

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

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: 10-DEC-2021 TIME: 0030 HOURS

2. OPERATOR: Shell Offshore Inc.

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR: Helmerich & Payne

REPRESENTATIVE:

TELEPHONE:

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING Pipe Racker
- 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:

4. LEASE: G08241

AREA: GB LATITUDE:

BLOCK: 426 LONGITUDE:

5. PLATFORM: A-Auger TLP

RIG NAME: H&P 406

6. ACTIVITY:

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

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

POLLUTION

FIRE

EXPLOSION

LWC HISTORIC BLOWOUT

UNDERGROUND

SURFACE

DEVERTER

SURFACE EQUIPMENT FAILURE OR PROCEDURES

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

8. OPERATION:

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

9. CAUSE:

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

10. WATER DEPTH: 2860 FT.

11. DISTANCE FROM SHORE: 136 MI.

12. WIND DIRECTION: S
SPEED: 23 M.P.H.

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

14. SEA STATE: 4 FT.

15. PICTURES TAKEN:

16. STATEMENT TAKEN:

17. INVESTIGATION FINDINGS:

Incident Summary:

On 10 December 2021 at approximately 0030 hours, a lifting incident occurred while operating a pipe racker system during Well A019 tripping in the hole operations on the Helmerich and Payne, Inc. (H&P) Rig 406 (H&P 406) that is permanently fixed on Shell Offshore Inc.'s (Shell) Auger Tension Leg Platform (TLP) located Garden Banks (GB) Block 426A. The pipe racker lifting incident occurred when a single joint of a 3.5-inch drill pipe was damaged due to contact with the elevators as the traveling block was coming down.

Sequence of Events:

A H&P crew started conducting tripping in the hole operations on 9 December 2021 with a stand of 3.5-inch drill pipe using a Pipe Racking System (pipe racker). The pipe racker system on the H&P 406 rig is hydraulically actuated by control handles located within the upper and lower control consoles, that are occupied and operated by the Lower Pipe Racker Operator (LPRO) and the Upper Pipe Racker Operator (UPRO). Prior to tripping in the hole operations using the pipe racker, the H&P crew reviewed the H&P 406 Job By Design (JBD) Template for this operations that detailed the sequence of events and the responsibility of each employee involved in this operations. In addition, before well operations began, H&P completed a Job Safety Analysis (JSA) that was reviewed and signed by all parties involved with tripping in the hole while using the pipe racker.

On 10 December 2021 at 0030 hours, as the Driller was running a stand of drill pipe in the hole while the LPRO and UPRO grabbed the next stand of drill pipe from the finger board closest to the traveling block in preparation for running in the hole. For some unknown reason, the LPRO pulled his end back ahead of the UPRO that caused the top of the stand of drill pipe to get under the elevators as the traveling block was coming down. Simultaneously the UPRO had his end out too far that the top stand of drill pipe was already positioned under the traveling block as the Driller slacked off the previous stand. The momentum from the LPRO pulling back ahead of the UPRO caused the top stand of drill pipe to get under the elevators that are position below the traveling block. This in turn caused a single joint of 3.5-inch stand of drill pipe to bow when it came out of the lower racker head and glanced off an air slip base before landing on the rotary. The stand of drill pipe did not fall because it was still being held by the upper racker head; therefore, it was retrieved by the lower racker head and was re-racked in the derrick. Tripping in the hole operations were discontinued and a safety stand down was held. There were no injuries sustained as the result of this incident; however, a single joint of a 3.5-inch drill pipe bowed and the threads were damaged, so it was taken out of service and sent in for repair.

BSEE Investigation:

The Bureau of Safety and Environmental Enforcement (BSEE) Lafayette District Accident Investigator (AI) conducted an off-site investigation for this incident by the following means: 1) the review of all incident documents submitted by Shell and H&P; 2) emails exchanged between BSEE, Shell, and H&P for more detailed information regarding this incident; and 3) from numerous telephone interviews conducted by BSEE with Shell and H&P representatives. The BSEE Lafayette District AI conclusions were based on the evidence gathered for this incident including the following: information presented in the H&P Investigation Report, the Pipe Racking System Manual, Alleged Incident Reports (Witness Statements), the Job By Design Template and the Job Safety Analysis (JSA) and from numerous emails and telephone interviews with Shell and H&P representatives. The Lafayette District AI has concluded that the pipe racker lifting incident was due to the following: 1) for an unknown reason, the LPRO pulled his end of the pipe ahead of the UPRO that caused the top stand of drill pipe that was already too far out below the traveling block to get under the elevators as the traveling block was coming down; 2) the limited experience of the LPRO since this was only the second time operating the lower pipe racker; 3) failure to identify in

