

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: **16-SEP-2019** TIME: **1700** HOURS

2. OPERATOR: **Murphy Exploration & Production (**

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: **G21790**

AREA: **GC** LATITUDE:

BLOCK: **338** LONGITUDE:

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

5. PLATFORM: **A-Front Runner**

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

2

First Aid

POLLUTION

FIRE

EXPLOSION

LWC HISTORIC BLOWOUT

UNDERGROUND

SURFACE

DEVERTER

SURFACE EQUIPMENT FAILURE OR PROCEDURES

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

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

10. WATER DEPTH: **3330** FT.

11. DISTANCE FROM SHORE: **110** 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:

At approximately 1700 hours on September 16, 2019, a crane incident occurred at Green Canyon Block 338 Platform A, Lease Number OCS-G21790. The Operator on record is Murphy Exploration & Production Company - USA.

The drilling contract crew experienced a sheave failure during a critical lift when moving Mud Tank #1 module from the vessel using the port side crane main hoist. The module, weighing approximately 92.5k pounds, (approximately 96 percent of the cranes capacity) was being lifted from the boat into position on the facility for mounting on top of the north mud pump module. On the third attempt to align the guides of the load to set it in place, the main line tip Nylatron idler sheave shattered resulting in several dropped objects. Two IPs attending the tag lines were struck by pieces of the sheave. One IP was struck on the right forearm and the right boot tip. The other IP was struck on the left middle and ring fingers. Both IP's received first aid treatment and released back to full duty status.

BSEE Inspectors arrived on location to investigate after being notified of the crane incident and IP's (injured persons) on September 17th, 2019. Inspectors interviewed the IP's, Crane Operator, witnesses, gathered statements and took pictures of the crane and worksite. Upon arrival, the Nautilus Model 1100L-140 Marine Crane boom was in the boom rest and out-of-service due to the incident. The fragmented pieces of the sheave that were found were reassembled on the main deck near the quarters. The outside of the sheave was grey from weathering and score marks were found inside the bore of the sheave indicating the hub slid off the bearing hub prior to or during failure. The sheave bearing was still installed on the bearing shaft and the retainer ring was disconnected from the bearing, resting on the bearing spacer. The loads seen by the sheave when realigning the mud tank are unknown due to the friction involved with no load indicator recording on the crane.

The lessee could not provide documentation indicating the roller bearing had been replaced over a span of 17 years. According to the manufacturer, the roller bearing had a usable life depending on the weight of the resulting load and RPM.

The roller bearing had exterior corrosion and main lubrication seals were not present aiding in the accumulation of grease making visual inspection of the bearing difficult. The outer race had surface corrosion where water was able to reside from the accumulation of grease.

The work site was visited and the IP's showed inspectors their locations on the deck when the incident occurred. Marks were found on the deck where the larger pieces of the sheave possibly landed. The weight of the load was found listed on the side of the mud tank #1 as 89,896 lbs. The rigging was found in good condition and certification tags confirmed rated weights were adequate for the lift.

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

Corrosion of the outer bearing race and mild side loading during the heavy lift caused the sheave assembly failure.

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

n/a

20. LIST THE ADDITIONAL INFORMATION:

The manufacturer of the sheave does not recommend replacing due to age but degradation test was conducted by the 3rd party crane investigation team and could not make a clear determination if it was a causal factor due to unseen damage to tested area.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

Crane Sheave

Broken

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

The Houma District has no recommendations for the Office of Incident Investigations.

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

25. DATE OF ONSITE INVESTIGATION:

28. ACCIDENT CLASSIFICATION:

17-SEP-2019

26. INVESTIGATION TEAM MEMBERS:

29. ACCIDENT INVESTIGATION

Andrew Gros /

PANEL FORMED: **NO**

OCS REPORT:

27. OPERATOR REPORT ON FILE:

30. DISTRICT SUPERVISOR: **Amy**

Pellegrin

APPROVED

DATE:

28-OCT-2020