

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: **06-JAN-2023** TIME: **1300** 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:

4. LEASE:

AREA: **MC** LATITUDE:
BLOCK: **807** LONGITUDE:

5. PLATFORM: **B (Olympus)**
RIG NAME:

6. ACTIVITY: EXPLORATION(POE)
 DEVELOPMENT/PRODUCTION
(DOCD/POD)

7. TYPE:

INJURIES:

- HISTORIC INJURY
 - REQUIRED EVACUATION
 - LTA (1-3 days)
 - LTA (>3 days)
 - RW/JT (1-3 days)
 - RW/JT (>3 days)
 - FATALITY
 - Other Injury
- OPERATOR CONTRACTOR

- 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

9. CAUSE:

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

10. WATER DEPTH: **4206** FT.

11. DISTANCE FROM SHORE: **72** MI.

12. WIND DIRECTION: **SW**
SPEED: **18** M.P.H.

13. CURRENT DIRECTION: **N**
SPEED: **1** M.P.H.

14. SEA STATE: FT.

15. PICTURES TAKEN:

16. STATEMENT TAKEN:

INCIDENT SUMMARY:

On January 6, 2023, at 13:00 hours, Shell Offshore Inc. (Shell) had a pollution event at Mississippi Canyon (MC) 943 (OCS-G 34467) where the subsea tree is located. The Power Nap (PN) well is tied back to MC 807 B (Olympus) and is monitored/controlled from there. The leak was from a Subsea Well PN003-ST2-BP1 at MC 943 which is a well that was completed in December of 2022. The release was reported to the National Response Center (NRC) and verbally to the Bureau of Safety and Environmental Enforcement (BSEE) New Orleans District (NOD).

SEQUENCE OF EVENTS:

On January 6, 2023, in attempting to open the Surface-Controlled Subsurface Safety Valve (SCSSV), there was an inability to build pressure in the SCSSV control lines and abnormal pressure behavior at the tubing and A-annulus head. Later, it was confirmed that the pressure loss was from liquid being released to the environment through the High Pressure (HP) vent on the tree due to the SCSSV control lines loss of integrity. The environmental release was observed by an underwater Remote Operated Vehicle (ROV) during diagnostics on the PN003 subsea tree. There was a report submitted to the National Response Center (NRC) #1357058 on January 7, 2023, estimating 9.26 gallon of fluid being observed by an ROV from the PN003 tree. The fluid mixture was hydraulic fluid, Methanol (MeOH), Calcium Bromide completion brine, and Synthetic Based Oil (Synthetic B).

After the leak path was confirmed, the ROV closed the SCSSV control valves SV1 and SV2. Then visually confirmed the leak had stopped. No sheen was observed.

On January 10, 2023, another NRC report was submitted. NRC report #1357318 was updated to include a total of 16.61 total barrels of the mixture assumed to be released on January 6, 2023. The SV1 and SV2 needle valves remain closed on the PN003 Tree to isolate leak path to environment and performed a leak test to ensure integrity. The well remains shut in and the pressure is being continuously monitored.

BSEE INVESTIGATION:

On January 23, 2023, the BSEE NOD Accident Investigator (AI) received and reviewed information submitted through Ewell (BSEE's electronic reporting system), emails, and phone communications from Shell concerning the subsea leak at MC 943 Well PN003. The AI requested all NRC reports associated with the subsea leak along with Material Safety Data Sheets (MSDS) associated with the fluids that were released. The completion schematics of the PN003 well were provided along with the subsea control schematic illustrating the location of the leak as well as the opening procedure.

CONCLUSION:

Shell has determined that an intervention is necessary to remove the tubing for analysis as part of their corrective actions. At this point in time, a specific timetable for the implementation of the intervention work has not yet been established. The well was restored to a 2-barrier status that was conducted on January 6, 2023, by closing and pressure testing SV1 and SV2 needle valves (isolating the leak path through the HP vent on the subsea tree). The well is currently shut in and secure with 2 barriers, FS2 (fluid loss valve) and subsea tree. Pressure at the tubing/A-annulus head is being continuously monitored. The pressure remains stable above seawater hydrostatic and below pressure to balance reservoir pressure, indicating both barriers have integrity. The tubing will be pulled, and new tubing will be re-run before bringing the well back online.

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 reoccurrence.

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

- **Equipment Failure - The tubing is suspected to be parted at a shallow depth along with the SCSSV control lines, allowing a leak path from the wellbore to the SCSSV control lines to the HP vent.**

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

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

ESTIMATED AMOUNT (TOTAL): \$

22. RECOMMENDATIONS TO PREVENT RECURRANCE 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:

Frank Musacchia /

29. ACCIDENT INVESTIGATION PANEL FORMED:

NO

27. OPERATOR REPORT ON FILE:

OCS REPORT:

30. DISTRICT SUPERVISOR:

David Trocquet

APPROVED DATE: 01-FEB-2024

