

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: 08-MAY-2022 TIME: 1130 HOURS

2. OPERATOR: Shell Offshore 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: G31534

AREA: MC LATITUDE: 28.00878566  
BLOCK: 940 LONGITUDE: -89.1625161

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

5. PLATFORM:

RIG NAME: \* GENERIC PIPELINE CONSTRUCTION VESSEL

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: 3998 FT.

11. DISTANCE FROM SHORE: 87 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:**

On 8 May 2022, at 1130 hours, at Mississippi Canyon (MC) 940, OCS-G 31534, pollution was observed on the water. The release was thought to have occurred over several days and resulted in 7 barrels of oil being released into the Gulf of Mexico. Shell Offshore Inc (Shell) is the operator of the lease. The leak was from Subsea Well MC 940 (Vito) VA007, which is a completed well that was not yet tied back via pipeline to Shell's Vito facility at MC 939.

**SEQUENCE OF KEY EVENTS:**

On 7 May 2022, the Seven Arctic Subsea 7 vessel arrived at the drill center located in MC 940 to begin installation of a flexible jumper.

On 8 May 2022, at 1130 hours, a sheen of unknown origin was noticed by the Seven Arctic Subsea 7 vessel. The sheen measured 5 foot by 20 foot, with a dark color. At 1200 hours, a call to the United States Coast Guard (USCG) and National Response Center (NRC) was made concerning a sheen of unknown origin. The NRC # 1335453 was assigned to this report. The initial observation equated to an estimated 0.0001 barrels of oil. Shell halted all operations and at 1345 hours deployed a Remote Operated Vehicle (ROV) to investigate the subsea wells in MC 940. The ROV observed oil bubbling from the VA007 well between the control pod and guide funnel. Shell monitored the well with the ROV. They set up an Incident Management Team to respond to the incident. The Motor Vessel Ocean Evolution was called from the Appomattox platform to deploy to the VA007 well to perform diagnostics because the Seven Arctic Subsea 7's ROV did not have proper tooling to perform diagnostics or manipulate valves. Over the next three days, Shell continued helicopter overflights of the sheen every morning and night.

On 9 May 2022, at 0655 hours, the Ocean Evolution arrived on location at MC 940 to perform diagnostics.

The ROV monitored pressure through an electrical connection to the subsea tree. Tubing and annulus pressures remained static during the monitoring period. However, communication to the downhole pressure transmitters failed. Next, the ROV closed the SV1 needle valve on the tree and monitored for 15 minutes. The leak slowed but continued. The ROV then closed the SV2 needle valve on the subsea tree and continued to monitor. The leak stopped almost immediately. At 1415 hours, Shell's overflight observed the sheen had dissipated.

On 12 May 2022, the morning overflight observed a sheen 2 nautical miles by 50 feet with wide streamers and silver and some rainbow coloring. At 1500 hours, the second overflight could not locate a surface expression. At 1600 hours, during the incident briefing, Shell discontinued helicopter overflights.

Further diagnostics to establish the root cause of the leak could not be performed until the Q5000 intervention vessel would latch up to the well.

On 31 October 2022, diagnostics were performed which revealed the source of the leak. Once the source was identified Shell began making plans for intervention with the Transocean Deep Water Pontus Mobile Offshore Drilling Unit.

**BSEE INVESTIGATION:**

On 8 May 2022, the BSEE Accident Investigator (AI) received and reviewed information

submitted through eWell, email, interviews, and communications from Shell concerning the subsea leak at the MC 940 VA 007 well. The AI requested all sheen coordinates and NRC reports associated with the subsea leak. The completion schematic of the VA 007 well was provided along with the subsea control schematic illustrating the location of the leak.

The VA007 well had been previously drilled, completed, and shut-in and is in approximately 4000 feet of water.

Shell reported the sheen to NRC and the New Orleans District After Hours Phone on May 8, 2022. Shell also provided a written report in Ewell on 23 May 2022. Shell worked to mitigate the leak stopping it within 4 days of discovery. Therefore, BSEE found Shell's reporting and response to the leak to be in compliance with federal regulations.

Shell estimated the spill volume utilizing observations of sheen characteristics on the surface of the water. These observations consisted of estimated length and width of the observed sheen on the water and the visual characteristics (i.e., color type) of the sheen. The estimate utilizes spill factors originated from the USCG Field Operations Guide. The sheen dimensions were Sheen 1 - 1 nautical mile by 300 ft (0.05 nautical miles) & Sheen 2 - 2.5 nautical miles by 2 nautical miles. The visual characteristics were described as Very Light Rainbow Scattered. BSEE agrees with Shell's estimates that from 8 May 2022 until 12 May 2022, 7 barrels of oil were released into the Gulf. The released material dissipated throughout the week due to natural dispersion.

Shell Performed e-line diagnostic trips on production tubing to assess tubing integrity above the SCSSV. The Q5000 confirmed a suspected tubing part at a coupling in the 5.5" tubing. BSEE agrees with Shell's determination that the source of the leak was from a tubing part at a coupling in the 5.5" tubing at approximately 5,122 feet. The reason for the tubing failure is unknown at this time. After Shell's intervention and subsequent tubing recovery, Shell will attempt to identify causes of the failure. BSEE will engage with Shell's analysis to inform policy and procedure to prevent a future occurrence.

CONCLUSION:

A failure in the production tubing coupling on the VA 007 well caused an estimated 7 barrels of pollution over several days. Shell's response and reporting was in accordance with federal regulations.

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

Equipment Failure: A tubing string parted at a coupling in the 5.5" tubing at approximately 5,122' below mudline on the VA007 well.

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

20. LIST THE ADDITIONAL INFORMATION:

The Seven Arctic Subsea 7 is a Generic Pipeline Construction Vessel. The MC 940 VA007 well will eventually tie into the Vito host facility at MC 939, RUE OCS-G 30379.

After Shell's intervention and subsequent tubing recovery, Shell will be able to identify causes of the failure. BSEE will engage with Shell's analysis to inform policy and procedure to prevent a future occurrence.

OFFSITE: INVESTIGATION DATES:

May 26, 2022; June 2, 7, 2022; September 26, 2022; November 3, 2022, November 8, 2022.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

Still under investigation

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:

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: 25-JAN-2023