

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-MAY-2017 TIME: 0930 HOURS

2. OPERATOR: Shell Offshore Inc.

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR: NOBLE DRILLING (U.S.) INC.

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: G07493

AREA: GB LATITUDE:

BLOCK: 427 LONGITUDE:

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

5. PLATFORM:

RIG NAME: NOBLE DON TAYLOR

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) 1
- 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: 2719 FT.

10. DISTANCE FROM SHORE: 148 MI.

11. WIND DIRECTION: NE
SPEED: 21 M.P.H.

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

13. SEA STATE: 3 FT.

14. PICTURES TAKEN:

15. STATEMENT TAKEN:

On 29 May 2017, a third-party contractor sustained a serious hand injury during drilling operations on the Noble Drilling Service, Inc. (Noble) Don Taylor (NDT) drill ship under contract to Shell Offshore Inc. (Shell) at the surface location in Garden Banks (GB) Block 427. The severity of the injury to third-party contractor's left hand required evacuation from the NDT rig for surgery.

On the morning of 29 May 2017, a subsea team consisting of a Noble Subsea Engineer and a third-party service technician from SubC Partner (SubC) were tasked to adjust the preload on the Belleville springs located in the lower gripper assembly on the subsea blowout preventer (BOP) blue pod. The gripper assembly creates a hydraulic flow path for BOP functions after connecting the lower marine riser package (LMRP) to the BOP. The subsea team was to perform this task as stated in National Oilwell Varco (NOV) Product Information Bulletin No. D4516572257-PIB-001, AX Procedure AX080417. Prior to beginning work on the lower gripper assembly, the subsea team reviewed and signed off on the Noble Job Plan and Job Safety Analysis (JSA).

Prior to starting work adjusting the Belleville springs, the Noble Subsea Engineer energized the pods into their normal position with the primary gripper latched to the hub and the male and female pod assemblies fully engaged. Then, the Noble Subsea Engineer proceeded to energize the blue pod while managing the control pressure to shift the primary gripper into the disengage position that made the primary gripper cylinder move down onto the Belleville springs. The load on the Belleville springs by the primary gripper cylinder in the disengage position allowed subsea team to adjust the preload on the Belleville springs to the designed compression. After completing this function, the primary gripper was disengaged to reconnect the lower gripper assembly; however, the connector plate on the upper portion of the female assembly did not land out on the landing sleeve of the lower BOP assembly as designed. The subsea team discovered that the landing plate was stuck on the upper portion of the female assembly and it did not line up with the landing sleeve on the lower BOP assembly. Therefore, the Noble Subsea Engineer placed the gripper to function in the unlatch and block positions. Meanwhile, the SubC Technician was using a ratchet extension in his right hand to check the guide rod hole alignments while placing his left hand in the gap created between the connector plate and landing sleeve to secure himself as he stood on a 3-foot ladder. When the Noble Subsea Engineer functioned the gripper to unlatch and block, the connector plate fell on the SubC Technician's left hand trapping it against the landing sleeve.

The Noble Subsea Engineer who witnessed the incident immediately called for assistance and attempted to raise the gripper assembly to free the SubC Technician's left hand. The SubC Technician was conscious during the entire time as attempts were made to free his left hand. Finally, a hydraulic hand pump was used to raise the landing plate approximately 2.5 inches to free his left hand. He was escorted to the Rig Medic's office for medical attention and then evacuated by helicopter the same day from the rig for medical evaluation by a physician onshore.

Statements taken from the SubC Technician and the Noble Subsea Engineer revealed that there was some confusion about the gripper assembly functions and with the NOV original equipment manufacturer (OEM) procedures by both parties. In addition, both parties failed to clearly communicate with each other during the execution of job task.

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

The BSEE incident investigation team determined that the probable cause of the incident was due to improper hand placement as an anchoring point by the SubC Technician while conducting maintenance on the BOP lower gripper assembly.

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

BSEE's investigation into this incident revealed the following contributing causes to this incident: 1) inadequate pre-job preparation and job hazardous analysis; 2) poor communication between the Noble Subsea Engineer and SubC Technician during the job task; and 3) the task of guiding the lower and upper assemblies with hands is not referenced in the NOV OEM procedures and was not addressed as a "pinch point" hazard in the JSA.

20. LIST THE ADDITIONAL INFORMATION:

LIST OF ATTACHMENTS:

21. PROPERTY DAMAGED:

No property was damaged during this incident.

NATURE OF DAMAGE:

Not applicable.

ESTIMATED AMOUNT (TOTAL): \$

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The BSEE Lafayette District makes no recommendations to the Office of Incident Investigations regarding this incident.

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

For Public Release

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

Based on the incident investigation findings, a G-110 Incident of Noncompliance (INC) was issued "After the Fact" to Shell Offshore, Inc., (Shell) to document its failure to protect health, safety and the environment by performing operations in an unsafe and unworkmanlike manner. On 29 May 2017, Shell failed to provide adequate supervision when a SubC third-party service technician sustained a serious injury to his left hand while working on a BOP blue pod lower gripper assembly. The SubC third-party service technician was evacuated from the rig and required surgery on his left hand to remove four fingers and part of his thumb.

25. DATE OF ONSITE INVESTIGATION:

08-JUN-2017

28. ACCIDENT CLASSIFICATION:

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

26. ONSITE TEAM MEMBERS:

**Roy Kuhn / Troy Naquin (Report
Author) / Ernest Carmouche / Davis
Suire /**

OCS REPORT:

30. DISTRICT SUPERVISOR:

Elliott Smith

27. OPERATOR REPORT ON FILE:

APPROVED

DATE: **12-DEC-2017**