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: | STRUCTURAL DAMAGE |
| | 16-MAY-2013 TIME: 2215 HOURS | CRANE |
| | | OTHER LIFTING DEVICE |
| 2. | OPERATOR: Shell Offshore Inc. | DAMAGED/DISABLED SAFETY SYS. |
| | REPRESENTATIVE: | INCIDENT >\$25K |
| | TELEPHONE: | H2S/15MIN./20PPM |
| | CONTRACTOR: NOBLE DRILLING (U.S.) INC. | REQUIRED MUSTER |
| | REPRESENTATIVE: | SHUTDOWN FROM GAS RELEASE |
| | IELEPHONE: | OTHER |
| 3. | OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR ON SITE AT TIME OF INCIDENT: | 6. OPERATION: |
| | | PRODUCTION |
| | | X DRILLING |
| 4. | LEASE: G07957 | WORKOVER |
| | AREA: MC LATITUDE: | COMPLETION |
| | BLOCK: 762 LONGLIUDE: | HELICOPTER |
| _ | | DIDELINE SECMENT NO |
| 5. | PLATFORM: | OTHER |
| | RIG NAME: NOBLE BULLY I | |
| 6. | ACTIVITY: C EXPLORATION (POE) | 8. CAUSE: |
| | X DEVELOPMENT/PRODUCTION | |
| | (DOCD/POD) | EQUIPMENT FAILURE |
| 7. | TYPE: | EXTERNAL DAMAGE |
| | HISTORIC INJURY | SLIP/TRIP/FALL |
| | REQUIRED EVACUATION | WEATHER RELATED |
| | LTA (1-3 days) | LEAK |
| | LTA (>3 days | UPSET H20 TREATING |
| | 🗌 RW/JT (1-3 days) | X OVERBOARD DRILLING FLUID |
| | RW/JT (>3 days) | |
| | Other Injury | 9. WATER DEPTH: 3140 FT. |
| | FATALITY | |
| | X POLLUTION | 10. DISTANCE FROM SHORE: 47 MI. |
| | | |
| | L EAPLOSION | 11. WIND DIRECTION: E |
| | LWC 🔲 HISTORIC BLOWOUT | SPEED: 17 M.P.H. |
| | UNDERGROUND | |
| | SURFACE | 12. CURRENT DIRECTION: S |
| | | SPEED: 7 M.P.H. |
| | U SURFACE EQUIPMENT FAILURE OR PROCEDURES | |
| | COLLISION \square HISTORIC $\square >$ \$25K $\square <$ =\$25K | 13. SEA STATE: FT. |

On 16-May-2013 at 2215 hours, the primary sealing element for the riser slip joint failed due to a loss of air pressure. As a result 20.8 barrels of 12.8 pound per gallon synthetic based mud (SBM) was spilled into the moon pool.

The operation at the time of the incident was fluffing cement tanks in preparation for a cement squeeze job. During this operation the rig service air, not able to keep up with the air demand, dropped to about 40 psi allowing the sealing element in the slip joint to relax. While engine control room personnel were responding to the low rig air alarm, it was noticed that the slip joint was leaking SBM into the moon pool. Once all air compressors were online and full rig air was restored, the sealing element engaged stopping the leak.

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

1) Low rig air pressure allowed the primary sealing element in the slip joint to relax.

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

Rig air compressors not in the correct alignment allowed the air pressure to fall.
No check valve installed to trap sealing pressure on the primary sealing element in the event air pressure is lost.

20. LIST THE ADDITIONAL INFORMATION:

Rig air compressor #2 was online but was unable to handle the amount of air needed to fluff the cement tanks. Air compressor #1 did not come online due to the control switch being in the local or hand position. Air compressor #3, assigned as the lag compressor, failed to start due to improper settings.

The Spill was contained in the moon pool and no sheen was observed around the ship.

21. PROPERTY DAMAGED:

None -

NATURE OF DAMAGE:

N/A

ESTIMATED AMOUNT (TOTAL):

\$

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The BSEE New Orleans District makes no recommendations to the Agency.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

E-100: Issued on 16-May-2013, the rig service air to the primary slip joint packer dropped below sealing pressure which resulted in a 20.8 barrel spill of 12.8 pound per gallon synthetic based mud.

