

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-SEP-2020** TIME: **1330** HOURS

2. OPERATOR: **Cox Operating, L.L.C.**

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: **G02177**

AREA: **SP** LATITUDE:

BLOCK: **49** LONGITUDE:

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

5. PLATFORM: **A**

RIG NAME:

6. ACTIVITY:

- EXPLORATION(POE)
- DEVELOPMENT/PRODUCTION (DOCD/POD)

9. CAUSE:

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

0

1

0

1

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

POLLUTION

FIRE

EXPLOSION

LWC

HISTORIC BLOWOUT

UNDERGROUND

SURFACE

DEVERTER

SURFACE EQUIPMENT FAILURE OR PROCEDURES

10. WATER DEPTH: **300** 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:

COLLISION HISTORIC >\$25K <=\$25K

On 08 September 2020 at 1330 hours, a contract Mechanic fell through grating sustaining minor injuries on Cox Operating LLC's (Cox) South Pass 49 Platform A, Lease OCS-G 02177.

Sequence of Key Events:

On the afternoon of the incident, the mechanic, contracted to Cox went to get a serial number from a piece of equipment for his supervisor, which was located on the production deck. As the mechanic was walking near the fire water pump, the grating gave out beneath him creating an open hole. The mechanic fell chest deep through the open hole catching himself on the surrounding surface. The mechanic was able to quickly pull himself up to safety. The mechanic, injured person (IP), reported the incident to the Person in Charge (PIC) of the platform immediately. The mechanic reported to the PIC that he sustained an injury to his left upper rib area. No one onboard witnessed the IP falling through the open hole. The PIC immediately blocked off the area with a portable metal stand to cover the open hole. Next, he used red flagging tape and steel cables to prevent entry to the area.

The PIC reported the incident to Cox management and the IP was sent in on a normal Cox helicopter to Grand Isle Shore Base. The IP was met by his company's representative for further medical evaluation at a medical facility. Cox Management reported the incident to the Bureau of Safety and Environmental Enforcement (BSEE) New Orleans District (NOD) office. At the time of the incident, the platform was in full production and remained online until the NOD's Accident Investigator (AI) arrived on location.

BSEE Investigation:

On 08 September 2020, a NOD AI was assigned to the incident and requested photos of the area, a description of the incident, and the latest condition of the IP.

The AI arrived on location on 09 September 2020 to assess the area where the mechanic fell through. As the AI was assessing the area, it was observed that the surrounding area's steel bar deck grating was heavily corroded. The AI observed areas of concern around in-service process vessels near the hole and determined that the area needed to be barricaded. The barricaded area affected the operator's ability to safely operate process equipment. Therefore, the platform's production was shut in. While on deck photographing and video recording the heavily corroded steel bar deck grating areas, the PIC was alerted by a process alarm of the heat exchanger, HBG-0700, spraying seawater out of the piping. The platform was already shut-in at that time. The piping was bled down, and the fire water pump was placed out of service. No hot work was occurring during that incident. However, no hot work could be performed until the fire water pump could be placed back into service. A temporary dry chemical waiver was approved by the NOD Engineering Section until the piping could be replaced. As the AI continued to assess the platform, he found steel bar deck grating that was either missing clips or not welded down due to extensive corrosion.

Evidence shows localized corrosion on the beams of the 24" x 36" steel bar deck grating that fell in the water below creating a hole where the IP fell halfway through. The waterline below where the IP fell halfway through is estimated to be 62 feet. There was no obstruction directly below the open hole. However, the AI was not able to verify any obstruction below the waterline.

Cox's investigation revealed the section of grating was said to be secured with grating clips and was not welded in place. When the contract mechanic stepped on the grating, the grating shifted causing it to slip off the beam and fall to the water

below. Cox did not identify the grating as an issue prior to the incident occurring.

On several prior BSEE inspections conducted at SP 49-A, INCs were issued for corrosion and documented that the corrosion would need to be repaired within a year.

Furthermore, the Level-1 inspection dated 25 May 2019, submitted to the BSEE Office of Structural and Technical Support, indicates Coating on the production steel bar deck grating is in moderate condition with moderate to heavy surface corrosion and scale covering approximately 10% of the surface. In addition, the wall corrosion and metal loss due to scale was noted on the production steel bar deck grating as well. The Level-1 report identified areas of concern that Cox had not addressed.

