

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: **25-MAY-2023** TIME: **0115** HOURS

2. OPERATOR: **EC Offshore Properties, Inc.**

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR: **Enterprise Offshore Drilling**

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: **G13576**

AREA: **EC** LATITUDE:

BLOCK: **71** LONGITUDE:

5. PLATFORM: **C**

RIG NAME: **ENTERPRISE 264**

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: **51** FT.

11. DISTANCE FROM SHORE: **17** 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 May 25, 2023, EC Offshore Properties (ECOP) at East Cameron Block 71 OCS-G13576 reported an accidental discharge of 28 barrels of Zinc Bromide Brine from Enterprise Offshore Drilling's (EOD) rig, the Enterprise 264. The incident was reported to the U.S. National Response Center (NRC) and to the Bureau of Safety and Environmental Enforcement (BSEE). At 1:15am, zinc bromide brine was inadvertently discharged from a wellhead casing valve at Well Number C007. The casing valve was closed to stop the discharge. The final investigative report establishes an approximate 79 barrel (BBL) release of zinc bromide brine into the Gulf of Mexico.

According to the Daily Drilling Report No. 63, dated May 23, 2023, from 12:00am to 2:00am (May 24th), the drill crew ran one stand of 3 ½-inch drill pipe in the production casing (31 feet); closed annular; pressured up with air on the blind shear and blew down zinc bromide brine from the wellhead and the blow out preventer (BOP). From 2:00am to 6:00am, the crew rigged up to test the BOP; set test plug in wellhead; filled BOP stack with seawater and flushed through surface equipment.

Testing of the BOPs began at 10:00am on May 24th. During this period, the drill crew needed to monitor the well for flow. To achieve this, it was decided to open the wellhead casing valve (1 13/16-inch 10M gate valve) and monitor for flow from the platform. A member of the drill crew initially opened the casing valve. Another member of the drill crew, a Floorhand, was assigned to monitor the valve for flow during the BOP test. By 12:00am, the BOP testing was completed and the Floorhand was told by the Driller to close the casing valve previously opened by another member of the drill crew.

The drill crew blew down the stack removing water from the BOP prior to refilling with zinc bromide brine. In a written statement, the Floorhand closed the casing valve on the wellhead to what "he believed to be the closed position" and "went back up to the rig floor to help finish rigging down equipment." At approximately 1:00am, the Driller told the Floorhand to go back to the trip tanks and put zinc bromide brine in the trip tanks to fill the production casing and BOP, and, once he had done this, leave about 15 barrels in the trip tanks to monitor the well for flow. The Floorhand opened the equalizer valve on the trip tanks. The Floorhand then pumped zinc bromide brine from the active pit to the trip tanks. Once the Floorhand had enough zinc bromide brine, he began to refill the production casing and BOP and was waiting for returns. In a written statement, while monitoring the trip tanks, the Floorhand "noticed it was taking longer than normal to fill and get returns." In a written statement, the Driller "looked in the hole and returns were coming over the bell nipple but slow." Because of this, the Floorhand was sent by the Driller to recheck the valve for full closure. The Floorhand went to the wellhead and immediately began closing the casing valve until the flow stopped. Returns to the trip tank stabilized at approximately 15 barrels per trip tank.

On May 25, 2023, at 11:08am, NRC Report # 1368219 was submitted by East Cameron Offshore Properties (ECOP) for an accidental discharge of 28 barrels of zinc bromide from a wellhead casing valve. On May 25, 2023, at 12:39pm, the BSEE Lake Charles District was notified of the incident via an email. At the time of email notification, the Lake Charles District Accident Investigator (AI) received the initial incident report, synopsis of event, and the NRC Report.

On May 26, 2023, the BSEE AI along with two Lake Charles District Inspectors conducted an initial investigation into the reported spill. The BSEE AI conducted interviews with the Offshore Installation Manager (OIM) and Company Representative for ECOP. The BSEE AI was provided written statements from both the Driller and Floorhand who witnessed the actual event. The BSEE AI took photos and gathered copies of the Zinc Bromide Brine Safety Data Sheet, which was provided during orientation by the EOD Safety Representative; as well as daily drilling reports for the period; a copy of the

Personnel on Board (POB); initial crew spill calculation; and a print screen version of pit volume history as recorded by the Electronic Drilling Recorder during the entirety of the spill event. The BSEE AI and Inspectors reviewed the data gathered and determined a second visit to the Enterprise 264 was necessary to properly understand discrepancies in initial fluid losses reported by ECOP.

