

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: **03-FEB-2021** TIME: **0200** HOURS

2. OPERATOR: **Anadarko Petroleum Corporation**

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR: **Nabors Offshore Corporation**

REPRESENTATIVE:

TELEPHONE:

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING
- 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:

8. OPERATION:

4. LEASE: **G11081**

AREA: **GC** LATITUDE:

BLOCK: **645** LONGITUDE:

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

5. PLATFORM: **A(HOLSTEIN SPAR)**  
 RIG NAME: **HOLSTEIN SPAR RIG**

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

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

10. WATER DEPTH: **4340** FT.

11. DISTANCE FROM SHORE: **119** MI.

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

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

14. SEA STATE: FT.

15. PICTURES TAKEN:

16. STATEMENT TAKEN:

On February 3, 2021, at 02:00 hours, an incident occurred on the Holstein Spar Rig working for Anadarko Petroleum Corporation. Drilling operations were being conducted at Green Canyon Block 645 OCS-G 11081 Well A005, ST01. The Nabors Offshore night Crane Operator was operating the knuckle boom crane to move a single joint of drill pipe from the pipe conveyor to the pipe rack when the drill pipe suddenly slipped out of the crane's pipe gripper arm and fell approximately 13 feet to the pipe rack. Upon hitting the pipe rack, the joint slid onto the top of the handrail and fell into the Gulf of Mexico. A Safety Shutdown was called immediately and proper personnel were notified. No injuries were reported related to this incident.

On February 2, 2021, at 17:30 hours a pre-tour Safety Meeting was conducted with the night drill crew about ongoing operations. At 18:00 hours a tour change took place and a Job Safety Analysis (JSA) on "Picking Up Pipe with Knuckle Boom Crane" was reviewed and signed by all participating drill crew members involved with this operation. The night time Crane Operator performed a pre-operating inspection of the West knuckle boom crane with no issues noted. Crane operations commenced, lifting and moving miscellaneous items around the rig. On February 3, 2021, at 00:35 hours, the Crane Operator was notified by the Deck Foreman that there was one joint of 5.5-inch drill pipe located on the pipe conveyor ready to be lifted and transferred to the pipe rack below. The Crane Operator proceeded to lower the pipe gripper over the drill pipe and grabbed it with the gripper. The Crane Operator raised the drill pipe off of the conveyor and swung it in the direction of the pipe rack area. The Crane Operator abruptly stopped swinging the boom and the pipe gripper began to bounce and shake erratically. The drill pipe shook free of the grasp of the pipe gripper allowing it to fall approximately 13 feet to the pipe rack area. When the drill pipe contacted the other stored drill pipe, it bounced and slid over the handrail and into the Gulf of Mexico. The West knuckle boom crane was taken out of service and an incident investigation was initiated.

The Bureau of Safety and Environmental Enforcement (BSEE) conducted an onsite inspection and investigation on February 3, 2021, which included collecting documentation, pictures, and video footage. There were no issues noted in the service report for the crane or pipe grippers after the annual inspection that was performed prior to the rig returning to service. Documents also showed that a Pre-Operating Checklist was reviewed and signed by the Task Supervisor and Crane Operator after coming on tour at 18:00 hours, with no deficiencies noted prior to the operation of the West knuckle boom crane. At approximately 00:35 hours the night Crane Operator was informed by the Deck Foreman that one joint of 5.5-inch drill pipe 31.5 feet long weighing 810 pounds needed to be transferred from the pipe conveyor belt to the West pipe rack. The Crane Operator swung the knuckle boom arm and pipe gripper into position and lowered to grip the pipe. The Crane Operator functioned the pipe gripper to grab the drill pipe and proceeded to raise and swing the joint of drill pipe toward the West pipe rack. It only took the crane operator approximately 2 seconds to grip the pipe before he started the lift. The manufacturer states to confirm that the fixed gripper feet are in contact with the pipe before attempting to grip, and the pipe must be gripped for 5 seconds before attempting the lift. The Crane Operator functioned the pipe gripper to grab the drill pipe and proceeded to raise and swing the joint of drill pipe toward the West pipe rack. Video footage reveals that the Crane Operator stopped the boom swing motion abruptly causing the pipe gripper to shake and bounce uncontrollably until the joint of drill pipe slid out of the pipe gripper and fell approximately 13 feet on top of the other drill pipe. As one end of the drill pipe struck the other drill pipe, it bounced upward and slid horizontally onto the top handrail until falling over the side into the Gulf of Mexico. No onewasin the area at the time of the incident.

After the incident, the pipe gripper was removed from service and sent to a third-party crane service company for analysis. It was noted in the service report that it

was visually inspected and checked for any evidence of hydraulic leaks, missing hardware, general physical appearance, and any other damage. The pipe gripper was found to be in in very good condition. After performing numerous operational tests, it was determined that the pipe sliding out of the gripper was due to improper pipe grabbing compounded with the boom and gripper shaking and bouncing that was caused by the crane operator stopping abruptly. An additional third-party hydraulic service company performed an in-depth analysis of the present hydraulic circuit on the knuckle boom crane. After performing several tests and reviewing all the data, it was noted that the mechanical/hydraulic clamping system worked correctly therefore it is highly unlikely that the hydraulic system was at fault and the only logical explanation was operator error. The results from both third-party companies indicated that the drill pipe was not clamped correctly. It was noted in the video that the Crane Operator lowered the pipe gripper and gripped the pipe before the fixed gripper feet were in contact with the pipe. The manufacturer states to confirm that the fixed gripper feet be in contact with the pipe before attempting to grip. It took the crane operator approximately 2 seconds to grip the pipe and lift it off the pipe conveyor. The manufacturer's recommendations for the maximum gripping force states that the operator is required to hold the grip time for 5 seconds, ensuring the pipe is gripped firmly before attempting the lift. Anadarko plans to upgrade the knuckle boom crane with visual and audible indicators to confirm proper gripping force to the Crane Operator. Anadarko will provide additional training with the upgrades to all Crane Operators, as well as proper crane operation procedures according to the manufacture's recommendations.

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

Crane Operator was unaware he should hold the gripper closed for 5 seconds as per manufacture's recommendation.

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

Inadequate knowledge of equipment operation.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

N/A

N/A

ESTIMATED AMOUNT (TOTAL): \$

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

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

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

The following G-110 INC was issued for this incident:

On February 3, 2021, a Nabors Offshore night Crane Operator was operating the West Knuckle Boom Crane moving a single joint of 5.5-inch drill pipe from the pipe conveyor to the pipe rack. The drill pipe slipped out of the crane's pipe gripper arm and fell approximately 13 feet to the pipe rack. Upon hitting the pipe rack, the joint slip horizontally onto the top hand rail until falling over the side into the Gulf of Mexico.

The Crane Operator failed to follow the manufacture's operating instructions per OEM

(OUTREACH) document which states: "Lower grab onto pipe until guide pieces rest on the pipe. Close grab and hold control in "Close Position" for approximately five seconds to ensure that the pipe is gripped firmly."

For Public Release

25. DATE OF ONSITE INVESTIGATION:

03-FEB-2021

28. ACCIDENT CLASSIFICATION:

29. ACCIDENT INVESTIGATION  
PANEL FORMED: NO

26. INVESTIGATION TEAM MEMBERS:

Tim Boudreaux / Paul Reeves /

OCS REPORT:

27. OPERATOR REPORT ON FILE:

30. DISTRICT SUPERVISOR: Amy  
Pellegrin

APPROVED

DATE:

22-JUL-2021