

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT  
GULF OF MEXICO REGION

# ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: 18-DEC-2011 TIME: 0800 HOURS

2. OPERATOR: Shell Gulf of Mexico Inc.  
REPRESENTATIVE: DiCarlo, Theresa  
TELEPHONE: (504) 728-6237  
CONTRACTOR: Transocean Offshore  
REPRESENTATIVE: Paul Macon  
TELEPHONE: (504) 728-8985

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING DEVICE
- DAMAGED/DISABLED SAFETY SYS.
- INCIDENT >\$25K
- H2S/15MIN./20PPM
- REQUIRED MUSTER
- SHUTDOWN FROM GAS RELEASE
- OTHER 319 BBL SBM Discharge

3. OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR  
ON SITE AT TIME OF INCIDENT:

6. OPERATION:

4. LEASE: G19939  
AREA: MC LATITUDE: 28.6302538  
BLOCK: 348 LONGITUDE: -87.9871026

- PRODUCTION
- DRILLING
- WORKOVER
- COMPLETION
- HELICOPTER
- MOTOR VESSEL
- PIPELINE SEGMENT NO.
- OTHER

5. PLATFORM:  
RIG NAME: T.O. DEEPWATER NAUTILUS

6. ACTIVITY:  EXPLORATION (POE)  
 DEVELOPMENT/PRODUCTION  
(DOCD/POD)

8. CAUSE:

7. TYPE:  
 HISTORIC INJURY  
 REQUIRED EVACUATION  
 LTA (1-3 days)  
 LTA (>3 days)  
 RW/JT (1-3 days)  
 RW/JT (>3 days)  
 Other Injury

- EQUIPMENT FAILURE
- HUMAN ERROR
- EXTERNAL DAMAGE
- SLIP/TRIP/FALL
- WEATHER RELATED
- LEAK
- UPSET H2O TREATING
- OVERBOARD DRILLING FLUID
- OTHER \_\_\_\_\_

FATALITY  
 POLLUTION  
 FIRE  
 EXPLOSION

9. WATER DEPTH: 7257 FT.

LWC  HISTORIC BLOWOUT  
 UNDERGROUND  
 SURFACE  
 DEVERTER  
 SURFACE EQUIPMENT FAILURE OR PROCEDURES

10. DISTANCE FROM SHORE: 88 MI.

11. WIND DIRECTION: NE  
SPEED: 10 M.P.H.

12. CURRENT DIRECTION: NW  
SPEED: 3 M.P.H.

COLLISION  HISTORIC  >\$25K  <=\$25K 13. SEA STATE: 4 FT.

17. INVESTIGATION FINDINGS:

On December 16, 2011, the ROV dived and inspected the riser and wellhead displaying no indication of pollution or seal failure of the boost line. On December 17, 2011, the ROV did not dive due to maintenance. On December 18, 2011, the Transocean Deepwater Nautilus was drilling ahead on well 003 sidetrack 01 utilizing Synthetic Base Mud (SBM). Between the hours of 0600 and 0700, a loss of returns at a rate of 1 barrel per minute (BPM) was noticed. The rate of loss decreased between the hours of 0700 and 0800 to 1/2 BPM, and at 0810 hour the rate increased to 2.4 BPM. By 0915 hour, the loss of returns had increased to 4 BPM. At approximately 0930 hour, while the ROV was descending to inspect the riser and wellhead, SBM was identified leaking from the boost line near joints 5 and 6 of the riser (6,865 ft). The pumps were stopped and the boost line was isolated stopping the leak. It was calculated that approximately 319 barrels (BBLs) of SBM was lost. The base oil concentration of the SBM was 57%, totaling 180.2 BBLs of base oil discharged. Regulatory authorities were notified as well as the National Response Center (NRC) #998417. While BSEE Inspectors were on site, a negative pressure test was being conducted. After successful results of the negative pressure test, rig personnel intended to displace the marine riser with seawater and pull the LMRP and riser to conduct a visual inspection of the boost line seal at the point of the leak. The BOP stack will be left on the wellhead with the blind shear rams closed and tested. On December 19, 2011, a storm packer was set and a positive pressure test had been conducted.

18. LIST THE PROBABLE CAUSE(S) OF ACCIDENT:

The probable cause of the leak was a seal failure on the boost line connection. Analysis conducted by Stress Engineering showed scratches on the pin surface was the most likely cause of the primary leak.

19. LIST THE CONTRIBUTING CAUSE(S) OF ACCIDENT:

The scratches on the pin surface were caused by the pin repeatedly striking against hard particles embedded in the seals. The hard particles in the seals may have been pulled out of the coating.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED: NATURE OF DAMAGE:  
2 Seals @65.00 each / 319 bbls of SBM Suspected seal failure/SBM discharged  
(CONFIDENTIAL PER OPERATOR EMAIL ATTACHED overboard  
F) NOTE: NO ESTIMATED COST IS BEING  
PROVIDED PER THE CONFIDENTIAL NATURE OF  
THE MATERIAL.

ESTIMATED AMOUNT (TOTAL): \$

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

The BSEE New Orleans District makes no recommendations to the Agency

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: NO

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

E - 100 On December, 18, 2011, Shell Offshore reported a spill of approximately 319  
BBLS of synthetic base mud. Reference NRC # 998417. No further pollution was  
observed.

25. DATE OF ONSITE INVESTIGATION:

19-DEC-2011

26. ONSITE TEAM MEMBERS:

Joel Moore / Evan Graham /

29. ACCIDENT INVESTIGATION

PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

David J. Trocquet

APPROVED

DATE: 03-APR-2012

# POLLUTION ATTACHMENT

1. VOLUME: GAL 319 BBL  
YARDS LONG X YARDS WIDE

APPEARANCE:

2. TYPE OF HYDROCARBON RELEASED:  OIL  
 DIESEL  
 CONDENSATE  
 HYDRAULIC  
 NATURAL GAS  
 OTHER Synthetic-based Mud

3. SOURCE OF HYDROCARBON RELEASED: **Seal failure on the boost line connection**

4. WERE SAMPLES TAKEN? **NO**

5. WAS CLEANUP EQUIPMENT ACTIVATED? **NO**

IF SO, TYPE:  SKIMMER  
 CONTAINMENT BOOM  
 ABSORPTION EQUIPMENT  
 DISPERSANTS  
 OTHER \_\_\_\_\_

6. ESTIMATED RECOVERY: 0 GAL BBL

7. RESPONSE TIME: HOURS

8. IS THE POLLUTION IN THE PROXIMITY OF AN ENVIRONMENTALLY SENSITIVE AREA (CLASS I)? **NO**

9. HAS REGION OIL SPILL TASK FORCE BEEN NOTIFIED? **NO**

10. CONTACTED SHORE: **NO** IF YES, WHERE:

11. WERE ANY LIVE ANIMALS OBSERVED NEAR: **NO**

12. WERE ANY OILED OR DEAD ANIMALS OBSERVED NEAR SPILL: **NO**

