

UNITED STATES DEPARTMENT OF THE INTERIOR  
MINERALS MANAGEMENT SERVICE  
Gulf of Mexico OCS Region  
New Orleans, Louisiana

FINAL  
SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT  
NORM DISPOSAL OPERATION  
No. NORM-070

NORM Disposal Operations

Grand Isle Area, Block 33, Main Pass Area, Block 151, Main Pass  
Area, Block 252, Main Pass Area, Block 289, Main Pass Area,  
Block 290, Main Pass Area, Block 310, South Pass Area, Block 65,  
South Timbalier Area, Block 26

Leases OCS-G 4002, 1967, 7824, 1666, 1667,  
4126, 1610, 1870, respectively

March 1993

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MINERALS MANAGEMENT SERVICE  
Gulf of Mexico OCS Region  
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SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT

NORM DISPOSAL OPERATIONS

No. NORM-070

Assessment of the Environmental Impact of the Disposal of  
Produced well solids with NORM in Grand Isle Area, Block 33,  
(Lease OCS-G 4002), Main Pass Area, Block 153 (Lease OCS-G 1967),  
Main Pass Area, Block 252, (Lease OCS-G 7824), Main Pass Area,  
Block 289 (Lease OCS-G 1666), Main Pass Area, Block 290  
(Lease OCS-G 1667), Main Pass Area, Block 310 (Lease OCS-G 4126),  
South Pass Area, Block 65, (Lease OCS-G 1610), South Timbalier  
Area, Block 26 (Lease OCS-G 1870)

by Shell Offshore, Inc.  
Date Submitted: March, 1993  
Commencement Date: March, 1993  
Prepared by Gary Rutherford

TABLE OF CONTENTS

|   | PAGE |
|---|------|
| FINDING OF NO SIGNIFICANT IMPACT  | ii   |
| INTRODUCTION AND BACKGROUND   | 1    |
| I.    DESCRIPTION OF THE PROPOSAL AND NEED FOR THE PROPOSAL                         | 1    |
| A.    DESCRIPTION OF THE PROPOSED ACTION WITH MITIGATION                            | 1    |
| B.    NEED FOR THE PROPOSED ACTION  | 1    |
| II.   ALTERNATIVES TO THE PROPOSED ACTION   | 2    |
| A.    ONSHORE STORAGE   | 2    |
| B.    ONSHORE DISPOSAL  | 2    |
| III.  ENVIRONMENTAL EFFECTS, SOCIOECONOMIC CONCERNS, AND<br>OTHER CONSIDERATIONS    | 2    |
| A.    PHYSICAL ENVIRONMENT  | 2    |
| 1.    Geology and Geologic Hazards  | 2    |
| 2.    Water Quality   | 2    |
| 3.    Air Quality   | 2    |
| B.    BIOLOGICAL ENVIRONMENT  | 2    |
| 1.    Coastal Habitats  | 2    |
| 2.    Protected, Endangered, and/or Threatened Species                              | 2    |
| a.    Birds   | 2    |
| b.    Marine Mammals  | 3    |
| c.    Sea Turtles   | 3    |
| 3.    Sensitive Marine Habitats   | 3    |
| C.    OTHER CONSIDERATIONS  | 3    |
| 1.    Transportation Routes   | 3    |
| 2.    Military Use/Warning Areas  | 3    |
| 3.    Onshore Support Facilities, Land Use, and Coastal<br>Communities and Services | 3    |
| 4.    Potential Re-exposure e.g. re-drill<br>formation                              | 4    |
| 5.    Human Health and Safety   | 4    |

|  | PAGE |
|--|------|
| D.    UNAVOIDABLE ADVERSE IMPACTS                  | 4    |
| IV.    PUBLIC OPINION                              | 4    |
| V.    CONSULTATION AND COORDINATION                | 4    |
| VI.   BIBLIOGRAPHY AND SPECIAL REFERENCES          | 5    |
| VII.   PREPARERS                                   | 6    |
| VIII.  APPENDIX                                    | 7    |
| A.    APPLICATION (INCLUDING DATA ON THE MATERIAL) | 8    |

## INTRODUCTION AND BACKGROUND

The purpose of this Site-Specific Environmental Assessment (SEA) is to assess the specific impacts associated with a proposal to discharge produced well solids with Naturally Occurring Radioactive Materials (NORM) from Grand Isle, Block 33 Platform A, Main Pass, Block 153 Platforms B and C, Main Pass, Block 252 Platform A, Main Pass, Block 289 Platform C, Main Pass, Block 290 Platforms A and B, Main Pass, Block 310 Platform A, South Pass, Block 65 Platform A, and South Timbalier Block 26 Platforms A and C. Preparation of this SEA has allowed the determination of whether a Finding of No Significant Impact (FONSI) is appropriate or whether further assessment of the proposal is necessary.

