

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

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: 16-NOV-2018 TIME: 1530 HOURS

2. OPERATOR: Anadarko Petroleum Corporation

REPRESENTATIVE:
TELEPHONE:

CONTRACTOR: Diamond Offshore Drilling, Inc.

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: G32654

AREA: KC LATITUDE:
BLOCK: 918 LONGITUDE:

5. PLATFORM:

RIG NAME: DIAMOND OCEAN BLACKHAWK

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

6. ACTIVITY:

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

7. TYPE:

- HISTORIC INJURY
 - REQUIRED EVACUATION 1
 - LTA (1-3 days)
 - LTA (>3 days)
 - RW/JT (1-3 days)
 - RW/JT (>3 days)
 - Other Injury 1 Medical Treatment Beyond First
- FATALITY
- POLLUTION
- FIRE
- EXPLOSION

9. CAUSE:

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

- LWC
- HISTORIC BLOWOUT
 - UNDERGROUND
 - SURFACE
 - DEVERTER
 - SURFACE EQUIPMENT FAILURE OR PROCEDURES

- 10. WATER DEPTH: 7000 FT.
- 11. DISTANCE FROM SHORE: 206 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:

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

17. INVESTIGATION FINDINGS:

On 16 November 2018, a Diamond Offshore (DO) hydraulic mechanic sustained a facial injury while changing out a Hilman roller on the blowout preventer (BOP) carrier frame on the DO Ocean Blackhawk drillship that was conducting well operations for Anadarko Petroleum Corporation (Anadarko) at the surface location of Keathley Canyon (KC) Block 918. The severity of the injury to DO hydraulic mechanic's face required evacuation from the rig for medical attention.

On 6 November 2018, a DO Toolpusher observed a corrosion-like material on the port aft Hilman roller bushing on the blowout preventer (BOP) carrier frame track. At 1200 hours on 16 November 2018, DO held a pre-job safety meeting with the hydraulic mechanic and two rig mechanics and used an existing Job Safety Analysis (JSA) for the task of replacing Hilman rollers. At 1330 hours, operations to replace the port aft Hilman roller began by removing the bolts from the Hilman roller. A 60-ton Enerpac hydraulic jack was used to lift the BOP carrier frame approximately one foot to remove the Hilman roller; however, the Hilman roller remained stuck to the BOP carrier frame due to corrosion. A 25-ton Enerpac hydraulic jack was used in an attempt to free the Hilman roller; however, the bow side of the Hilman roller remained wedged to the BOP carrier frame. DO discovered that the 25-ton Enerpac hydraulic jack was inadequate since it was too tall to be placed in the required position for removing the bow side of the Hilman roller. Therefore, the 25-ton Enerpac hydraulic jack was removed and positioned with the 60-ton Enerpac hydraulic jack for added support in securing the BOP carrier frame to keep the BOP carrier frame from falling while the hydraulic mechanic was working underneath the BOP carrier frame. The hydraulic mechanic then placed a 30-ton Enerpac hydraulic jack on the bow side of the Hilman roller in order to free it from the BOP carrier frame. With the 30-ton Enerpac hydraulic jack in place, the hydraulic mechanic instructed one of the rig mechanics to pressure up on the 30-ton Enerpac hydraulic jack to free the bow side of the Hilman roller. The hydraulic mechanic observed a leak on the 30-ton Enerpac hydraulic jack and instructed to rig mechanic that was pressuring up the hydraulic jack to "hold up". However, the rig mechanic misinterpreted the hydraulic mechanic's request to "hold up" and bled off the pressure on the 30-ton Enerpac hydraulic jack that caused it to fall striking and shearing the hydraulic line fitting on an adjacent 25-ton Enerpac hydraulic jack. The hydraulic line then broke loose from the fitting and struck the hydraulic mechanic on the right side of his face.

The injured hydraulic mechanic reported to the Rig Medic at 1540 hours, but the Rig Medic determined that he needed medical attention beyond first aid. The injured hydraulic mechanic was evacuated by a medivac helicopter to the West Jefferson Medical Center in Marrero, Louisiana where he received sutures to lacerations to the mouth and chin and was released on the night of 16 November 2018.

BSEE made several attempts to mobilize to the DO Ocean Blackhawk to conduct an incident investigation; however, due to several days of incident weather as well as the helicopter having mechanical issues on 27 November 2019, BSEE was unable to conduct an on-site investigation before the rig departed KC Block 918.

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

The BSEE incident investigation team determined that the probable cause of the incident was due to the Enerpac 30-ton hydraulic jack falling from its position contacting the adjacent Enerpac 25-ton hydraulic jack shearing the fitting that released the hydraulic line that struck the DO hydraulic mechanic in the face.

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

BSEE's investigation into this incident identified the following contributing causes:

- 1) miscommunication between the hydraulic mechanic and rig mechanic who was assisting rig with the manning the hydraulic pump;
- 2) the 30-ton Enerpac hydraulic jack's pressure was bled off unexpectedly due to the miscommunication;
- 3) failure to secure the 30-ton Enerpac hydraulic jack that was placed in a hazardous position above the 25-ton Enerpac hydraulic jack that resulted in the 30-ton Enerpac hydraulic jack falling and shearing the 25-ton Enerpac jack's hydraulic line fitting;
- 4) failure to install a rigid support system when lifting heavy equipment; and
- 5) improper body placement by the hydraulic mechanic that positioned him in the line of fire of the 25-ton Enerpac jack's hydraulic line.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

No property was damaged during this incident.

Not applicable.

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The BSEE Lafayette District recommendations to the Office of Incident Investigations that a Safety Alert be considered to address installing a rigid support system when lifting heavy equipment.

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) was issued "After the Fact" to Anadarko Petroleum Corporation (Anadarko) to document its failure to protect health, safety and the environment by performing operations in an unsafe and unworkmanlike manner on the Diamond Offshore (DO) Ocean Blackhawk during well operations at Keathley Canyon Block 918. On 16 November 2018, Anadarko failed to provide adequate supervision when removing and replacing a Hilman roller from a BOP carrier frame.

When attempting to change out the Hilman roller, an unsecured 30-ton Enerpac hydraulic jack fell shearing a fitting on a 25-ton Enerpac hydraulic jack below that freed the hydraulic line that struck the DO hydraulic mechanic on the right side of his face. The severity of his facial injuries required evacuation from the rig to a hospital where he received sutures to the lacerations in his mouth and chin area.

25. DATE OF ONSITE INVESTIGATION:

26. INVESTIGATION TEAM MEMBERS:

Troy Naquin (Report Author) /

27. OPERATOR REPORT ON FILE:

28. ACCIDENT CLASSIFICATION:

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

30. DISTRICT SUPERVISOR: **Robert Ranney**

APPROVED DATE: **03-MAR-2019**