However, the area where the mechanic fell through was not listed as one of the areas to be addressed. The section of grating where the mechanic fell through was secured with grating clips and was not welded in place. The AI identified additional grating sections that were too short in length and could flip up creating an open hole if someone stepped on it.

On 11 September 2020, the AI issued a G-111 (Component Shut-in) Incident of Non-Compliance (INC) for the steel bar deck grating corrosion in the area of the open hole, in addition to areas surrounding the open hole near process vessels.

Cox has shared their findings with all Cox offshore platforms and created a task force to identify serious corrosion issues on steel bar deck grating and solid decking to prevent this type of incident from occurring again.

A follow-up inspection was conducted on 02 October 2020, by one NOD Inspector and one Office of Safety Management Engineer. The team conducted a risk assessment and followed up on the INC of the deck grating areas of concern.

Several weeks later, the contactor's physician performed a final diagnosis on the mechanic. The original reporting of bruises to the upper left rib area when falling through the grating will be considered as first aid. However, the mechanic injured his left knee during the fall that was later diagnosed to be a tear in the meniscus that required surgery. The eWell incident report was upgraded to a lost time accident greater than 3 days.

Conclusion:

BSEE NOD has concluded that the grating the mechanic fell through, creating an open hole, could have been a possible fatality if he had not caught himself on the surrounding surface and pulled himself to safety. Cox did not properly maintain the clips that held the decking in place. Cox did not properly install grating such that the length of grating crossed several steel supports to prevent the deck from flipping up when the clips or welds failed. Cox failed to perform adequate general maintenance of the deck as several other areas of concern were identified in the investigation and follow-up inspections.

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

- **Equipment Failure - Inadequate preventive maintenance:** Evidence shows localized corrosion on the beam of the 24" x 36" deck grating that fell in the water below created a hole where the injured person fell halfway through. The waterline below where the injured person fell halfway through is 62 feet.
- **Work Environment - Hazardous workspace:** For the steel bar deck grating corrosion in the area of the open hole, in addition to areas surrounding the open hole near and

around process vessels that were still in service posed an immediate danger to personnel and the environment. **For Public Release**

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

n/a

20. LIST THE ADDITIONAL INFORMATION:

• Steel bar grating is manufactured from ASTM A-1011 mild carbon steel and is available in three distinct products: type "W" welded bar grating, type "DT" dovetail pressure locked grating, and type "SL" swage locked grating. All three products are available with bearing bar spacing ranging from 19/16" (1-3/16") to 7/16" on center and cross bars at either 4" or 2" on center.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

24" X 36" steel deck grating

Corrosion

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The New Orleans District recommends that District Field Operations develops detailed inspection standards for deck inspections.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

• G-111 (C) 30 CFR 250.107 Evidence shows localized corrosion on the beam of the 24" x 36" deck grating that fell in the water below created a hole where the injured person fell halfway through. The waterline below where the injured person fell halfway through is 62 feet.

1 The deck grating between the MBD 1000 and HBG 0700 shows a presence of heavy corrosion.

2 The deck grating between the MBD 1000 and MBD 1001 shows a presence of heavy corrosion.

3 The deck grating between the MBD 1001 and MBF 1004 shows a presence of heavy corrosion.

4 The deck grating from the MBF 1019 skid to the HBG 0700 shows a presence of heavy corrosion.

5 The MBF 1019 skid shows a presence of heavy corrosion.

6 The deck grating at the KAH 6678 pipeline shows a presence of heavy corrosion.

7 The HBG-0700 was observed at the time of inspection with heavy corrosion that resulted in a pin hole with seawater spaying out.

8 The deck grating at fire reel #76 shows a presence of heavy corrosion.

9 The deck grating at fire extinguisher #35 shows a presence of heavy corrosion.

10 The old fire water pump caisson shows a presence of heavy corrosion in danger of falling into the Gulf of Mexico.

11 The deck grating between the MBD 1002 and back of master panel shows a presence of heavy corrosion.

25. DATE OF ONSITE INVESTIGATION:

11-SEP-2020

28. ACCIDENT CLASSIFICATION:

26. INVESTIGATION TEAM MEMBERS:

Pierre Lanoix (AI Specialist) / Max
Carrier (OSM Engineer) / Jonathan
Connelly (Production Inspector) /

29. ACCIDENT INVESTIGATION
PANEL FORMED: NO

OCS REPORT:

27. OPERATOR REPORT ON FILE: YES

30. DISTRICT SUPERVISOR:

David Trocquet

APPROVED

DATE: 31-DEC-2020