

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: 01-DEC-2021 TIME: 1930 HOURS

2. OPERATOR: Talos Petroleum LLC

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR: Helmerich & Payne

REPRESENTATIVE:

TELEPHONE:

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING
- DAMAGED/DISABLED SAFETY SYS.
- INCIDENT >\$25K Approx. \$225k
- H2S/15MIN./20PPM
- REQUIRED MUSTER
- SHUTDOWN FROM GAS RELEASE
- OTHER

3. OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR 8. OPERATION:

ON SITE AT TIME OF INCIDENT:

4. LEASE: G06898

AREA: VK LATITUDE:

BLOCK: 989 LONGITUDE:

5. PLATFORM: A

RIG NAME: H&P 100

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

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: 1290 FT.

11. DISTANCE FROM SHORE: 55 MI.

12. WIND DIRECTION: SE
SPEED: 30 M.P.H.

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

14. SEA STATE: 0 FT.

15. PICTURES TAKEN:

16. STATEMENT TAKEN:

INCIDENT SUMMARY:

On December 1, 2021, at approximately 19:30 hours, Talos Energy (Talos) had a crane boom failure on the Helmrich & Payne (H&P) 100 rig at Viosca Knoll (VK) 989 A after the west crane was suspended over the side of the platform. No one was in the crane cab at the time of the incident. Talos shut down operations on the rig, started their initial investigation and notified the BSEE New Orleans District after-hours phone of the incident.

SEQUENCE OF EVENTS:

The following Sequence of Events were relayed by Talos via witness statements, Talos' investigation report, IADC reports, and email/phone conversations with Talos representatives.

On December 1, 2021, between the hours of 0600 & 1915 the rig crew was conducting rig operations and utilizing the west crane for lifts in the pipe rack area.

At approximately 1915 hours the west crane operator swung the crane from the pipe rack area to a location over the water in preparation to offload a motor vessel. He exited the crane cab and went to the pipe rack to wait for a load to come up from the east crane.

At approximately 2130 hours, Talos reported several witnesses heard a whistling noise and observed the west crane boom free falling. The boom fell on and damaged a 45-person life capsule and platform handrails, then came to rest over the west side of the production platform. The boom tip was near the water surface and the headache ball was in the water.

At approximately the same time, the crane operator in the east crane said he was conducting operations with the Motor Vessel C Endurance when he felt a bump then heard over the gaitronics that the west crane boom had fell. He hoisted the crane up, placed it in park position and stopped crane operations. The tool pusher notified the rig manager who in turn notified Talos of the incident.

BSEE INVESTIGATION:

On December 2, 2022, the BSEE investigator flew out to the VK 989 A to conduct an onsite investigation where the investigator received documentation, conducted interviews, and took pictures of the relevant equipment. At the time of the onsite investigation, the BSEE Investigator observed the crane boom still laying over the west side of the platform. Sparrows Field Services (Sparrows) was on location working to secure the boom with 10-ton chain falls and 1 in cable slings. The boom had badly damaged a 45-person life capsule and the area around was it taped off and out of service. Investigators noticed the Stational Bill had the crew normally assigned to the west side life capsule now assigned to the east side platform life capsule. The production equipment near the incident area was not damaged.

After securing the crane, Sparrows conducted a survey of the crane's hydraulic system. According to Sparrows' report, "The plumbing of the Hydraulic hoses was all as per the drawing and as the other crane that is installed on the rig. Both cranes are Unit 10,000 sister cranes. The Pawl cylinder looked different than what we normally see, but as per the drawings it is plumbed correct. The drawing is of the old pawl system the relief valve was external of the cylinder. The new system the relief valve is internal of the cylinder. Sparrows will have to check with Braden on this, to see which way it need to be for the correct operations of the system."

Talos' incident investigation report and crane inspection records show that in May 2021, the west crane was installed on the production west side crane pedestal. The crane was then inspected and put into service. However, between May 2021 and October 2021, Talos called out a third-party company to service the crane on maintenance items such as boom winch replacement, hydraulic oil change, removing air from the swing brake valves. The boom winch was replaced in October 2021 because a service technician identified multiple deficiencies during the quarterly inspection multiple. The last quarterly crane inspection was conducted by Sparrows Field Services on 10/12/2021. After the boom winch was installed on 10/14/2021 the ratchet and pawl assembly was not adjusted properly. This caused the assembly to not engage properly during the boom failure.

CONCLUSIONS:

The BSEE Investigator observed documentation that identified multiple failures. Therefore, the BSEE Investigator found no evidence not to support Talos' third-party crane maintenance company's incident findings that:

"Based on the review of the hoist presented, there was a failure of the ratchet and pawl as indicated by the material lost from the ratchet teeth tips and the working edge of the pawl. A properly adjusted and operating pawl should be self-locking due to the geometry of the angles between the pawl and ratchet. It appears the pawl was not making full engagement due to its impact marks and lack of drag marks on the back sides of the ratchet teeth. The sprag clutch showed clear evidence of slipping and allowing the winch to bypass the hydraulic parking brake and rotate the motor which was not held by the dynamic brake due to a lack of fluid since the system was unpowered."

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

- Failure of the ratchet and pawl locking system. The pawl appeared to not make full engagement due to the impact marks and lack of drag marks on the back side of the ratchet teeth and material loss on the tip of the pawl.
- The ratchet and pawl assembly were not adjusted properly after the boom winch installation on 10/14/2021. This caused the assembly to not engage properly during the boom failure.

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

- The motor had signs of overheating and cracks in the brass side bearings.
- The sprag clutch showed clear evidence of slipping and overrunning. Score marks were evident in the clutch bore which allowed the winch to bypass the hydraulic parking brake and rotate the motor.

20. LIST THE ADDITIONAL INFORMATION:

The BSEE investigators also found that Sparrows was called out several times since the crane was installed on May 9, 2021, for discrepancies found while crane operators were operating the crane prior to the incident.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

Crane Boom, Life Capsule and Handrails

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ESTIMATED AMOUNT (TOTAL): **\$231,000**

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

The BSEE New Orleans District office makes no recommendations at this time

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

25. DATE OF ONSITE INVESTIGATION:

02-DEC-2021

28. ACCIDENT CLASSIFICATION:

29. ACCIDENT INVESTIGATION

26. INVESTIGATION TEAM MEMBERS:

Nathan Bradley / Frank Musacchia /

PANEL FORMED: **NO**

OCS REPORT:

27. OPERATOR REPORT ON FILE:

30. DISTRICT SUPERVISOR:

David Trocquet

APPROVED

DATE:

09-AUG-2022