OCS Report
MMS 91-0026

Investigation of February 15, 1989 Sandefer Offshore Operating Company Oil Spill, Lease OCS-G 5558 Ship Shoal Block 202

Gulf of Mexico
Off the Louisiana Coast

U.S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region

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E. L. Primeaux, Chairman
C. C. Oynes
J. L. Leezy
C. C. Williams
J. J. Price
Lt. S. Way

U.S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Regional Office

New Orleans
April 1991

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Investigation and Report

Authority

A major oil spill occurred on Sandefer Offshore Operating Company (Sandefer) Platform A, Ship Shoal Block 202, Lease OCS-G 5558, in the Gulf of Mexico (GOM) offshore the State of Louisiana, at approximately 7:00 a.m. on February 15, 1989. Pursuant to Section 208, Subsection 22(d), (e), and (f), of the Outer Continental Shelf (OCS) Lands Act Amendment of 1978, and Department of the Interior Regulation 30 CFR Part 250, the Minerals Management Service (MMS) is required to investigate and prepare a public report of this accident.

By memorandum dated February 22, 1989, the following MMS personnel were named to the investigative panel:

E. L. Primeaux, New Orleans, Louisiana

C. C. Oynes, New Orleans, Louisiana

J. L. Leezy, Houma, Louisiana

C. C. Williams, New Orleans, Louisiana

J. J. Price, Houma, Louisiana

Lt. Scott Way of the United States Coast Guard was also named to the investigative panel.

Procedures

An inspector from the MMS arrived at Platform A, Ship Shoal Block 202, at approximately 9:25 a.m. on February 15, 1989. Preliminary interrogation of personnel familiar with the accident was conducted by the inspectors.

After the investigative panel was appointed on February 22, 1989, and before the panel convened on April 13, 1989, panel members Messrs. Jack Leezy and John Price made several visits to Ship Shoal Block 202 Platform A to obtain additional information concerning the accident.

The investigative panel convened on April 13, 1989, at the MMS Gulf of Mexico OCS Regional Office in Jefferson, Louisiana. The following individuals were questioned about the oil spill:

Jerry Conques — PMB Operators

Tommy Philips — PMB Operators

Doug Cagle — Sandefer Offshore Operating Company

Introduction

Background

Lease OCS-G 5558 covers approximately 5,000 acres and is located in Ship Shoal Block 202, Gulf of Mexico, off the Louisiana coast. (For the location of Block 202, see attachment 1.) Ship Shoal Block 202 was initially leased by Tenneco Oil Company (100%) as Lease OCS-G 5558, July 1, 1983. Tenneco Oil Company merged with and into Chevron U.S.A. Inc., effective March 10, 1989. The present lessee (100%) is Chevron U.S.A. Inc. The lease operator is Sandefer Offshore Operating Company, effective December 24, 1987.

On June 27, 1988, Sandefer Offshore Operating Company submitted for approval a Development and Production Plan for activities proposed for Platform A and Wells Nos. 1, 2, and 3 in Ship Shoal Block 202 and Well No. 4 in Ship Shoal Block 201, surface location in Ship Shoal Block 202. Operations included the platform installation, tie back, and completion operations on the four wells and the installation of a pipeline. Platform A was installed December 15, 1988, at a surface location of 4,547 feet from the north line and 813 feet from the west line of the lease block. The four wells located on the platform are currently producing. (For location of Platform A in Block 202, see attachment 2.)

Description of Incident

On February 15, 1989, Mr. John Price, an MMS inspector, while flying offshore via an Air Logistics helicopter for routine inspection, noticed an oil spill located near Ship Shoal Block 198 Platform G, owned and

operated by Conoco Oil Company, Inc. Mr. Price traced the pollution to Sandefer's Ship Shoal Block 202 Platform A. He landed on the Ship Shoal Block 202 Platform A at 9:25 a.m.

After landing on the platform, Mr. Price met Messrs. Tommy Philips and Jerry Conques (both of PMB Operators), who were attempting to stop the pollution. PMB Operators is a company contracted by Sandefer Offshore Operating Company to operate Ship Shoal Block 202 Platform A. After the pollution was halted, Messrs. Price, Conques, and Philips discussed the situation and began investigating the platform equipment in order to find the cause of the pollution.

