

UNITED STATES DEPARTMENT OF THE INTERIOR  
MINERALS MANAGEMENT SERVICE  
GULF OF MEXICO REGION

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: 19-DEC-2009 TIME: 0805 HOURS

2. OPERATOR: BP Exploration & Production Inc.

REPRESENTATIVE: Onstott, Linda

TELEPHONE: (281) 366-0219

CONTRACTOR:

REPRESENTATIVE:

TELEPHONE:

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

4. LEASE: G15610

AREA: GC LATITUDE: 27.18836667

BLOCK: 782 LONGITUDE: -90.2687111

5. PLATFORM: A(MAD DOG SPAR)

RIG NAME:

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

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: 4420 FT.

10. DISTANCE FROM SHORE: 134 MI.

11. WIND DIRECTION: N  
SPEED: 1 M.P.H.

12. CURRENT DIRECTION: N  
SPEED: 1 M.P.H.

13. SEA STATE: 1 FT.

17. INVESTIGATION FINDINGS:

On 19 December 2009, BP Exploration and Production Inc's Mad Dog spar had a pollution event resulting in approximately 50 barrels going into the water of the moon pool center well. While pulling a sample off of the disposal (sump) caisson, a production operator observed a strong hydrocarbon odor in the area. He entered the well bay, looked into the center well and observed crude oil on the surface of the center well. Appropriate regulatory agencies were notified and all hot work was ceased. BP removed all oil from the center well caisson and began regular monitoring of the center well. Temperature Safety Elements (TSE) were lowered just above the fluid level, and personnel trained in the use of the foam system protecting the center well also began monitoring the area regularly. The Mad Dog personnel also conducted a full platform drill with the scenario of a fire in the center well.

BP's investigation determined that a faulty check valve allowed oil to enter the caisson. This valve was repaired and double isolated with manual block valves that are locked closed. The check valve remains isolated until the piping is re-designed and re-routed to prevent another occurrence.

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

A faulty check valve allowed oil to enter the sump caisson center well.

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

The sump caisson was not designed properly because it violates CFR 250 300(b)(4) which states that the sump system must automatically maintain oil at a level sufficient to prevent discharge of oil into offshore waters.

20. LIST THE ADDITIONAL INFORMATION:

The Mad Dog team is working with engineers to make modifications to the control system that will provide accurate measurement of oil levels within the oil bucket. The engineering team will also provide guidance for re-routing the caisson pump discharge piping directly to the closed drain tank to attempt to eliminate the risk of oil backflowing through this piping.

21. PROPERTY DAMAGED:

N/A

NATURE OF DAMAGE:

N/A

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

Due to the nature of this incident, the Houma District has no recommendations to make to the MMS Regional Office.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: **YES**

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

The following Incidents of Non-Compliance were issued:

E-100 for pollution of the offshore waters.

E-103 for the sump system failing to maintain oil at a level sufficient to prevent pollution.

G-110 for the operator failing to conduct operations in a safe and workmanlike manner.

25. DATE OF ONSITE INVESTIGATION:

21-DEC-2009

26. ONSITE TEAM MEMBERS:

Casey Bisso / Josh Ladner /

29. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

**Bryan A. Domangue**

APPROVED

DATE: **22-FEB-2010**

# POLLUTION ATTACHMENT

1. VOLUME: GAL 50 BBL  
YARDS LONG X YARDS WIDE

APPEARANCE: **DARK BLACK**

2. TYPE OF HYDROCARBON RELEASED:  OIL  
 DIESEL  
 CONDENSATE  
 HYDRAULIC  
 NATURAL GAS  
 OTHER \_\_\_\_\_

3. SOURCE OF HYDROCARBON RELEASED: **Crude Oil**

4. WERE SAMPLES TAKEN? **YES**

5. WAS CLEANUP EQUIPMENT ACTIVATED? **YES**

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

6. ESTIMATED RECOVERY: GAL 62.5 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**