

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: 25-SEP-2014 TIME: 1350 HOURS

2. OPERATOR: Shell Offshore Inc.

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR: WEATHERFORD -

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: G01026

AREA: SS LATITUDE:

BLOCK: 241 LONGITUDE: -

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

5. PLATFORM: - A-VALVE

RIG NAME: \* HYDRAULIC WORKOVER UNIT (HO)

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

8. CAUSE:

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

7. TYPE:

HISTORIC INJURY -

REQUIRED EVACUATION 1 -

LTA (1-3 days)

LTA (>3 days)

RW/JT (1-3 days)

RW/JT (>3 days)

Other Injury 1 Medical Treatment Case

- FATALITY
- POLLUTION
- FIRE
- EXPLOSION

- LWC -
- HISTORIC BLOWOUT
  - UNDERGROUND
  - SURFACE
  - DEVERTER

SURFACE EQUIPMENT FAILURE OR PROCEDURES -

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

9. WATER DEPTH: 136 FT.

10. DISTANCE FROM SHORE: 57 MI.

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

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

13. SEA STATE: FT.

On September 25, 2014, an employee working on the deck of Weatherford's Hydraulic Pulling Unit #4 was struck on the right arm by a piece of equipment that fell from the derrick.

Weatherford had been contracted by Shell Offshore Inc. to perform abandonment operations on their SS 241 (A-Valve) platform, lease #G08518. The platform had previously been handed over to Shell Pipeline Company as a pipeline station. Inspections of the Pulling Unit commenced once it was moved onto the platform, and Shell was instructed to report any incidents to BSEE while abandonment operations were ongoing.

At the time of the incident, the crew was racking back pipe that was being pulled from the A004 well. "Pipe Stop Arms" (PSAs) were used in this process. The PSA is part of the Pulling Unit's racking system and is designed to help support the pipe while it is being run in or pulled from the well. While in the process of lowering the PSAs, the PSA on the right side of the floor broke off and fell 24 feet to the deck. A Weatherford employee working on the deck below the PSA was struck on his right arm by the falling debris. The section of broken PSA that fell to the floor was 8 feet long and weighed approximately 165 pounds. All operations were stopped immediately following the incident, and the medic arrived on the scene to examine the Injured Person (IP). After consulting with an onshore physician, the decision was made to send the IP in for further evaluation. The IP sustained no fractures or broken bones and was released to full duty the following day.

All operations were shut down, and an investigation began immediately following the incident. The broken PSA was sent in for testing in an attempt to discover what had caused the break. Tests were performed by Howard and Associates, a third party contractor that specializes in metallurgy and failure analysis. These tests showed that the fracture of the pipe occurred along one of the welds of the PSA. It was discovered that full penetration had not been achieved around the circumference of the weld, and areas of shallow/thin weld were observed along the fractured weld. Although the design drawings did not specifically say that full penetration was required, failure to do so made the weld weaker than it should have been, given the nature of its function. Further testing of the welds revealed other indicators that led experts to believe that the fracture occurred due to overload (such as tension, bending, and/or torsional overload). Investigation findings were reviewed, and recommendations on how to prevent this type of incident were given to the companies involved.

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

- Failure to achieve complete joint penetration along the circumference of the weld on the "Pipe Stop Arm"; shallow/thin welding found along fracture weld
- Lap testing of the PSA showed a lack of fusion in the intact welds. Lack of fusion in between the metals of the weld increases the chances of defects and imperfections in the weld roots.

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

- Design Documentation failed to specify that Complete Joint Penetration (CJP) welds were required for the "Pipe Stop Arm."

20. LIST THE ADDITIONAL INFORMATION:

**N/A**

21. PROPERTY DAMAGED:

**N/A**

NATURE OF DAMAGE:

**N/A**

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

**The Houma District has no recommendations for BSEE Region 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:

**26-SEP-2014**

26. ONSITE TEAM MEMBERS:

**Josh Ladner / James Richard /**

29. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

**Bryan Domangue**

APPROVED

DATE: **07-JAN-2015**