Mr. Philips had discovered the pollution at 7:00 a.m. on the morning of February 15, 1989. He immediately shut in the platform using the emergency shut-down relay on the master panel. However, the pollution continued. Mr. Philips then notified Mr. Conques, and both of them began searching for the platform malfunction. Their search for the malfunction continued with Mr. Price of MMS joining them at approximately 9:25 a.m. The actual pollution stopped around 9:30 a.m. when Mr. Price ordered the shut-in of the manual block valve on the water overboard line to prevent further pollution. The PMB Operators personnel, along with Mr. Price of MMS, then attempted to find the source of the malfunction that caused the oil to be discharged overboard through the water leg. The level controllers and level control valves on the water dumps of the low-pressure separator and the water treater were found to be operational at that time.

Mr. Price witnessed the inspection of the level safety lows on the low-pressure separator and water treater. The level safety lows were found to be operational. The manual block valves on the low-pressure separator and water treater dumps were left in the closed position to prevent further pollution.

The PMB Operators personnel began bringing the platform back on line at 11:30 a.m. on this same day.

In conjunction with the accident, the Coast Guard issued a Notice of Designation under 33 CFR 135.309, dated February 17, 1989, designating Sandefer's Ship Shoal Block 202 Platform A as the source of oil discharged on February 15, 1989. Sandefer Offshore Operating Company accepted the Notice of Designation by letter of February 21, 1989, to Lieutenant Commander Paul K. Westcott of the U.S. Coast Guard.

Reported Oil-Spill Observations

Observations of the oil sheen by an MMS inspector and an Air Logistics pilot on the morning of February 15, 1989, provided information that the slick size was 37 miles long and 120 feet wide. The dark brown slick was moving west-northwest at approximately 5 knots per hour. The seas were 1 to 2 feet, and the winds were blowing to the east at 5 to 10 knots.

Attempted Oil-Spill Recovery

The MMS (Houma District) instructed Sandefer at 9:30 a.m. on February 15, 1989, to notify Clean Gulf Associates to send a fast-response skimmer unit to the scene. Sandefer experienced problems contracting a boat to transport the fast-response unit from Grand Isle, Louisiana, the Clean Gulf base. The cleanup unit was activated at 7:00 p.m. and arrived at Eugene Island Block 184 (location of the last sighting of the spill before dark) at 2 a.m. on February 16, 1989. However, the spill could not be sighted due to dense fog. At 4:00 p.m., the spill was sighted in South Marsh Island Block 36, and oil was skimmed from 4:00 p.m. to 5:45 p.m. (Only $^1/_2$ barrel of oil was recovered.) Operations were then discontinued because of poor visibility. On the morning of February 17, 1989, representatives of Sandefer, the Coast Guard, and MMS flew two helicopters to the spill site, but were unable to locate any pollution.

After determining that the pollution would not be a danger to the environment, the Coast Guard called off the search, and the fast-response unit was released at 6:30 p.m. on February 17, 1989.

Possible Oil-Spill Volume

Sandefer Offshore Operating Company, on the morning of the incident, reported to the Coast Guard that the volume of oil spilled was approximately 600 barrels.

Panel Investigation and Findings

MMS panel members investigated the following aspects of this incident:

- the equipment at the offshore platform that may have caused the incident.
- the attempted oil-spill cleanup and Sandefer's reaction time in calling Clean Gulf Associates.
- the number of barrels actually dumped overboard into the Gulf of Mexico.

Equipment Malfunction

The panel reviewed the production equipment that possibly caused this incident. The review consisted of studying and discussing the reports of the MMS investigative personnel and the transactions of the investigative hearing.

The PMB Operators personnel determined that the water dump valve on the low-pressure separator hung in the open position, causing the water level in the low-pressure separator to be displaced with oil. This oil then dumped to the water treater, where it displaced the water level. The oil in the treater was then dumped to the water leg and eventually went overboard. However, after further review, it appears that the level controls on both the low-pressure separator and the treater malfunctioned, allowing oil to displace the water and eventually dump to the water leg and overboard.

Consideration of Oil Cleanup

Representatives of Sandefer discovered the oil spill at 7:00 a.m. on February 15, 1989. They immediately shut in the platform and attempted to find and stop the source of the oil.

