UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
GULF OF MEXICO REGION

ACCIDENT INVESTIGATION REPORT

1. OCCURRED
   DATE: **17-FEB-2016** TIME: **1715** HOURS

2. OPERATOR: **Hess Corporation**
   REPRESENTATIVE:
   TELEPHONE:
   CONTRACTOR: **NOBLE DRILLING (U.S.) INC.**
   REPRESENTATIVE:
   TELEPHONE:

3. OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR ON SITE AT TIME OF INCIDENT:

4. LEASE: **G14224**
   AREA: **GB** LATITUDE:
   BLOCK: **216** LONGITUDE:

5. PLATFORM:
   RIG NAME: **NOBLE PAUL ROMANO**

6. ACTIVITY:
- [ ] EXPLORATION(POE)
- [X] DEVELOPMENT/PRODUCTION (DOCD/POD)

7. TYPE:
- [ ] HISTORIC INJURY
  - [ ] REQUIRED EVACUATION
  - [ ] LTA (1-3 days)
  - [ ] LTA (>3 days
  - [ ] RW/JT (1-3 days)
  - [ ] RW/JT (>3 days)
  - [ ] Other Injury
- [ ] FATALITY
- [X] POLLUTION
- [ ] FIRE
- [ ] EXPLOSION
- LWC
  - [ ] HISTORIC BLOWOUT
  - [ ] UNDERGROUND
  - [ ] SURFACE
  - [ ] DEVERTER
  - [ ] SURFACE EQUIPMENT FAILURE OR PROCEDURES
- COLLISION [ ] HISTORIC [ ] >$25K [ ] <=$25K
- [ ] STRUCTURAL DAMAGE
- [ ] CRANE
- [ ] OTHER LIFTING DEVICE
- [ ] DAMAGED/DISABLED SAFETY SYS.
- [ ] INCIDENT >$25K
- [ ] H2S/15MIN./20PPM
- [ ] REQUIRED MUSTER
- [ ] SHUTDOWN FROM GAS RELEASE
- [ ] OTHER

6. OPERATION:
- [ ] PRODUCTION
- [ ] DRILLING
- [ ] WORKOVER
- [ ] COMPLETION
- [ ] HELICOPTER
- [ ] MOTOR VESSEL
- [ ] PIPELINE SEGMENT NO.
- [X] OTHER **Abandonment**

8. CAUSE:
- [ ] EQUIPMENT FAILURE
- [X] HUMAN ERROR
- [ ] EXTERNAL DAMAGE
- [ ] SLIP/TRIP/FALL
- [ ] WEATHER RELATED
- [X] LEAK
- [ ] UPSET H2O TREATING
- [X] OVERBOARD DRILLING FLUID
- [ ] OTHER _____

9. WATER DEPTH: **1481** FT.

10. DISTANCE FROM SHORE: **125** MI.

11. WIND DIRECTION: **ENE**
    SPEED: **15** M.P.H.

12. CURRENT DIRECTION: **ESE**
    SPEED: **1** M.P.H.

13. SEA STATE: **5** FT.

17. INVESTIGATION FINDINGS:

At approximately 1715 hour on 17 February 2016, Hess Corporation (Hess) reported a leak of zinc bromide (ZnBr2) during permanent abandonment (PA) operations on Well #004 (Penn State #4) located at Garden Banks Block 216. The PA operations on Well #004 was being conducted using the Noble Paul Romano semi-submersible rig at a water depth of 1481 feet. There were no injuries to personnel during this incident.

The ZnBr2 leak was first discovered while the remote operated vehicle (ROV) was monitoring the subsea production tree during pressure testing of the lower blind shear rams (BSRs) on the subsea blow out preventer (BOP). The lower BSRs were closed and the well was being monitored with the stripping tank lined up downstream of the kill line. At 1945 hour while monitoring the stripping tank, it was determined that approximately 16 barrels of 15.5 pounds per gallon ZnBr2 had been discharged into offshore waters with a loss rate of approximately 3 barrels per hour. It was determined through ROV observations that the ZnBr2 discharge was originating from the high pressure vent lines that are connected to the subsea production tree safety valves (SV1 and SV2) tubing hanger ports that were left in the open position after retrieving the tubing hanger. The ROV stabbed into the subsea production tree control module; however, it was only able to partially close the two safety valves since it was not equipped with the appropriate tool. Therefore, ROV had to return to the rig and the correct tool was installed in order to close the two safety valves. The ROV returned to the subsea production tree, stabbed into the subsea production tree control module and fully closed the two safety valves. After closing the two safety valves, a bore protector was run to isolate any other leaks and the lower BSRs were successfully pressure tested. Hess estimated that a total of 22 barrels of ZnBr2 was discharged into offshore waters during this incident.

The Hess Investigation Report stated that the probable cause of the ZnBr2 discharge was attributed to the subsea production tree high pressure vent safety valves that were left in the open position.

According to the Hess Incident Investigation Report, the possible contributing causes for the ZnBr2 discharge were attributed to: 1) Incomplete tubing hanger retrieval procedures that did not specify that SV1 and SV2 safety valves on the subsea production tree vent lines needed to be closed after removing tubing hanger and 2) The SV1 and SV2 safety valves were not included in the Plan of Action (POA) drawings when the subsea production tree and control module drawings were merged.

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

The Hess Investigation Report stated that the probable cause of the ZnBr2 discharge was attributed to the subsea production tree high pressure vent safety valves that were left in the open position.

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

According to the Hess Incident Investigation Report, the possible contributing causes for the ZnBr2 discharge were attributed to: 1) Incomplete tubing hanger retrieval procedures that did not specify that SV1 and SV2 safety valves on the subsea production tree vent lines needed to be closed after removing tubing hanger and 2) The SV1 and SV2 safety valves were not included in the POA drawings when the subsea production tree and control module drawings were merged.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

No property was damaged.

NATURE OF DAMAGE:

Not applicable.

ESTIMATED AMOUNT (TOTAL): **$**

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The BSEE Lafayette District makes no recommendations to the Office of Incident Investigation.

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

Based on the incident investigation findings, an E-100 (W) Incident of Noncompliance (INC) was issued "After the Fact" to document that Hess Corporation failed to prevent the unauthorized discharge of pollutants into offshore waters. On 17 February 2016, Hess failed to prevent a discharge of approximately 22 barrels of 15.5 pounds per gallon of Zinc Bromide into offshore waters at Garden Banks Block 216 from Well #004 subsea production tree high pressure vent line safety valves that were left in the open position after retrieval of the tubing hanger.

25. DATE OF ONSITE INVESTIGATION:

26. ONSITE TEAM MEMBERS:

Troy Naquin / Jack Angelle /

29. ACCIDENT INVESTIGATION PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

Elliott S. Smith

APPROVED DATE: **12-MAY-2016**