the JSA the potential hazard of the impact between the block/elevators with a stand of drill pipe when traveling down while a stand of drill pipe is simultaneously being removed from the finger board; and 4) an inadequate JBD Template that failed to alert that "When pulling stands from any/all rows wait till block is below finger board to bring stand out of finger row". BSEE confirmed in an email from Shell on 11 May 2022 that the LPRO was trained by a On The Job Training program. H&P's Investigation Report stated that a contributing factor was miscommunication between the LPRO and UPRO that caused them to not synchronize the movement of the pipe that caused the top stand of drill pipe to move under the elevators. Shell informed BSEE that the LPRO and UPRO coordinate their pipe racking operations in their control consoles using a hand-held radios. BSEE could not substantiate this claim since there was no evidence to support the miscommunication claim. The rig keeps the Pipe Racking System Manual on site that provides information for the proper operations of the pipe racker. However, BSEE was told by Shell in an email on 22 April 2022 that the manual is used more for maintenance and not for operations.

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

Human Performance Error: BSEE has determined the probable cause of the incident was due to the LPRO pulling his end of the drill pipe ahead of the UPRO that caused the top of the stand of drill pipe to get under the elevators as the traveling block was coming down. H&P addressed this issue in their updated Job By Design Template.

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

Human Performance Error: This was only the second time that LPRO operated the H&P 406 pipe racker and has been working on the rig for only 8 months performing other non-pipe handling duties.

Management Systems:

- Inadequate Job Safety Analysis (JSA) - the JSA failed to identify potential hazards of impact between the elevators with a stand of drill pipe in the when it is traveling down while a stand of drill pipe is simultaneously being removed from the fingerboard with the pipe racker. H&P will update the JSA to address the hazards of a stand of drill pipe contacting the elevators while tripping in the hole. The JSA did not include information related to inexperienced employees.
- Inadequate Job By Design (JBD) Template - the JBD Template used before the incident failed to alert that "When pulling stands from any/all rows wait till block is below finger board to bring stand out of finger row." H&P corrective actions stated in the updated JBD Template will now require that the stand of drill pipe to stay in the slot until the block is lowered below finger board before bringing out next stand of drill pipe out for running in the hole.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

A single joint of 3.5-inch drill pipe was damaged during this incident.

NATURE OF DAMAGE:

The single joint of 3.5-inch drill pipe bowed and the threads were damaged. The joint of 3.5-inch drill pipe was cut and rethreaded at a cost of \$185.00.

ESTIMATED AMOUNT (TOTAL): \$185

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

Based on the incident investigation findings, a G-110 Incident of Noncompliance (INC) is issued to document that Shell Offshore Inc. (Shell) failed to perform operations in a safe and workmanlike manner during Well A019 decompletion operations using the Helmerich & Payne, Inc. (H&P) 406 rig on the Auger Tension Leg Platform (TLP) located at Garden Banks (GB) Block 426A.

On 10 December 2021, a pipe racker incident occurred during Well A019 tripping in hole operations on the H&P 406 on Shell's Auger TLP located GB Block 426A. The pipe racker incident occurred during tripping in the hole operations with a pipe racker and block. When the pipe racker was transferring a stand of drill pipe from the pipe rack area, the lower pipe racker head unintentionally released the stand of drill pipe due to an impact that occurred between a stand of drill pipe being held by the racking system and the block while running a stand of drill pipe in the hole.

A BSEE Incident Follow-up Investigation Team determined that the pipe racker incident was result of: 1) miscommunication between the Upper and Lower Pipe Racker Operators and the Driller; 2) inexperience of Lower Pipe Racker Operator because he pulled his end of the stand of drill pipe back too soon that allowed the top of the stand of drill pipe to get caught under the block; 3) a stand of drill pipe was removed from the fingerboards prematurely as the traveling block was coming down; 4) inadequate design of equipment given that the equipment was designed in such a way that flexing of a stand of drill pipe due to momentum while moving in a racker can potentially cause damage to personnel and equipment by impacting the block when traveling down; and 5) failure to identify the potential hazard of impact between block and a stand of drill pipe in Job Safety Analysis when block is traveling down while a stand of drill pipe is simultaneously being removed from fingerboards.

25. DATE OF ONSITE INVESTIGATION:

28. ACCIDENT CLASSIFICATION:

26. INVESTIGATION TEAM MEMBERS:

29. ACCIDENT INVESTIGATION

/ / **Troy Naquin (Report Author)** /

PANEL FORMED: **NO**

OCS REPORT:

27. OPERATOR REPORT ON FILE:

30. DISTRICT SUPERVISOR:

Marty Rinaudo

APPROVED

DATE:

13-JUN-2022