### I. DESCRIPTION OF THE PROPOSAL AND NEED FOR THE PROPOSAL

#### A. DESCRIPTION OF THE PROPOSED ACTION WITH MITIGATIONS

Shell proposes to discharge produced well solids with NORM from the aforementioned platforms. Shell has been collecting the material from these platforms. The material to be discharged is from major tank cleanings. These are routine discharges that will be done through a sump. The discharges will be done at the surface. The discharge rate from each platform will be one barrel or less per month.

1. Nine or ten random cores will be taken from the "cutting box" and then combined and mixed in a one-liter polyethylene bottle. Measurements of the radiation dose rate equivalent will be taken from the center of the bottom of the container and by taking measurements on the sides by rotating the container 360 degrees, taking a measurement every 90 degrees.

2. Only produced well solids with a reading of not more than 25 microrems per hour above background will be allowed to be discharged.

3. The operator will contact OS1 Reser (904) 452-2735/4671 of W-155(B) in Pensacola, Florida, and Mr. Danny Pugh (904) 882-3899/9757 of Eglin AFB, Florida, of EWTA-1 regarding control of electromagnetic emissions and operations of boat and/or aircraft traffic into the designated military warning areas (W-155(B), EWTA-1, respectively) or enter into an agreement with the military installation.

4. The lessee will ensure that all aircraft used in support of their OCS operations maintain a minimum altitude of 2,000 feet over all national wildlife refuges and national park lands.

#### B. NEED FOR THE PROPOSED ACTION

The proposed disposal of produced well solids with NORM is a viable alternative to storing the material at an onshore site.

## II. ALTERNATIVES TO THE PROPOSED ACTION

### A. ONSHORE STORAGE

An alternative to the proposed action would be disapproval of the disposal of produced well solids with NORM. This would result in the material being shipped to shore and held at an onshore facility. Non-approval has not been determined to be a valid alternative.

### B. ONSHORE DISPOSAL

An alternative to the proposed action would be disapproval of the disposal of produced well solids with NORM. This would result in the material being transported to shore and disposed in a land fill. Non-approval has not been determined to be a valid alternative.

## III. ENVIRONMENTAL EFFECTS, SOCIOECONOMIC CONCERNS, AND OTHER CONSIDERATIONS

### A. PHYSICAL ENVIRONMENT

#### 1. Geology and Geologic Hazards

The proposed NORM disposal operation is not adjacent to an area of sediment instability (mud flows, slumps, or slides). Geologic conditions are not expected to have an impact on the proposed disposal operation (Handley, 1980).

#### 2. Water Quality

Impacts are expected to be low as a result of the proposed activities.

#### 3. Air Quality

Impacts are expected to be very low as a result of the proposed activities.

### B. BIOLOGICAL ENVIRONMENT

#### 1. Coastal Habitats

No impacts are expected as a result of the proposed activities.

#### 2. Protected, Endangered, and/or Threatened Species

##### a. Birds

Sensitive areas have been delineated along the Texas coastline where whooping cranes and brown pelicans could be adversely impacted by

the proposed NORM disposal operation. Venice is the shorebase that the operator will utilize for their base of operations.

b. Marine Mammals

Fritts et al. (1983) conducted aerial surveys across a 9,514 square mile area of waters lying in the central GOM. Results of these surveys indicate that the bottlenose dolphin is by far the most likely marine mammal to be encountered at the proposed NORM disposal operation. The proposed NORM disposal operation is expected to have only a low impact on marine mammals.

c. Sea Turtles

Definitive information on the probability of encountering sea turtles at the sites during NORM disposal operations is scarce. It is unlikely that any sea turtles will be affected by these proposed operations.

3. Sensitive Marine Habitats

The proposed activity is not near any sensitive marine habitats. Therefore, the subject NORM disposal operation will not impact any sensitive marine habitats or their resident biota.

C. OTHER CONSIDERATIONS

1. Transportation routes

There should be no impacts to the area. There will be no transporting of produced well solids from other areas to the aforementioned platforms.

2. Military Use/Warning Areas

Some of the proposed NORM disposal operations will take place in a designated military use/warning area. Main Pass Block 252 is located in Military Warning Area W-155(B). Main Pass Block 289 is located in Military Warning Area EWTA-1. The operator will contact OS1 Reser at the Naval Air Station in Pensacola, Florida, for W-155(B) and Mr. Danny Pugh of Eglin AFB, Florida, for EWTA-1 regarding control of electromagnetic emissions and operations of boat and/or aircraft traffic into the designated military warning areas or enter into an agreement with the military installation.

3. Onshore Support Facilities, Land Use, and Coastal Communities and Services

The operator has indicated that Venice would be the shore base for the proposed NORM disposal operations. No impacts are expected as a result of the proposed activities.

4. Potential Re-exposure e.g., re-drill formation

Since there is no injection of NORM into a formation this is insignificant to the operation.

5. Human Health and Safety

Existing legal and regulatory safety requirements will keep the impacts of the proposed work on human health and safety at a very low level. To avoid contact of the contaminated material long sleeve shirts and gloves will be worn. Protective eye goggles and dust type breathing masks should be worn as conditions require. Furthermore the NORM material will be kept wet at all times to prevent dust from forming.

E. UNAVOIDABLE ADVERSE IMPACTS

Potential impacts to protected, threatened, and/or endangered species and potential loss of habitat to the marine environment are considered to be minor.

IV. PUBLIC OPINION

No comments occurred from the public as a result of the proposed operations.

V. CONSULTATION AND COORDINATION

This proposal was not coordinated with other Federal or State Agencies. The NORM disposal operation will take place at an existing and previously approved surface location.



VI. BIBLIOGRAPHY AND SPECIAL REFERENCE

Fritts, T.H., A.B. Irvine, R.D. Jennings, L.A. Collum, W. Hoffman, and M.A. McGehee. 1983. Turtles, birds, and mammals in the northern Gulf of Mexico and nearby Atlantic waters. U.S. Fish and Wildlife Service, Division of Biological Services, Washington, D.C.

Handley, Lawrence R., 1980. Oil and Gas Development in the Mississippi delta mudslide area: Recognition of a geohazard in: Environmental Information on Hurricanes, Deep Water Technology and Mississippi Delta Mudslides in the Gulf of Mexico. United States Dept. of the Interior/Minerals Management Service, Metairie, Louisiana.

VII. PREPARERS

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VIII. APPENDIX

A. Application

VIII. APPENDIX

A. APPLICATION (INCLUDING DATA ON THE MATERIAL)

NO 111-0070  
SEC - 0184



Shell Offshore Inc.

An affiliate of Shell Oil Company

One Shell Square  
P. O. Box 61933  
New Orleans, Louisiana 70161

Exploration and Production  
Shelf Division

MAR 0 0 1993



Mr. Dan Bourgeois  
Regional Supervisor  
Field Operations  
Minerals Management Service  
1201 Elmwood Park Boulevard  
New Orleans, LA 70123-2394

Dear Mr. Bourgeois:

SUBJECT: APPLICATION FOR PRODUCED SAND/SOLIDS DISCHARGE  
SHELL OFFSHORE INC.  
E&P - SHELF DIVISION

This application is being made in accordance with the MMS Letter to Lessees and Operators (LTL) dated December 11, 1991. This application is made for MMS approval for routine on-line discharges, as well as discharges associated with major tank cleanings. Attached is a list of 11 platforms for which we are making application. Your earliest possible approval of this application is appreciated.

Information concerning the nature of materials to be discharged; water depth; typical oceanographic conditions; discharge rates; exposure rate measurements; and discharge methods is included with this application. Monitoring, sampling and record keeping will be carried out according to the same procedures submitted to your office on June 2, 1992. A copy of the procedures is attached for your review.

If you should have questions, please call Greg Southworth at (504) 588-6676.