On June 14, 2023, an Incident Follow-up was conducted on the Enterprise 264 by the BSEE AI and one Lake Charles District Inspector. During the revisit, the BSEE AI conducted interviews with the OIM, Driller, and Floorhand involved with the spill incident on May 25, 2023. Documents collected and historical data from the Pit Volume Totalizer (PVT) as viewed from the Electronic Drilling Recorder indicated a larger spill than initially reported. The Pit Volume Totalizer is a trade name for a type of pit-level indicator and is used to describe a series of devices on the Enterprise 264 that continuously monitor the level of fluids held in the pits. The unit senses fluid levels in the pits and transmits data to a recording and alarm device (pit volume totalizer, or recorder) mounted near the Driller's position on the rig floor. If the level drops too low or rises too high, the alarm sounds to warn the driller of lost circulation or an influx of wellbore fluids.

The following is the sequence of events recorded on the PVT for May 25, 2023:

12:57:43am: The Pit Volume Totalizer from the Electronic Drilling Recorder at 12:57:43am indicated the initial volumes in the Trip Tanks as follows: Trip Tank #1 equals 3.3 BBL and Trip Tank #2 equals 4.1 BBL. The Active Pit indicates 589 BBL. These volumes correspond with the beginning levels prior to which time the Driller told the Floorhand to put zinc bromide in the trip tank to fill the hole at or around 01:00 hours.

1:02:38am: The Pit Volume Totalizer from the Electronic Drilling Recorder at 1:02:38am indicated the following: Trip Tank #1 equals 13 BBL and Trip Tank #2 equals 13 BBL. The Active Pit reads 538 BBL, which indicates approximately 51 BBL removed from its initial level.

1:13:04am: The Pit Volume Totalizer from the Electronic Drilling Recorder at 1:13:04am indicated the following: Trip Tank #1 equals 7.5 BBL and Trip Tank #2 equals 8.2 BBL. The Active Pit reads 489 BBL indicating 100 BBL removed from its initial level.

1:18:17am: The Pit Volume Totalizer from the Electronic Drilling Recorder at 1:18:17am indicated the following: Trip Tank #1 reads 15.5 BBL and Trip Tank #2 reads 15.8 BBL. The Active PVT reads 464 BBL indicating a 125 BBL difference from its initial level. At this time, it is believed the spill had been contained with the casing valve fully closed at the wellhead.

ECOP and EOD can only account for the following volumes in barrels:

13 5/8 annular capacity from casing valve to top of bell nipple across stack and riser = 16.3 BBL. Annular capacity from casing valve down 31 feet inside the 9 5/8 = 2.5 BBL. Trip tank volumes minus 7.4 barrels in tanks before filling trip tanks with zinc bromide brine = 23.9 BBL. Ditch from bell nipple to trip tanks = 2.0. Fill up line to bell nipple = 1.5 BBL. Total capacities = 46.2 BBL.

A total of 125 BBL was pumped from the Active Pit at the time of the incident; subtract 46.2 for total annular capacity, fill up line, ditch, and trip tank capacity as provided by ECOP and EOD: The total loss of zinc bromide brine was approximately 79 BBL (125 BBL Pumped - 46.2 BBL Capacity = 79 BBL Total Loss).

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

Human Performance Error:

The wellhead casing valve was not fully closed during the zinc bromide pumping operation, which allowed approximately 79 barrels to flow from the 1 13/16-inch outlet into the environment.

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

Inadequate knowledge of the casing valve:

The wellhead casing valve was previously opened by a different member of the drill crew other than the Floorhand attempting to close it during the operation.

The position of the 1 13/16-inch outlet was beneath the deck and not visible to the Floorhand while attempting to close the casing valve.

The wellhead casing valve was not visible at the time of pumping operations. Not monitored.

20. LIST THE ADDITIONAL INFORMATION:

N/A

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

N/A

N/A

ESTIMATED AMOUNT (TOTAL):

\$

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

N/A

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

E-100 30 CFR 250.300

The lessee failed to prevent unauthorized discharge of pollutants into offshore waters. On May 25, 2023, Lessee failed to verify proper wellhead casing valve closure while conducting operations. As a result, approximately 79 barrels of zinc bromide brine was released into the environment.

25. DATE OF ONSITE INVESTIGATION:

28. ACCIDENT CLASSIFICATION:

26-MAY-2023

26. Investigation Team Members/Panel Members:

29. ACCIDENT INVESTIGATION PANEL FORMED:

Mitchell Klumpp / Preston White / Larry Miller / Guy Bertrand /

NO

OCS REPORT:

27. OPERATOR REPORT ON FILE:

30. DISTRICT SUPERVISOR:

Beau Boudreaux

