

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: 16-JUL-2019 TIME: 0700 HOURS

2. OPERATOR: Energy XXI GOM, LLC

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: 00031

AREA: GI LATITUDE: 29.12277778
BLOCK: 22 LONGITUDE: -89.96611111

5. PLATFORM: R

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.
- 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: 55 FT.

11. DISTANCE FROM SHORE: 7 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:

17. Investigation Findings: On 16 July 2019 at 0700 hours, a pollution event occurred at the Cox Operating (Cox), Grand Isle (GI) 22-R, OCS 00031 platform. An estimated 4.8 barrels (bbls) of oil leaked from a 3/4" broken tubing connection near the wellhead.

Sequence of Events:

On 16 July 2019 at 0610 hours, an Operator on GI 22-L platform observed a sheen north of the platform emanating from a nearby, unmanned Cox Operating GI 22-R facility. The Lead Operator and Field Foreman called for a helicopter to investigate the sheen. The Lead Operator and Field Foreman confirmed the source to be the GI 22-R platform during their overflight.

The Operator estimated the sheen at 8 miles long by 3/4 mile wide with silver and bright colors on the surface. The Operator calculated the sheen to be 4.8 bbls of oil. Cox reported the sheen observation to the National Response Center (NRC), Report #1252101. According to the Operator's observation, the sea state was 1 to 2 foot seas at the time.

After the Operators arrived on the platform, they discovered that Well R-22 (API No. 177174019905) had oil releasing from around the wellhead. The Operators found the 3/4" Swagelok tubing line on the gas lift bleed ring on the casing valve had parted. After the Operators located the source of the leak, they began closing the annulus casing valve upstream of the leak. The Operators recorded the casing pressure from a gauge on the platform. The gauge displayed a pressure of 1201 psi for the GI R-22 well.

The Operators then began the process of cleaning the oil from the platform by using hoses, absorbent pads, Dawn soap, and degreaser.

BSEE Investigation:

On 16 July 2019, a team consisting of two Bureau of Safety and Environmental Enforcement (BSEE) Inspectors flew to GI 22-R to conduct a follow-up investigation. During the flight out to the platform, the Inspectors observed the sheen impacting Elmer's Island Wildlife Refuge. Once the Inspectors flew to the origin point (GI 22-R), they assessed and photographed the sheen.

The Inspectors proceeded to the well deck, identifying the source of the leak at the R-22 wellhead. The Inspectors recorded a production casing pressure at 1201 psi and well tubing pressure at 1350 psi. As noted in the Inspector's findings, the Swagelok fitting installed in the bleed ring of the casing valve parted.

The Field Foreman provided a more accurate timeline of the events using time stamps on his phone for requesting a helicopter, taking photographs of the sheen, and calling his compliance tech to begin their internal reporting procedures for a sheen discharge.

According to the Field Foreman's interview, they did not see the sheen impact the wildlife refuge at the time of the overflight. However, the Field Foreman stated the sheen was within yards of shoreline impact at the time of the overflight.

Cox's method of oil clean up may have exacerbated the impact to the state wildlife refuge.

The Investigators confirmed that the GI 22-R platform was shut-in since 28 June 2019 for maintenance on a 90 bbl tank, ABJ R001. However, pressure remained on the gas lift line and well casing. Hurricane Barry delayed the repairs. According to the weather reports for the GI 22 Field during Hurricane Barry, the sea state was 14 to 16 foot

(ft) seas with occasional 21 ft seas.

BSEE agrees with Cox's assertion that high seas from Hurricane Barry caused enough well movement to shear the tubing. However, BSEE found that Cox failed to support the tubing in such a way as to prevent well movement from shearing the fitting from the tubing.

The platform Piping and Instrumentation Diagrams (P&IDs) indicated a Flow Safety Valve (FSV) downstream of the 3/4" tubing connection. However, the FSV was installed upstream of 3/4" tubing connection. Pollution may have been minimized if the FSV was installed downstream of the tubing connection.

The pollution may have also been minimized if the check valves in the gas lift mandrels functioned as designed. The R-22 well's production casing contains a short and long tubing string. The long tubing string was on production while the short tubing string was out of service. The BSEE District Operations Support Section requested Cox to perform a Casing Pressure Diagnostic, which failed. The diagnostics indicated communication between the short string and the production casing through the gas lift valves causing unexpected pressure on the production casing after shut-in. BSEE ordered Cox to remediate the casing pressure issues.

Conclusion:

The BSEE Investigation Team identified several causes of the pollution event. First, the seas during Hurricane Barry caused the well casing to rock and shear the tubing. Second, the check valves in the gas lift mandrels failed to function properly or seal. Third, the FSV on the gas lift line was installed in the incorrect location. Last, cleanup efforts failed to prevent further discharge or pollution into Gulf of Mexico waters.

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

- Management Systems - P&IDs in error: The platform Piping and Instrumentation Diagram (P&IDs) indicated a Flow Safety Valve (FSV) flowline downstream of the 3/4" tubing connection. However, the FSV was installed upstream of 3/4" tubing connection.
- Equipment Failure - Inadequate Equipment Maintenance: Cox failed to maintain the gas lift mandrel check valves so as to prevent backflow from the production tubing to the A annulus.
- Equipment Failure - Flawed Equipment Construction: Cox failed to support the tubing in such way as to prevent well movement from shearing the fitting from the tubing.

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

- Human Performance error - Not following proper procedures: The Operators washed down the platform in such a way that resulted in further pollution and impact to the state wildlife refuge.

20. LIST THE ADDITIONAL INFORMATION:

From the heliport, the BSEE Inspectors observed an improperly barricaded open hole. The Inspectors took photographs and documented the open hole, stopping work activities. The Inspectors proceeded to the main deck and met with the platform Operator and discussed current operations. The Operator covered the open hole then escorted the Inspectors for the remainder of the investigation.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

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ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

BSEE NOD recommends that OSM and OII develop a safety alert to address tubing supports. Tubing supports should be installed in such a way as to prevent stress and sheering.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: **YES**

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

E -100 IS THE OPERATOR PREVENTING UNAUTHORIZED DISCHARGE OF POLLUTANTS INTO OFFSHORE WATERS.

• Inspectors observed active discharge from GI 22-R at the time of arrival. Operators were actively discharging oil into the Gulf of Mexico due to cleanup operations. Operators were applying rig soap, Dawn soap, and saltwater to remove oil residue from the facility equipment.

G- 110 DOES THE LESSEE PERFORM ALL OPERATIONS IN A SAFE AND WORKMANLIKE MANNER AND PROVIDE FOR THE PRESERVATION AND CONSERVATION OF PROPERTY AND THE ENVIRONMENT?

• The well hatch cover for Well R-22 was removed and improperly barricaded. INC corrected before end of inspection on 7/16/2019.

G- 115 ARE OPERATIONS CONDUCTED IN ACCORDANCE WITH APPROVED APPLICATIONS?

• Cox failed to install the tubing connection upstream of the final gas lift FSV per approved SFD's.

25 DATE OF ONSITE INVESTIGATION: July 16, 2019 and July 22, 2019

25. DATE OF ONSITE INVESTIGATION:

16-JUL-2019

28. ACCIDENT CLASSIFICATION:

26. INVESTIGATION TEAM MEMBERS:

Pierre Lanoix (AI Specialist) /
Jonathan Fraser (Production Inspector)
/ Forrest Temple (Production Inspector)
/

29. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

27. OPERATOR REPORT ON FILE:

David Trocquet

APPROVED

DATE: **22-JAN-2020**