

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

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: 13-SEP-2017 TIME: 0709 HOURS

2. OPERATOR: BP Exploration & Production Inc.  
REPRESENTATIVE:  
TELEPHONE:  
CONTRACTOR: Ensco Offshore Co.  
REPRESENTATIVE:  
TELEPHONE:

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

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

6. OPERATION:

4. LEASE: G15610  
AREA: GC LATITUDE: 27.18836886  
BLOCK: 782 LONGITUDE: -90.2687112

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

5. PLATFORM:  
RIG NAME: MAD DOG SPAR RIG

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: 4268 FT.  
10. DISTANCE FROM SHORE: 120 MI.  
11. WIND DIRECTION: NE  
SPEED: 6 M.P.H.  
12. CURRENT DIRECTION: SW  
SPEED: M.P.H.  
13. SEA STATE: 2 FT.

LWC  HISTORIC BLOWOUT  
 UNDERGROUND  
 SURFACE  
 DEVERTER  
 SURFACE EQUIPMENT FAILURE OR PROCEDURES

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

17. INVESTIGATION FINDINGS:

On September 13, 2017, the Mad Dog Spar Rig unintentionally discharged 71 barrels of Synthetic Oil Based Mud (SBM) into the waters of the Gulf of Mexico. The accidental discharge was due to valve misalignment while cleaning the mud pill pit.

The Derrickman (DKM) was preparing to mix a cement spacer in the mud pill pit for the upcoming cement job. After notifying the Mud Logger, he began transferring water to the mud pill pit and noticed that there was residual contamination from SBM. The Cementer was notified of the contamination, and he requested that the residual SBM be cleaned from the mud pill pit prior to mixing the spacer. The DKM contacted the Toolpusher (TP) and requested the key to the overboard discharge valve, and he then proceeded to fill the slugging pit with water in order to flush the mixing lines. Once the slugging pit was full and the mixing lines were flushed into the mud pill pit, the DKM and a Floorhand (FLH) used a "valve line-up checklist" to verify that the proper valves were in the open or closed positions. Once the DKM and FLH were confident they had all valves in their proper positions and the "valve line-up checklist" was completed, the TP issued the key to the DKM to open the overboard discharge line. As soon as the DKM opened the discharge valve and activated the pump, the Mud Logger contacted the DKM, Well Site Leader (WSL) & Assistant Driller (AD) to inform them of a loss of SBM in the active mud system. The DKM verified that the valve line-up was correct, but the Mud Logger informed him that there was a continued loss in the active system. At this point, the DKM turned off the pump and closed the overboard discharge valve. From the time the overboard valve was initially opened to the time it was closed was approximately eight minutes, and in that time frame, 71 barrels of SBM were pumped overboard.

Bureau of Safety and Environmental Enforcement (BSEE) Inspectors conducted an onsite inspection/investigation September 15, 2017, and collected documentation for the incident. It was determined that 71 barrels of 13.8 pound per gallon (PPG) SBM was unintentionally discharged into the Gulf of Mexico due to incorrect valve line up. At the time of the onsite investigation, rig personnel were unwilling to state that an incorrect valve line up was the cause of the SBM release. They indicated that this was a possibility, but they also identified a leaking valve as potential cause. The rig identified a splitter valve that was leaking and changed it as a precaution. However, SBM fluid was not lost until the DKM activated the fluid pump and started pumping fluid overboard, and flow stopped once the pump was turned off and the overboard valve was closed. The leaking splitter valve may have been a contributing factor to the SBM discharge, but it was not the primary cause. BP's response letter to the incident of non-compliance also identified an incorrect valve line-up as the primary cause of the SBM discharge. BP also identified that even though a checklist was used to verify valve alignment, a mistake must have been made, and improper valve alignment did occur.

The contractor has discussed the incident and their findings with all crew members in their weekly safety meeting and addressed policies in place for valve line-up and valve verification to prevent a reoccurrence.

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

- 1) Improper valve alignment allowed SBM to be discharged into the Gulf of Mexico.
- 2) Personnel failed to properly verify valve alignment prior to pumping water overboard.

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

**The leaking splitter valve may have contributed to the SBM discharge.**

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

**N/A**

NATURE OF DAMAGE:

**N/A**

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

**BSEE Houma District has no recommendations for the Office of Incident Investigations at this time**

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

**An E-100 was issued following this incident:**

**"On September 13, 2017, the rig inadvertently discharged 70 barrels of Synthetic Base drilling fluid into the Gulf of Mexico."**

25. DATE OF ONSITE INVESTIGATION:

**15-SEP-2017**

28. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

OCS REPORT:

26. ONSITE TEAM MEMBERS:

**Chris Treland / Gabe Orellana /  
Cedric Bernard / Paul Reeves /**

29. DISTRICT SUPERVISOR:

**Bryan A. Domangue**

APPROVED

DATE:

**16-NOV-2017**