

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: 06-MAY-2021 TIME: 0700 HOURS

2. OPERATOR: BP Exploration & Production Inc.

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:

8. OPERATION:

4. LEASE: G09868

AREA: MC LATITUDE:

BLOCK: 778 LONGITUDE:

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

5. PLATFORM: A(Thunder Horse)

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

- 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

10. WATER DEPTH: 6200 FT.

11. DISTANCE FROM SHORE: 66 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

INCIDENT SUMMARY:

A pollution event occurred on 4 May 2021 at 1613 hours, lasting through May 9, 2021 at Mississippi Canyon (MC) 778 A (Thunder Horse), a platform owned and operated by BP Exploration & Production Inc. (BP). An estimated 5 barrels of hydrocarbons were released into the Gulf of Mexico from the Thunder Horse facility.

SEQUENCE OF EVENTS:

On 4 May 2021 at 1613 hours, satellite imagery discovered a sheen originating from MC 778 that measured approximately 11.7 Nautical Miles (NM) in length and 0.5 NM in width. Winds were from the South at 10-15 knots at the time of the imagery.

On 6 May 2021 at 1058 hours, BP sent an email notification to BSEE New Orleans District informing of a sheen from their produced water outfall at their Thunder Horse facility that may contain over 1 barrel of hydrocarbons.

On 7 May 2021 at 0132 hours, BSEE received an email from the National Response Center (NRC) that a sheen had been reported originating from MC 778 A on 6 May 2021 at 0816 hours. The report stated an estimated 44 gallons of hydrocarbons were released from the platform's produced water outfall into the Gulf of Mexico while BP operators were ramping up a well. An updated NRC report was received at 0746 hours on 7 May 2021 increasing the discharge to 56 gallons of hydrocarbons. The report stated that discharge was a result of a faulty level control valve the water discharge of a produced water tank.

On 21 May 21 2021 at 1634 hours, BP submitted an incident report to BSEE stating a sheen from their produced water outfall from 6 May 2021 and continued through 9 May 2021. The report estimated that over a four-day period, approximately 5 barrels of hydrocarbons were released due to a build-up of water clarifier in Float Cell #2. The report also stated that a broken level control valve on the Float Cell #1 prevented the switch over from Float Cell #2.

BSEE INVESTIGATION:

On 6 May 2021, an Accident Investigator (AI) with the Bureau of Safety and Environmental Enforcement (BSEE) sent an email to the platform's Offshore Installation Manager (OIM) requesting documents for the investigation. The AI received an email with the requested documents.

On May 14, 2021 a BSEE AI and two BSEE Inspectors flew to the Thunder Horse platform to investigate the incident. Documents and the drawings for the produced water system were collected.

According to BP, the probable cause of the sheen was from water clarifier chemical build up in the Float Cell #2. During a shut down, the water clarifier injection quill to Float Cell #2 was left open which gravity drained 286 gallons of water clarifier into the Float Cell #2. The excess water clarifier caused a lack of water/oil separation and oily water went out the overboard water discharge.

BSEE agrees with BP's report that a buildup of water clarifier in Float Cell #2 created a lack of oil/water separation within the produced water discharge system. BSEE also agrees that this separation issue was prolonged due to a level control valve failure in Float Cell #1 which did not allow BP to switch from Float Cell #2 to Float Cell #1.

CONCLUSIONS:

The produced water issues were first caused by an operator error which allowed an abnormal amount of water clarifier to ingress into the produced water vessels. The excess water clarifier caused issues with oil/water separation within the produced water train. BP could not quickly mitigate this discharge by switching to their other produced water train because Float Cell #1 was out of service due to a faulty level control valve. These produced water issues resulted in a discharge of an estimated 5 bbls of oil into the Gulf of Mexico.

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

- **Human Performance Error - Inattention to task:** The water clarifier injection quill to Float Cell #2 was left open, which gravity drained 286 gallons of water clarifier into the Float Cell #2. The excess water clarifier caused a lack of water/oil separation and oily water went out the overboard water discharge.

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

- **Equipment Failure - Inoperable equipment or safety devices:** This separation issue was prolonged due to a level control valve failure in Float Cell #1 which did not allow BP to switch from Float Cell #2 to Float Cell #1.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

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

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

25. DATE OF ONSITE INVESTIGATION:

14-MAY-2021

26. INVESTIGATION TEAM MEMBERS:

**Nathan Bradley / Jewel Mayer / Nisbet
Kelley /**

27. OPERATOR REPORT ON FILE:

28. ACCIDENT CLASSIFICATION:

29. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

David Trocquet

APPROVED

DATE:

14-SEP-2021