

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

# ACCIDENT INVESTIGATION REPORT

**For Public Release**

1. OCCURRED

DATE: **07-NOV-2015** TIME: **2100** HOURS

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

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR: **Seadrill Limited**

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: **G15607**

AREA: **GC** LATITUDE:

BLOCK: **743** LONGITUDE:

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

5. PLATFORM:

RIG NAME: **SEADRILL WEST AURIGA**

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

8. CAUSE:

7. TYPE:

- HISTORIC INJURY
- REQUIRED EVACUATION 1
- LTA (1-3 days)
- LTA (>3 days) 1
- RW/JT (1-3 days)
- RW/JT (>3 days)
- Other Injury 1 **Burns to the body**

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

- FATALITY
- POLLUTION
- FIRE
- EXPLOSION

- LWC
- HISTORIC BLOWOUT
  - UNDERGROUND
  - SURFACE
  - DEVERTER
  - SURFACE EQUIPMENT FAILURE OR PROCEDURES

9. WATER DEPTH: **6824** FT.

10. DISTANCE FROM SHORE: **107** MI.

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

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

13. SEA STATE: FT.

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

On November 7, 2015, while troubleshooting an alarm on the Marine Sanitation Device (MSD), an Engine Room Operator (IP) sustained first and second degree burns due to hot fluids being released from a ruptured sight glass on one of the MSD's vacuum pumps.

At the time of the incident, the Seadrill West Auriga was in the process of performing drilling operations on BP Exploration and Production's DC133 well. The drillship was located in Green Canyon Block 743, Lease OCS-G15607.

After receiving an alarm from the ship's MSD system, the Engine Room Operator (IP) proceeded to the ship's hull to investigate the issue. Upon arrival, the IP noticed that the 'Long Run Alarm' indication light was illuminated on the MSD's control panel. The IP noted that the system seemed to be running hot and proceeded to reset the alarm. The operator's report stated that it was common practice to reset the system and pumps in order to start troubleshooting the cause of the alarms on the MSD unit. Once the alarm was cleared and the pumps were turned back on, the IP walked over to the inspection glass to confirm whether or not the fluid in the system was flowing.

The IP arrived at the inspection glass and knelt down next to the pump in order to gain a clear view of the inside of the pump. It was at this moment that the inspection glass failed, ejecting pieces of fractured glass and hot fluids from the side of the pump and onto the IP. The IP immediately shut down the system and closed the suction valve to the pump before leaving the area. The IP proceeded to the nearest emergency wash station because he was covered in sewage and his skin was burning. He undressed and stood under the flowing water for several minutes in an attempt to wash his skin free of contaminants and help to slow down the burning process.

After washing off all the contaminants, the IP notified the rig's OIM and Medic about what had occurred. IP was examined by the rig's Medic and the decision was made to send the IP to an inland facility for further treatment. At approximately 21:37 hours the Medevac Helicopter was notified of the emergency and efforts to transport the IP were made. Due to the weather conditions at the time, the Medevac Helicopter was delayed for several hours until finally being able to make it to the rig around 08:31 the following morning.

No injuries were sustained by the IP due to the shattered glass, but the discharge of hot fluids left the IP with first and second degree burns on approximately 40% of his body. The investigation that followed showed the direct cause of the incident to be due to the discharge lines of the pump being clogged with scale. A pressure build up occurred inside of the pump because the lines became clogged and there was no safety device in place to prevent overpressuring; such as, a Pressure Relief Valve or a Rupture Disk, causing the inspection glass to rupture.

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

1) Excessive Scale buildup in the discharge line caused the pump to become over pressured and ultimately fail at the inspection glass.

2) Poor Equipment Design: Equipment isn't designed with any safety features to prevent over pressuring, (Pressure Relief Valves, Rupture Disk, Pressure Sensors, etc.). In

addition, the equipment doesn't have any pressure or temperature gauges installed to assist crew members when inspecting or troubleshooting the system.

3) Body Placement: In order to see through the inspection glass, operator must place his/her body in the line of fire.

4) IP failed to recognize the potential hazard of excess pressure being trapped in the system.

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

1) Overheating of the pump from restricted flow due to scale clogging the piping on the discharge line of the pump.

2) No formal process or procedure was in place onboard the vessel for troubleshooting the alarms on the Marine Sanitation Device.

3) Manufacturer's 'Operations Manuel' was not available to the crew at the time of the incident.

4) It was common practice for the crew to reset the alarm and restart the pump of the MSD before first identifying the cause.

20. LIST THE ADDITIONAL INFORMATION:

N/A

21. PROPERTY DAMAGED:

N/A

NATURE OF DAMAGE:

N/A

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

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

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: **NO**

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

N/A

25. DATE OF ONSITE INVESTIGATION:

**30-NOV-2015**

**For Public Release**

26. ONSITE TEAM MEMBERS:

**Robert Reeves / Cedric Bernard /  
Troy Boudreaux / James Richard /**

29. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

**Bryan Domangue**

APPROVED

DATE: **10-FEB-2016**