

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: 29-MAR-2019 TIME: 1925 HOURS

2. OPERATOR: Hess Corporation

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR: Diamond Offshore Drilling, Inc.

REPRESENTATIVE:

TELEPHONE:

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING Failed slips
- DAMAGED/DISABLED SAFETY SYS.
- INCIDENT >\$25K \$100,000
- H2S/15MIN./20PPM
- REQUIRED MUSTER
- SHUTDOWN FROM GAS RELEASE
- OTHER Dropped Tubing

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

8. OPERATION:

4. LEASE: G22898

AREA: MC LATITUDE:

BLOCK: 725 LONGITUDE:

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

5. PLATFORM:

RIG NAME:

6. ACTIVITY:

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

9. CAUSE:

7. TYPE:

INJURIES:

HISTORIC INJURY

OPERATOR CONTRACTOR

REQUIRED EVACUATION

LTA (1-3 days)

LTA (>3 days)

RW/JT (1-3 days)

RW/JT (>3 days)

FATALITY

Other Injury

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

POLLUTION

FIRE

EXPLOSION

LWC HISTORIC BLOWOUT

UNDERGROUND

SURFACE

DEVERTER

SURFACE EQUIPMENT FAILURE OR PROCEDURES

10. WATER DEPTH: 4328 FT.

11. DISTANCE FROM SHORE: 49 MI.

12. WIND DIRECTION: ESE
SPEED: 13 M.P.H.

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

14. SEA STATE: 6 FT.

15. PICTURES TAKEN:

16. STATEMENT TAKEN:

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

On Friday, March 29, 2019 at 19:25 hours, Hess Corporation (Hess) had a dropped tubing string event onboard the Diamond Ocean BlackLion drillship while conducting abandonment operations of Tubular Bells Well TB001 sidetrack at Mississippi Cannon Block 725. The BlackLion well operations crew was in the process of retrieving the previously installed 7 x 5-1/2" inch tubing string during the abandonment phase of the Tubular Bells Well TB001 sidetrack. After pulling Stand 33 out of the well, the slips were set and the operator commanded the elevators to open. The elevators opened and the pipe fell through the slips into the well pulling three control line flat packs with it. Personnel fled the rig floor while the string and control lines were still falling down hole. There were no injuries or environmental impacts as result of this incident.

On 29 March 2019, the Diamond Ocean BlackLion drillship rig team worked to pull the previously installed tubing string out of the well. The rig team consisted of Diamond Offshore Company (DODI) well operations personnel and other independent company's crew.

While pulling the tubing string out of the well, the string was stopped at every connection so that the degraded insulator material could be scraped off the connection area while the hole was protected with a hole cover. As a precaution, an independent company cleaned the slip inserts with a pressure washer every 10 stands. The action had been adopted based on historical events where mill scale was dislodged from the tubing would pack off in the insert matrix. This pack-off of scale could lead to reduced penetration of the inserts and ultimately slippage.

The rig team pulled ten stands after the initial rig up with no issues reported. After pulling Stand 10, an independent company washed the inserts of the running equipment, which consisted of the racker, elevator, and the slips. At 12:00 hours, an independent company's crew and the Diamond crew had a tour change and reviewed the Job Safety Analysis (JSA). On Stand 20, along with Stand 30, the independent company's crew cleaned the inserts to the pipe running equipment with no issues reported.

On Friday, March 29, 2019 at approximately 19:25 hours, after pulling tubing string Stand 33 out of the well, the elevators opened and the pipe fell through the slips into the well pulling three control line flat packs with it. According to the Hess investigation report, the sequence of events just prior to the incident were as follows:

- 1). The independent company's elevators gripped the tubing string as the travel block (controlled by the DODI driller) lifted Stand 33 out of the hole.
- 2). Once the DODI driller stopped lifting the tubing string, the independent operator commanded the hydraulic control line spider slips to close and to support the VIT at the drill floor.
- 3). The driller then lowered the travel block a designated amount in order to transfer the string weight off the hydraulic elevators and on to the hydraulic control line. The driller reported he slacked off the block until he got to a neutral weight, which is the weight of the top drive and block. According to his statement, the driller then gave a signal to open the elevators to the independent company's operator who was operating the hydraulic control line and elevator. The post incident investigation revealed, the DODI driller incorrectly assessed the hook load and should not have signaled to the independent company's operator. At that time, the travel block still supported approximately 170,000 lbs. of string weight.
- 4). The independent company's operator then commanded the hydraulic elevators to open with 170 kips of string weight on the elevators. Although the command was given, the elevators did not open immediately due to the amount of weight still suspended from them.