Mr. Jerry Conques of PMB Operators notified his supervisor, Mr. Norris Soileau, at approximately 7:00 a.m. that a spill had occurred. However, MMS was not notified of the spill until approximately 9:30 a.m., when the MMS Houma District was called by J. Conners and Associates. Mr. Jack Leezy of MMS told Conners and Associates to tell Sandefer that they should call MMS with more information. Mr. Doug Cagle of Sandefer then called Mr. Jack Leezy at approximately 9:35 a.m. Mr. Leezy told Mr. Cagle to deploy Clean Gulf. Mr. Cagle testified that he then called his Houston, Texas, office and told them to call Clean Gulf. Mr. Cagle also testified that he called Mr. Dan Bourgeois of MMS at 10:15 a.m. and told him that Sandefer had deployed Clean Gulf. However, a report of April 27, 1989, from Sandefer to MMS shows that Clean Gulf was not deployed until 10:45 a.m.

The investigation enabled the panel to piece together the following timetable of Sandefer's deployment of Clean Gulf:

10:45 a.m.	-	Called Clean Gulf for fast-response unit. (Clean Gulf had to find trucks to haul fast-response unit from Grand Isle to Fourchon.)
10:45 a.m.	-	Peterson Riddel (the contractor to operate fast-response unit) notified to mobilize the spill equipment and assemble its operating personnel.

11:45 a.m.	-	Sandefer confirmed that Peterson Riddel personnel were on the way to Grand Isle.
3:00 p.m.	-	Motor Vessel *Marc C.* arrived at Fourchon to carry oil-spill equipment.
4:00 p.m.	-	Fast-response unit arrived at Fourchon with Peterson Riddel personnel.
6:30 p.m.	-	The boat carrying oil-spill cleanup equipment and personnel departed Fourchon for Eugene Island Block 184.

When the fast-response unit arrived in the Eugene Island Area, on February 16, 1989, it encountered heavy fog, which further delayed the oil-spill recovery. By that time, the spill was badly broken up. Some oil was found in South Marsh Island Block 36, and an attempt was made to recover same. An estimated $^1/_2$ barrel was recovered. After tying up overnight, the cleanup operations were to continue the next day, February 17, 1989, but heavy fog and seas of 6 to 7 feet aborted this attempt. The search was then canceled by the Coast Guard at 6:30 p.m. on February 17, 1989, and the fast-response unit returned to Fourchon. (See attachment 3.)

In reviewing the oil-spill cleanup the panel studied Sandefer's Oil Spill Contingency Plan (OSCP). Such a plan is required of each lessee operating in the Gulf of Mexico in order to establish procedures for timely detection, notification, and cleanup of any oil spill. Sandefer's OSCP on file in the GOM Region Office is sufficient, and a response carried out in accordance with this plan would probably provide adequate oil-spill response.

Consideration of Actual Volume of Oil Spilled

A review of the royalty measurement and daily production was conducted by members of this panel for Lease OCS-G 5558, Ship Shoal Block 202 Platform A. It was found that this facility produced approximately 80 barrels of oil per hour.

Conclusions

Probable Cause of Incident

The panel concludes that the probable cause of the accident was the failure of the level controls on the low-pressure separator and the treater.

Contributing Cause of Incident

The contributing cause of the accident seems to have been equipment failure. However, the nature of the production (no produced water) facilitated the implementation of other steps or procedures that would have allowed this vessel to handle this type of production more securely.

Subsequent Events

1. Sandefer delayed in notifying MMS of the accident.
2. Sandefer's notification procedures were not carried out in accordance with its Oil-Spill Contingency Plan. Since it was obvious that the spill was of a fairly large magnitude, the notification procedures and activation of equipment should have been implemented in a more timely fashion.
3. Once Clean Gulf was notified, the procedures of deploying personnel and equipment were slow and cumbersome.

Amount of Oil Spilled

The investigation revealed that the malfunction probably occurred somewhere between midnight and 3:00 a.m. Using this time estimate, the production rate of this platform, and the size of the slick, the panel believes that the volume of oil discharged into the Gulf of Mexico was approximately 400 barrels.

Recommendations

Safety Alerts

1. When incidents of this nature occur, lessees should review procedures of shutting-in a platform to stop the pollution as quickly as possible.
2. Lessees should review their Oil-Spill Contingency Plans regarding notification procedures, cleanup procedures, and response time.

Operator Procedures

1. The operator should place an external interface level sensor low on the inlet side of the water treater and the low-pressure separator. This can be done by adding a displacer to sense a low level. The sensor should give an audible alarm and shut a shut-down valve on the water outlet of the vessels.
2. MMS should evaluate deployment of oil-spill equipment and response time by documentation of data and oil-spill trajectory models.

Civil Penalties

The panel recommends that the current practice of the Coast Guard to not seek any civil penalties for an oil spill from offshore operations be reviewed by the Coast Guard in conjunction with MMS. Some size of spills may appropriately warrant the assessment of a civil penalty.

Regulatory Requirements

The MMS should require that the oil-spill equipment be maintained on a boat at Clean Gulf and Associates docks for faster deployment when activation of this equipment is requested.

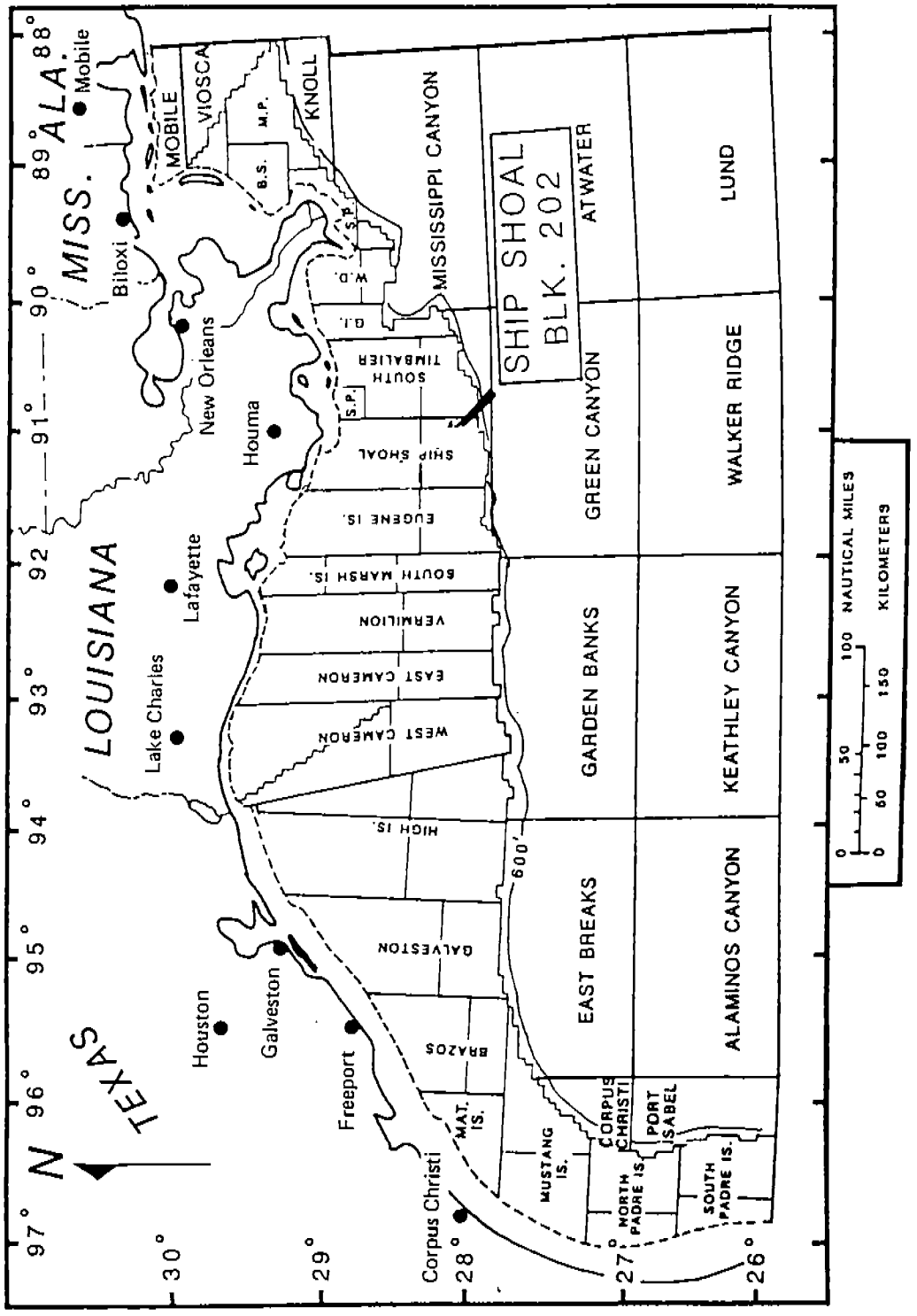


Figure 1. — Location of Ship Shoal Block 202.