Yours very truly,

*J. H. Hollowell*  
for J. H. Hollowell, Manager  
Health, Safety and Environment

GBS/sai

Attachments

cc: Shell Offshore Inc.  
P. B. Johnson  
HS&E File #116

009

| Lease Block          | Platform | OCS-G# | Material Description | Water Depth (ft) | Typical Oceanographic Conditions | Discharge Rate (bbl/mth) | Exposure Rate (uR/hr) | Discharge Method   |
|----------------------|----------|--------|----------------------|------------------|----------------------------------|--------------------------|-----------------------|--|
| Grand Isle 33        | A        | 4002   | Produced sand/solids | 88               | 0-1 knot N/NW                    | 1                        | 9                     | Routine discharges, thru sump; Tank cleanings, at surface. |
| Main Pass 153        | B        | 1967   | Produced sand/solids | 290              | 0-1 knot N/NW                    | <1                       | 1                     | Routine discharges, thru sump; Tank cleanings, at surface. |
| Main Pass 153        | C        | 1967   | Produced sand/solids | 293              | 0-1 knot N/NW                    | <1                       | 1                     | Routine discharges, thru sump; Tank cleanings, at surface. |
| Main Pass 252        | A        | 7824   | Produced sand/solids | 276              | 0-1 knot N/NW                    | <1                       | 1                     | Routine discharges, thru sump; Tank cleanings, at surface. |
| Main Pass 289        | C        | 1666   | Produced sand/solids | 340              | 0-1 knot N/NW                    | <1                       | 1                     | Routine discharges, thru sump; Tank cleanings, at surface. |
| Main Pass 290        | A        | 1667   | Produced sand/solids | 288              | 0-1 knot N/NW                    | 1                        | 1                     | Routine discharges, thru sump; Tank cleanings, at surface. |
| Main Pass 290        | B        | 1667   | Produced sand/solids | 300              | 0-1 knot N/NW                    | 1                        | 10                    | Routine discharges, thru sump; Tank cleanings, at surface. |
| Main Pass 310        | A        | 4126   | Produced sand/solids | 248              | 0-1 knot N/NW                    | 1                        | 4                     | Routine discharges, thru sump; Tank cleanings, at surface. |
| South Pass 65        | A        | 1610   | Produced sand/solids | 300              | 0-1 knot N/NW                    | <1                       | 27*                   | Routine discharges, thru sump; Tank cleanings, at surface. |
| South Timbalier 26 A | A        | 1870   | Produced sand/solids | 55               | 0-1 knot N/NW                    | <1                       | 31*                   | Routine discharges, thru sump; Tank cleanings, at surface. |
| South Timbalier 26 C | C        | 1870   | Produced sand/solids | 52               | 0-1 knot N/NW                    | <1                       | 29*                   | Routine discharges, thru sump; Tank cleanings, at surface. |

OIG

\* Above 25 uR/hr but should be OK because of the small volumes.  
(1.111 / m.)

## PRODUCED SAND SAMPLING PROCEDURE

The following procedure will be used when sampling produced sand material which may contain naturally-occurring radioactive materials (NORM).

- When sampling the material appropriate protective equipment will be worn.
- One representative sample from each solids container will be captured. A representative sample will be obtained by taking core samples from the container and compositing those cores into one sample.
- The core samples will then be placed in a plastic bucket or pan and thoroughly mixed using a trowel or similar tool. Any free liquids will be removed from the sample at this time.
- The composited material will be placed in a one liter wide-mouth sample bottle. The material will be compacted to remove any air pockets present in the material. Any free liquids will be removed from the sample and the sample repacked, if necessary.
- The sample bottle will be labeled with the location, name, container number, sampler's initials, date, and an assigned sample number.
- Radiation dose rates will then be measured on the sample. The readings will be taken with a Ludlum Model 19 MicroR meter or equivalent. The meter will be operational and have been calibrated within the last six months. Before measuring dose rates on the sample a background reading will be made at the location.
- Measurements on the solids sample will be made in six positions: the top, bottom, and four compass points on the side of the bottle. The measurements will be made with the meter in contact with the sample bottle. All readings will be documented and kept on location. The six readings will be averaged to determine whether the material meets the 25 microRems per hour requirement for discharge.
- The sample will be sent to an independent radiochemistry lab for analysis. The sample will also be analyzed for radium 226 and radium 228 using gamma spectroscopy.
- This sampling procedure will be repeated for each container of solid material. The coring tool, trowel, and mixing pan will be cleaned before a different box of material is to be sampled. A check of the equipment will be made with the Ludlum Model 19 meter to ensure it is free of contamination.
- Once sample results are received they shall be documented and submitted to MMS on a quarterly basis.