25. DATE OF ONSITE INVESTIGATION:

20-MAY-2013

26. ONSITE TEAM MEMBERS: -

Michael Sonnier /

29. ACCIDENT INVESTIGATION PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

David Trocquet

APPROVED DATE: 19-MAR-2014

INJURY/FATALITY/WITNESS ATTACHMENT

| CONTRACTOR REPRESENTATIVE OTHER | INJURY FATALITY X WITNESS | |
|--|---|----|
| NAME : | | |
| HOME ADDRESS: | | |
| CITY: | STATE: | |
| WORK PHONE: | TOTAL OFFSHORE EXPERIENCE: | YE |
| EMPLOYED BY: | | |
| BUSINESS ADDRESS: | | |
| CITY: | STATE: | |
| ZIP CODE: | | |
| X OPERATOR REPRESENTATIVE | INJURY | |
| x OPERATOR REPRESENTATIVE CONTRACTOR REPRESENTATIVE OTHER | INJURY FATALITY X WITNESS | |
| x OPERATOR REPRESENTATIVE CONTRACTOR REPRESENTATIVE OTHER NAME: | INJURY FATALITY X WITNESS | |
| x OPERATOR REPRESENTATIVE CONTRACTOR REPRESENTATIVE OTHER NAME: HOME ADDRESS: | INJURY FATALITY X WITNESS | |
| x OPERATOR REPRESENTATIVE CONTRACTOR REPRESENTATIVE OTHER NAME: HOME ADDRESS: CITY: | INJURY FATALITY X WITNESS STATE: | |
| x OPERATOR REPRESENTATIVE CONTRACTOR REPRESENTATIVE OTHER NAME: HOME ADDRESS: CITY: WORK PHONE: | INJURY FATALITY X WITNESS STATE: TOTAL OFFSHORE EXPERIENCE: | YE |
| x OPERATOR REPRESENTATIVE CONTRACTOR REPRESENTATIVE OTHER NAME: HOME ADDRESS: CITY: WORK PHONE: EMPLOYED BY: | INJURY FATALITY X WITNESS STATE: TOTAL OFFSHORE EXPERIENCE: | YE |
| x OPERATOR REPRESENTATIVE CONTRACTOR REPRESENTATIVE OTHER NAME: HOME ADDRESS: CITY: WORK PHONE: EMPLOYED BY: BUSINESS ADDRESS: | INJURY FATALITY X WITNESS STATE: TOTAL OFFSHORE EXPERIENCE: | YE |
| x OPERATOR REPRESENTATIVE CONTRACTOR REPRESENTATIVE OTHER OTHER NAME: HOME ADDRESS: CITY: WORK PHONE: EMPLOYED BY: BUSINESS ADDRESS: CITY: | INJURY FATALITY X WITNESS STATE: TOTAL OFFSHORE EXPERIENCE: | YE |

POLLUTION ATTACHMENT

| 1. | VOLUME: 20.8 GAL- BBL |
|-----|--|
| | YARDS LONG X YARDS WIDE - |
| | APPEARANCE: |
| 2. | TYPE OF HYDROCARBON RELEASED: OIL |
| | DIESEL |
| | CONDENSATE |
| | HYDRAULIC |
| | NATURAL GAS |
| | X OTHER Synthetic Based Mud |
| 3. | SOURCE OF HYDROCARBON RELEASED: SBM leaked from between the packer and the inner |
| 4. | WERE SAMPLES TAKEN? NO |
| 5. | WAS CLEANUP EQUIPMENT ACTIVATED? NO |
| | IF SO, TYPE: SKIMMER CONTAINMENT BOOM ABSORPTION EQUIPMENT DISPERSANTS OTHER |
| 6. | ESTIMATED RECOVERY: 0 GAL BBL |
| 7. | RESPONSE TIME: HOURS |
| 8. | IS THE POLLUTION IN THE PROXIMITY OF AN ENVIRONMENTALLY SENSITIVE AREA (CLASS I)? NO |
| 9. | HAS REGION OIL SPILL TASK FORCE BEEN NOTIFIED? NO |
| 10. | CONTACTED SHORE: NO IF YES, WHERE: |
| 11. | WERE ANY LIVE ANIMALS OBSERVED NEAR: NO |
| 12. | WERE ANY OILED OR DEAD ANIMALS OBSERVED NEAR SPILL: NO |