5). The travel block (operated by the driller) lowered further.

6). With 50 kips string weight still supported by elevators, the elevators lifted upwards and the tubing string slipped through the hydraulic control line and fell downhole.

Personnel immediately evacuated the area around the rotary. The tubing string fell to the bottom of the well and three control lines were unspooled from their reels and lost downhole. After the string had fallen and the control lines went downhole, the crew made the area secure. There were no injuries or environmental impacts as result of this incident.

Relevant information:

The hydraulic control line did not operate as designed in supporting the tubing string. The Incident Investigation report indicates the pressure relief valve on the hydraulic control line operated at the wrong pressure setting. The low relief valve setting caused slow slip speed travel, which introduced the risk of insert wear by allowing contact with the tubular while pulling through the hydraulic control line.

At the time of the incident, the hydraulic elevators opened with 50,000 lbs suspended weight. The hydraulic elevators were initially designed to open with a theoretical maximum string weight of 22,620 lbs and post incident lab tests validate the initial design.

While pulling the tubing string out of the well, the string was stopped at every connection so that the degraded insulator material could be scraped off the connection area while protecting the hole with a hole-cover. As a precaution, the independent company's crew cleaned the slip inserts with a pressure washer every 10 stands.

The rig team pulled ten stands after the initial rig up with no issues reported. After pulling Stand 10, the independent company's crew pressure washed the inserts of the running equipment, which consisted of the racker, elevator, and the slips. According to the Hess after action incident report, the effectiveness of pressure washing could not be determined due to the limited visibility offered when the tubing string was situated in the middle of the hydraulic control line.

The wellbore fluid (ZnBr) was incompatible with the tubing string coupling insulators. While pulling tubing, the independent company's crew observed grainy "cat litter" sized residue covering the casing being pulled. Based on Hess's incident report, the residue was a result of the wellbore fluid (ZnBr) being incompatible with the tubing string coupling insulators causing deterioration of the insulators. The insulator residue introduced a risk of packing off the elevator and spider inserts, which may have prevented full engagement with the pipe for load carrying capability.

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

The hydraulic elevators opened and the tubular fell through the slips into the well.

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

- The equipment operator commanded the hydraulic elevators to open when the elevators supported 170,000 lbs of string weight.
- The hydraulic control line did not effectively support the tubular when commanded. Post incident investigation revealed numerous contributing causes including:

- 1). There was inconsistent hydraulic control line insert engagement on the tubing string.
- 2). The hydraulic control line pressure relief valve was set at the wrong pressure setting. The low pressure setting caused slow slip travel and markings on the tubing string due to pipe movement.
- 3). The wellbore fluid (ZnBr) was incompatible with the tubing string coupling insulators. The incompatibility caused residue, which could have prevented full engagement with the pipe for load carrying capability.

20. LIST THE ADDITIONAL INFORMATION:

BSEE recommends operators consider: 1). Incorporating a safety device to restrict opening the elevator or the slips when supporting tubular. 2). Install a pipe clamp when pulling external flush connection tubular.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

Pipe Handling Equipment

Dropped tubing

ESTIMATED AMOUNT (TOTAL): \$100,000

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The New Orleans District recommends that the Office of Incident Investigation consider recommending the issuance of a Safety Alert.

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

25. DATE OF ONSITE INVESTIGATION:

**04-APR-2019 Earl Roy, Alvin Edwards
11-JUN-2019 Frank Musacchia, Michael Sonnier**

28. ACCIDENT CLASSIFICATION:

29. ACCIDENT INVESTIGATION
PANEL FORMED: **NO**

26. INVESTIGATION TEAM MEMBERS:

**Earl Roy / Alvin Edwards / Michael
Sonnier / Frank Musacchia /**

OCS REPORT:

30. DISTRICT SUPERVISOR:
David Troquet

27. OPERATOR REPORT ON FILE:

APPROVED **04-JUN-2020**
DATE: