

UNITED STATES DEPARTMENT OF THE INTERIOR  
 MINERALS MANAGEMENT SERVICE  
 GULF OF MEXICO REGION  
**ACCIDENT INVESTIGATION REPORT**

1. OCCURRED

DATE: **05-NOV-2006** TIME: **0657** HOURS

2. OPERATOR: **BP Exploration & Production Inc.**

REPRESENTATIVE: **Dan Stoltz**  
 TELEPHONE: **(281) 366-3424**

CONTRACTOR: **Transocean Offshore**

REPRESENTATIVE: **Larry Rogers**  
 TELEPHONE: **(713) 232-8245**

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

4. LEASE: **G09867**

AREA: **MC** LATITUDE:  
 BLOCK: **777** LONGITUDE:

5. PLATFORM:

RIG NAME: **T.O. DISCOVERER ENTERPRISE**

6. ACTIVITY:

EXPLORATION (POE)  
 DEVELOPMENT/PRODUCTION  
 (DOCD/POD)

7. TYPE:

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

FATALITY  
 POLLUTION  
 FIRE  
 EXPLOSION

LWC  HISTORIC BLOWOUT  
 UNDERGROUND  
 SURFACE  
 DEVERTER  
 SURFACE EQUIPMENT FAILURE OR PROCEDURES

COLLISION  HISTORIC  >\$25K  <=\$25K

STRUCTURAL DAMAGE  
 CRANE  
 OTHER LIFTING DEVICE  
 DAMAGED/DISABLED SAFETY SYS.  
 INCIDENT >\$25K  
 H2S/15MIN./20PPM  
 REQUIRED MUSTER  
 SHUTDOWN FROM GAS RELEASE  
 OTHER **Synthetic Oil Base Mud (SOBM)**

6. OPERATION:

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

8. CAUSE:

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

9. WATER DEPTH: **6037** FT.

10. DISTANCE FROM SHORE: **98** MI.

11. WIND DIRECTION: **SE**  
 SPEED: **24** M.P.H.

12. CURRENT DIRECTION: **NE**  
 SPEED: **1** M.P.H.

13. SEA STATE: **9** FT.

17. DESCRIBE IN SEQUENCE HOW ACCIDENT HAPPENED:

At 0656 hours on November 5, 2006, maintenance personnel near the port aft high voltage switch gear room heard an abnormal noise/buzzing with light smoke in the space. During their investigation of the space, they heard a louder pop and found the port harmonic filter had blown its three fuses. The fuse material caused a small fire due to the fuse slag near the base of the unit. A portable CO2 fire extinguisher was used to extinguish the flame.

The high current caused by the harmonic filter failure caused a short duration voltage dip on the main 11KV bus that caused all the thrusters to come off line and a brownout due to the online generators disconnecting from the bus. At 0659 hours the vessel reached the red watch circle and the emergency riser disconnect sequence was initiated. At 06:59:45 hours the separation of the LMRP was confirmed at a distance of 185 feet from location resulting in the release of synthetic base drilling fluid. A total mud loss of 547 bbls of which 383 bbls was oil base. No visible sheen was reported at the surface.

While attempting to restore thruster control, the rig blacked out at 0702 hours approximately 290 ft from location. At 0705 hours, power was restored and at 0706 hours thrusters restored. Position was stabilized by 0717 hours approximately 1456 ft from location.

Findings:

Port harmonic filter had failed and a dead short between phases at the port harmonic filter fuses occurred, causing an upset on the 11KV power bus.

Emergency bus supply to essential services was interrupted when the circuit breakers that maintain this supply tripped. The cause of this is subject to further ongoing investigation.

The essential services bus powers the main fuel pumps for the main generators and the 2 main generators connected to the bus where unable to deliver the required load of the thrusters that were in-service. A sequence of load shedding and under/over frequency events were initiated with the generators having a fuel rack setting of 100% but insufficient fuel being supplied to the engines. The generators eventually opened their breakers causing all 6 thrusters to drop offline.

Following the black out event, the system restored itself normally from the dead bus position.

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

Port harmonic filter had failed and a dead short between phases at the port harmonic filter fuses occurred, causing an upset on the 11KV power bus.

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

21. PROPERTY DAMAGED: NATURE OF DAMAGE:  
1) 547 bbls of Synthetic Oil Base Mud. 1) Lost Overboard  
(SOBM) (Valued at \$140,000.00)  
2) 3 Fuses and Reactor (Valued at \$80,000.00) 2) Fire Damage

ESTIMATED AMOUNT (TOTAL): \$220,000

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

No Recommendation to MMS.

Recommendations to preclude any future incidents of this type:  
Investigation and root cause analysis ongoing.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: NO

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

25. DATE OF ONSITE INVESTIGATION:

08-NOV-2006

26. ONSITE TEAM MEMBERS:

Stephen Lucky /

29. ACCIDENT INVESTIGATION  
PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

FPausina for TTrosclair

APPROVED

DATE: 31-JAN-2006

