis of Gulf of Mexico Seafood Consumption and Use Patterns) activities included the preparation of the final report. There were no Task 7 (Technology Transfer Plan) activities to report. Task 8 (Project Management and Deliverables) activities involved the submission of the necessary reports and routine management.

## **INTRODUCTION**

This report represents the twentieth quarterly technical summary for the study "Environmental and Economic Assessment of Discharges from Gulf of Mexico Region Oil and Gas Operations." Activities associated with Tasks 3, 4 and 8 are discussed in this report.

## PROJECT DESCRIPTION

Continental Shelf Associates, Inc. (CSA) was contracted to conduct a three-year study of the environmental and health related impacts of produced water and sand discharges from oil and gas operations. Data on naturally occurring radioactive materials (NORM), heavy metals, and hydrocarbons in water, sediment, and biota will be collected and evaluated. Health related impacts will be studied through field collections and analyses of commercially- and recreationally-important fish and shellfish tissues. Additionally, information on seafood catch, consumption, and use patterns for the Gulf of Mexico will be gathered and analyzed. The facilities to be studied will include both offshore and coastal facilities in the Gulf of Mexico. Coastal sites will be additionally studied to determine ecological recovery of impacted wetland and open bay areas. The economic impact of existing and proposed effluent federal and state regulations will also be evaluated.

The primary objectives of the project are to increase the base of scientific knowledge concerning (1) the fate and environmental effects of organics, trace metals, and NORM in water, sediment, and biota near several offshore oil and gas facilities; (2) the characteristics of produced water and produced sand discharges as they pertain to organics, trace metals, and NORM variably found in association with the discharges; (3) the recovery of three terminated produced water discharge sites located in wetland and high-energy open bay sites of coastal Louisiana; (4) the economic and energy supply impacts of existing and anticipated federal and state offshore and coastal discharge regulations; and (5) the catch, consumption and human use patterns of seafood species collected from coastal and offshore waters. The products of the effort will be a series of technical reports detailing the study procedures, results, and conclusions which contribute to the transfer of technology to the scientific community, petroleum industry, and state and federal agencies.



**PROJECT STATUS**

Project is complete.

## **PLANNED ACTIVITIES**

Project is complete. Closeout procedures will begin.

## **SUMMARY**

Tasks 3, 4, and 6 activities involved submitting the final reports in hard copy and electronic files. Task 8 activities involved the submission of the management reports and routine management.

**REPORT DISTRIBUTION LIST**

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