For Public Release

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

ACCIDENT INVESTIGATION REPORT

1. OCCURRED
   DATE: 17-AUG-2014    TIME: 0830    HOURS

2. OPERATOR: LLOG Exploration Offshore, L.L.C.
   REPRESENTATIVE: -
   TELEPHONE: -
   CONTRACTOR: Seadrill Limited
   REPRESENTATIVE: -
   TELEPHONE: -

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

4. LEASE: G27259
   AREA: MC    LATITUDE: 28.926889
   BLOCK: 79    LONGITUDE: -88.231556

5. PLATFORM:
   RIG NAME: SEADRILL SEVAN LOUISIANA

6. ACTIVITY:
   X EXPLORATION(POE)
   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
   □ PATALITY
   □ POLLUTION
   □ FIRE
   □ EXPLOSION
   □ HISTORIC BLOWOUT
   □ UNDERGROUND
   □ SURFACE
   □ DEVERTER
   □ SURFACE EQUIPMENT FAILURE OR PROCEDURES
   □ COLLISION
   □ HISTORIC
   □ >$25K
   □ <=$25K

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

9. WATER DEPTH: 3868 FT.

10. DISTANCE FROM SHORE: 49 MI.

11. WIND DIRECTION: WSW
    SPEED: 14 M.P.H.

12. CURRENT DIRECTION: SW
    SPEED: 1 M.P.H.

13. SEA STATE: FT.

MMS - FORM 2010
EV2010R
PAGE: 1 OF 5
22-OCT-2014
On August 17, 2014, an incident occurred that resulted in significant damage to the lower annular. The lower annular operating chamber was prepared for pressure testing on the surface. The target pressure for this test was 3000 psi. Once the lower annular was prepared, the Subsea Engineer started applying pressure to the operating chamber using a test pump. At this time, with the pump still running the Subsea Engineer decided to put away some tools, leaving the test pump unit unmanned. The Subsea Supervisor arrived at the test unit to find the test pump unattended. He then left the testing area to look for the other Subsea Engineer. He found the Subsea Engineer in their shop and informed him that the test pump should never be left unattended. The Task Based Risk Assessment did not address the monitoring of the running pump. The Subsea Supervisor also informed the crew they should be testing the upper annular operating chamber and not the lower annular operating chamber. At this time a loud bang was heard coming from the testing area and the test pump was then immediately shut down. Further investigation by rig personnel found that the lower annular operating chamber that has a (MAWP) Maximum Allowable Working Pressure of 3000 psi, was overpressurized to at least 10,000 psi.

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

1) Poor communication between all personnel involved in the testing procedure.
2) Leaving the test pump running while unattended allowing the component being tested to over pressurize.
3) Nothing notated in the Task Based Risk Assessment about leaving the test pump running without properly trained personnel monitoring the pressure.
4) The Subsea Supervisor failed to secure the test pump prior addressing the Subsea Engineer about leaving pump running and unattended.

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

1) Miscommunication and not being focused on the task at hand.
2) Initial documentation showed the upper annular operating chamber should have been tested and not the lower annular operating chamber.
3) Not double-checking with Subsea Supervisor prior to commencing testing.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED: 

NATURE OF DAMAGE: 

MMS - FORM 2010 

EV2010R 

PAGE: 2 OF 5 

22-OCT-2014 -
Lower annular (Cost has not yet been determined.)

Sheared inner cylinder studs. Pusher plate blown out of annular housing. Broken shuttle valve on choke isolation valve. Also support ring and inner piston dislodged due to over pressurization causing significant damage to lower annular.

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The New Orleans District has no recommendations at this time.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

A G-110 (W) 250.107(A) was issued at the time investigation was conducted. - Narrative: At the time of inspection (investigation), documentation showed that during the surface test of the lower annular the test pump was left running and not manned causing lower annular to overpressure to 10,000-psi. This caused significant damage to annular.

NOTE: Test should have been conducted to 3,000 psi. *Operator test was to test the open side seals and functionality of the annular.
*3,000 psi rating.

25. DATE OF ONSITE INVESTIGATION:

19-AUG-2014

26. ONSITE TEAM MEMBERS:

Earl Roy /

29. ACCIDENT INVESTIGATION PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

David Trocquet

APPROVED DATE: 17-OCT-2014

INJURY/FATALITY/WITNESS ATTACHMENT

OPERATOR REPRESENTATIVE

INJURY

MMS - FORM 2010

PAGE: 3 OF 5
### CONTRACTOR REPRESENTATIVE FATALITY

<table>
<thead>
<tr>
<th>Name:</th>
<th>Home Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td>City:</td>
<td>State:</td>
</tr>
<tr>
<td>Work Phone:</td>
<td>Total Offshore Experience:</td>
</tr>
<tr>
<td>Employed By:</td>
<td></td>
</tr>
<tr>
<td>Business Address:</td>
<td>City:</td>
</tr>
<tr>
<td>State:</td>
<td>Zip Code:</td>
</tr>
</tbody>
</table>

### OTHER WITNESS

<table>
<thead>
<tr>
<th>Name:</th>
<th>Home Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td>City:</td>
<td>State:</td>
</tr>
<tr>
<td>Work Phone:</td>
<td>Total Offshore Experience:</td>
</tr>
<tr>
<td>Employed By:</td>
<td></td>
</tr>
<tr>
<td>Business Address:</td>
<td>City:</td>
</tr>
<tr>
<td>State:</td>
<td>Zip Code:</td>
</tr>
</tbody>
</table>

### OPERATOR REPRESENTATIVE INJURY

<table>
<thead>
<tr>
<th>Name:</th>
<th>Home Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td>City:</td>
<td>State:</td>
</tr>
<tr>
<td>Work Phone:</td>
<td>Total Offshore Experience:</td>
</tr>
<tr>
<td>Employed By:</td>
<td></td>
</tr>
<tr>
<td>Business Address:</td>
<td>City:</td>
</tr>
<tr>
<td>State:</td>
<td>Zip Code:</td>
</tr>
<tr>
<td>OPERATOR REPRESENTATIVE</td>
<td>INJURY</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>CONTRACTOR REPRESENTATIVE</td>
<td>FATALITY</td>
</tr>
<tr>
<td>OTHER ______________________</td>
<td>WITNESS</td>
</tr>
</tbody>
</table>

**Witness Information**

<table>
<thead>
<tr>
<th>NAME:</th>
<th>HOME ADDRESS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITY:</td>
<td>STATE:</td>
</tr>
<tr>
<td>WORK PHONE:</td>
<td>TOTAL OFFSHORE EXPERIENCE: YEARS</td>
</tr>
<tr>
<td>EMPLOYED BY:</td>
<td>BUSINESS ADDRESS:</td>
</tr>
<tr>
<td>CITY:</td>
<td>STATE:</td>
</tr>
<tr>
<td>ZIP CODE:</td>
<td></td>
</tr>
</tbody>
</table>