

# ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: **21-OCT-2023** TIME: **1304** HOURS

2. OPERATOR: **Anadarko Petroleum Corporation**

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR:

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:

4. LEASE: **G19925**

AREA: **MC** LATITUDE: **28.86601399**  
BLOCK: **127** LONGITUDE: **-88.05626441**

5. PLATFORM: **A(Horn Mountain)**  
RIG NAME:

6. ACTIVITY:  EXPLORATION(POE)  
 DEVELOPMENT/PRODUCTION  
(DOC/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.
- DECOMMISSIONING
- PA  PIPELINE  SITE CLEARANCE
- TA  PLATFORM
- OTHER **Construction**

9. CAUSE:

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

10. WATER DEPTH: **5400** FT.

11. DISTANCE FROM SHORE: **87** MI.

12. WIND DIRECTION:  
SPEED: **21** M.P.H.

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

14. SEA STATE: FT.

15. PICTURES TAKEN:

16. STATEMENT TAKEN:

## INCIDENT SUMMARY:

On 21 October 2023, at 13:04 hours at Mississippi Canyon 127 A, Horn Mountain, Lease OCS-G 19925, platform personnel attempted to make a heavy lift of 8,300 pounds with the use of the platform's West Crane. When the lift was 15 feet above the platform deck, the nylon slings failed and the load fell, landing on the top of two cargo baskets causing damage to both baskets. There were no injuries to personnel and no damages to the platform, aside from the damage to the two baskets. Anadarko Petroleum Corporation is the designated operator of the facility. The Horn Mountain SPAR facility is a deepwater, floating offshore platform that is secured in place with a hydraulic powered chain mooring system, consisting of nine hydraulic chain jacks.

## SEQUENCE OF EVENTS:

In May 2022, Anadarko sent nine (9) Chain Jack Hydraulic Cylinders in to shore for refurbishment. The Chain jacks are used to "haul in" or "payout" mooring chain for tension management, station keeping and re-location of the facility. To remove the nine chain jacks, the platform was anchored down securely with the use of chains and chain locks. The cylinders were then removed and sent to Broussard Storage Facility (BSF) in Broussard, Louisiana. The jacks measured approximately 8 feet long and 18 inches around. The jack cylinders had been in place for 22 years without an overhaul.

In August 2023, Anadarko successfully installed jack cylinders 4-5-6 using their Lift plan which designated the use of nylon choker slings. This installation went successfully without any incident.

In October 2023, Anadarko designated two personnel as Lifting Authorities (LA's) to devise a lifting plan that would allow the safe re-installation of the additional six hydraulic jack cylinders. The jacks would be re-installed on the perimeter of the SPAR Deck in three groups of three, spaced approximately 120 degrees apart. Group 1-2-3, Group 4-5-6, and Group 7-8-9. The LA's developed a Generic Lift Plan, Non-Routine Lifts, and Blind Lifts Job Safety Analysis (JSA).

On the morning of 21 October 2023, the designated Lifting Authorities presented their lift plan which designated the use of choker slings to lift and install the cylinders. The crew was in the process of installing Jack 7 of Group 7-8-9 when the nylon slings failed, causing the jack cylinder to drop on top of the cargo baskets. An all-stop was called. An immediate assessment indicated there were no injuries to personnel or impact to the environment. A job stand-down was initiated. Notification of the incident was made to the New Orleans District after-hours engineer at 1900 hours.

On 27 October 2023, a Bureau of Safety and Environmental Enforcement (BSEE) Accident Investigator (AI) arrived on location to begin a preliminary onsite investigation. The fallen chain jack and nylon slings had already been sent to the BSF for examination. The decision was then made to send the two remaining jacks (8 and 9) on location, as well as the jack that had previously been sent in to BSF, to Solution Services in Houston, Texas to have the built-in lifting pad-eyes repaired and restored to in-service condition.