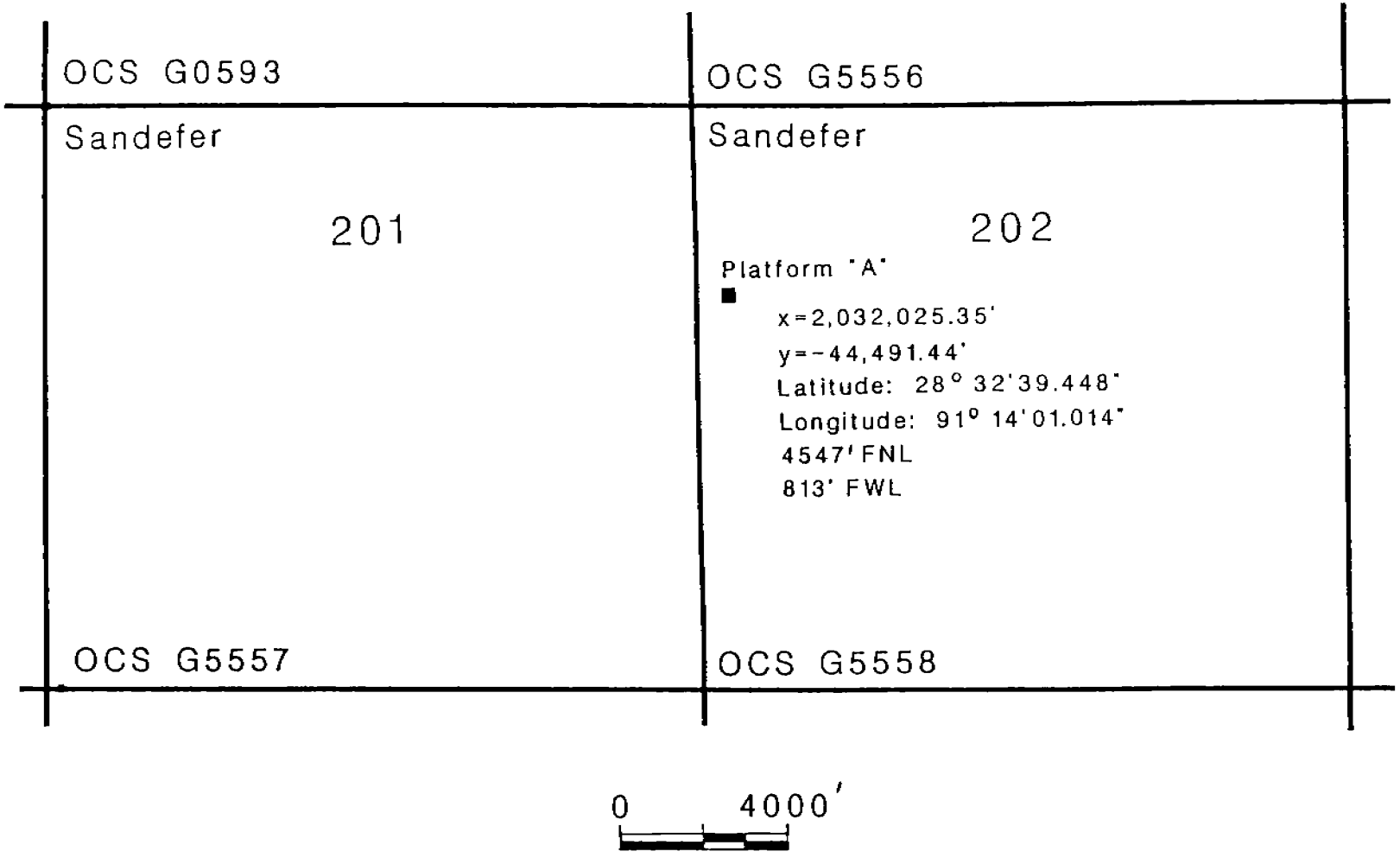
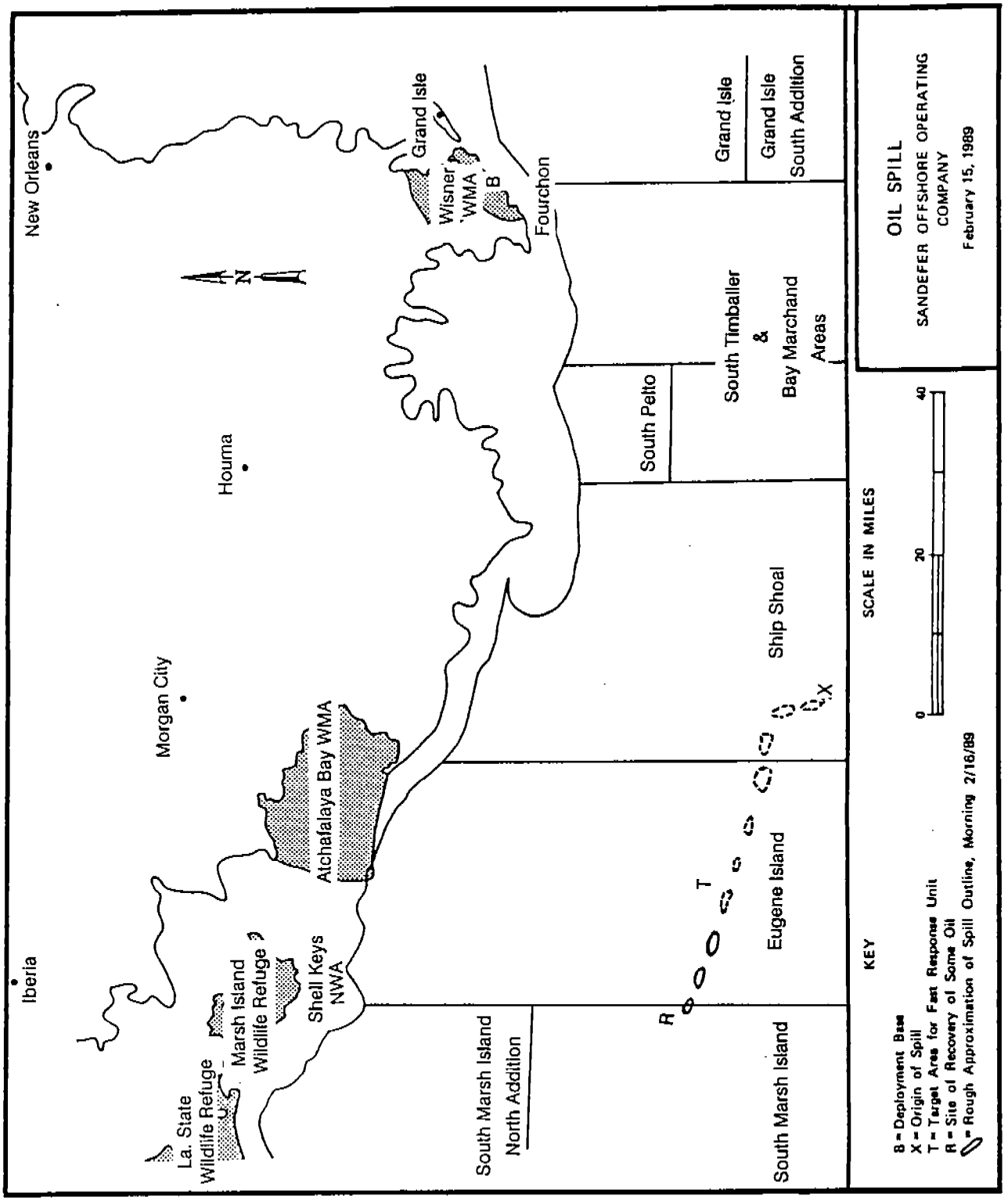


Figure 2. — Location of Platform A, OCS Lease G-5558, Ship Shoal Blocks 201 and 202.


New Orleans
Grand Isle
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Grand Isle
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N
Houma
South Pelto
South Timbalier & Bay Marchand Areas
Morgan City
Ship Shoal
X
Atchafalaya Bay WMA
T
Eugene Island
Iberia
Marsh Island Wildlife Refuge
Shell Keys NWA
R
La. State Wildlife Refuge
South Marsh Island North Addition
South Marsh Island
OIL SPILL
SANDEFER OFFSHORE OPERATING COMPANY
February 15, 1989
SCALE IN MILES
0
20
40
KEY
B = Deployment Base
X = Origin of Spill
T = Target Area for Fast Response Unit
R = Site of Recovery of Some Oil
= Rough Approximation of Spill Outline, Morning 2/16/89