On 08 November 2023, Anadarko's LA's finalized a new lift plan using longer choker slings. Utilizing this new lift plan with longer choker slings, the re-installation of chain jacks 7-8-9 was completed without any incident. The Chain Jacks 1-2-3 returned to the facility from Houston near the end of November for re-installation.

## BSEE INVESTIGATION:

During the BSEE investigation, both of Anadarko's Offshore Installation Managers (OIM's) were interviewed as well as the two designated LA's. The BSEE AI requested and received the following documents: Horn Mountain SPAR Operations Manual, JSA, Personnel on Board (POB), Crane Pre-use, Sling certifications, Crane operator's license/certifications, and hydraulic chain jack information.

The investigation revealed that the hydraulic chain jacks are designed with two lifting pad-eyes on the side of each cylinder that swivel. These pad-eyes allow for the jacks to be hoisted horizontally and then pivot vertically as needed. The LA's made the decision not to use the dedicated lifting pad-eyes on each jack. The LA's stated that they did not believe the pad-eyes were fully functional, as they had not been used in many years, and were believed to be frozen up. As such, the LA's decided to utilize nylon choker slings attached around the cylinder body to perform the lift.

The BSEE investigation also revealed that when the hydraulic chain jacks were originally sent in to BSF for maintenance, the decision was made not to refurbish the lifting pad-eyes prior to returning offshore.

The Choker slings were previously used to remove and re-install multiple chain jacks on the facility without incident. The slings that had been previously used were larger, longer, and bulkier than the slings that eventually failed. The slings used when the chain jack fell were smaller and shorter. Because of this, the slings were placed in a position that would compromise them by being exposed to a sharp edge near the top of the jack. The JSA did not identify the sharp edge near the top of the jack as a hazard for the lifting operation. Once the two smaller nylon slings encountered the sharp top edge, they both cut, causing the chain jack to fall. The slings were properly rated to handle the weight of the load, however due to the poor positioning of the slings around the sharp edges of the cylinder, the sling failed. There were no personnel near the area where/when the load fell. Prior to the lift being hoisted, personnel had moved away from the lift so as to not be impacted by possible dropped objects.

## CONCLUSION:

The manufacturer of the hydraulic chain jacks recommends the use of the lifting pad-eyes when lifting, removing, and installing the jacks. Utilizing the pad-eyes prevents the slings from contacting any portion on the jack which may compromise the integrity of the slings. The BSEE AI has determined that by utilizing the appropriate lifting pad-eye, the incident could have been prevented.

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

Management Systems: Inadequate hazard analysis.  
Human Performance Error: Not following proper recommended procedure.  
Equipment Failure: Inadequate equipment repair.

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

N/A

The rigging setup used on the hydraulic chain jack that fell consisted of: two 10-foot endless chokers, both rated for 10,600 pounds, which was attached to a 60-foot 4-ply nylon choker rated for 16,320 pounds. All the nylon slings used for this operation were brand new and had been ordered specifically for this lift.

Chain jacks 1-2-3 were sent to the following location to repair pad-eyes: Solution Services - 11147 FM1960, Houston, Texas 77362. The jacks are scheduled to be returned mid-December.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

Two (2) wire cargo baskets. The hydraulic chain jack was sent in for inspection. No known damage to the chain jack at the time of this report

Bent cargo basket and broke sling.

ESTIMATED AMOUNT (TOTAL): \$

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

Recommend OII draft safety alert to inform operators to utilize proper lifting techniques as recommended by the manufacturer.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: NO

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

25. DATE OF ONSITE INVESTIGATION:

27-OCT-2023

28. ACCIDENT CLASSIFICATION:

26. Investigation Team Members/Panel Members:

Gerald Taylor /

29. ACCIDENT INVESTIGATION PANEL FORMED:

NO

27. OPERATOR REPORT ON FILE:

OCS REPORT:

30. DISTRICT SUPERVISOR:

David Trocquet

APPROVED

DATE: 02-FEB-2024