

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: 16-NOV-2011 TIME: 1030 HOURS

2. OPERATOR: **Chevron U.S.A. Inc.**
REPRESENTATIVE: **Broussard, Cory**
TELEPHONE: (337) 989-3472
CONTRACTOR:
REPRESENTATIVE:
TELEPHONE:

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING DEVICE
- DAMAGED/DISABLED SAFETY SYS.
- INCIDENT >\$25K
- H2S/15MIN./20PPM
- REQUIRED MUSTER
- SHUTDOWN FROM GAS RELEASE
- OTHER **Master manual valve failure**

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

6. OPERATION:

4. LEASE: **G00983**
AREA: **EI** LATITUDE:
BLOCK: **252** LONGITUDE:

- PRODUCTION
- DRILLING
- WORKOVER
- COMPLETION
- HELICOPTER
- MOTOR VESSEL
- PIPELINE SEGMENT NO.
- OTHER **Plug and abandonment operation**

5. PLATFORM: **G**
RIG NAME:

6. ACTIVITY: EXPLORATION (POE)
 DEVELOPMENT/PRODUCTION (DOCD/POD)

8. CAUSE:

7. TYPE:

- HISTORIC INJURY
- REQUIRED EVACUATION 1
- LTA (1-3 days)
- LTA (>3 days) 1
- RW/JT (1-3 days)
- RW/JT (>3 days)
- Other Injury

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

- FATALITY
- POLLUTION
- FIRE
- EXPLOSION

- LWC HISTORIC BLOWOUT
- UNDERGROUND
 - SURFACE
 - DEVERTER
 - SURFACE EQUIPMENT FAILURE OR PROCEDURES

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

9. WATER DEPTH: 148 FT.
10. DISTANCE FROM SHORE: 49 MI.
11. WIND DIRECTION: **N**
SPEED: 20 M.P.H.
12. CURRENT DIRECTION: **NE**
SPEED: M.P.H.
13. SEA STATE: 5 FT.

17. INVESTIGATION FINDINGS:

At approximately 1020 hours on November 16, 2011, a well servicing contractor was injured during the failure of a wellhead's lower manual master valve during a temporary abandonment operation on Well G-8 located at EI Block 252, Platform G, OCS-G-00983. Well G-8 was identified by Chevron as a future workover or sidetrack candidate, and a coil-tubing unit (CTU) was slated to be used to clean out the well and assist in the placement of cement plugs.

On November 6, 2011, preliminary unsuccessful wireline work was performed on Well G-8 to bail debris from the well and establish an injection rate before operations were transferred to Well G-16.

On November 12, 2011, the CTU was rigged up on Well G-8 and the CTU blowout preventers (BOP) were successfully tested. Coil tubing was then run into the hole and tagged up at 291 ft coil tubing measurement (CTM) with no further penetration beyond this depth. Coil tubing was then pulled from the hole and the coil tubing injector head was rigged down.

On November 13, 2011, operations to rig down the coil tubing injector head were finalized. A slickline unit and lubricator were rigged up and tested successfully to the well shut-in tubing pressure. An impression block was run on slickline down to 250 ft wireline measurement (WLM), then the impression block was retrieved from the hole revealing an impression of an internal fish. The slickline unit was then rigged down, and the CTU injector head was rigged back up followed by a successful test. A mud motor equipped with a milling tool was run in the hole with coil tubing to clean off the top of the fish at 291 ft CTM. A decision was made to pull out of the hole to examine the condition of the milling tool. It was found that the bottom valve on the tree had a slight leak coming from area around the valve stem. The CTU was rigged down and a valve repair technician was then contacted and plans were arranged to transport him to the location to repair the valve. A blind flange located on the flow line of Well G-8 was also discovered leaking and was repaired onsite. While waiting on the valve technician to arrive, operations moved to Well G-6. Surveillance of the leak, still minimal at this time, was maintained by personnel while working on the adjacent G-6 well.

On November 14, 2011, a valve technician arrived on location to assess the leaking manual master valve on well G-8.

On November 15, 2011 a third party valve technician serviced the lower manual master valve by inserting twelve (12) sticks of grease. He determined that the valve only needed to be packed, in spite of the stem being found to be very loose. A successful pressure test of the tree to 4,000 psi was performed.

On November 16, 2011, the CTU was again rigged up in an attempt to retrieve the fish from inside the production tubing while maintaining 2,900 psi. This attempt to latch on to the fish was successful. After pulling the fish through the CT BOP stack a contract employee attempted to close the manual master valve. While closing the valve, pressure began leaking from around the stem followed by the stem being ejected from the valve body; striking the contract employee on the hand. The injured party was evacuated to the hospital for medical treatment and was later determined to have a fracture to the tip of his thumb. Due to the unknown stability of the well, all personnel onboard were evacuated to EI 252-I platform. At 1430 hours, BSEE Lafayette District was contacted by a Chevron representative who reported the incident. After further assessment, the facility was placed off limits to non-essential personnel for safety reasons. The operator, after assessing the leakage rate from the valve stem, determined that a specialized tool and cap was needed to contain the leak from the bonnet of the lower master valve.

On November 17, 2012, BSEE plans to travel to the incident site were postponed due to unfavorable weather conditions. On November 18, 2011, Chevron communicated to BSEE that before any non-essential personnel boarded the platform, the well needed to be stabilized and secured. Although the leak was minimal, Chevron placed the heliport out-of-service due to the unknown stability of the well.

On November 21, 2011 personnel were able to successfully board the platform and a specialized tool/cap assembly was installed on the valve bonnet for sealing and securing the valve from further leakage. After the tool/cap assembly was installed, the wellhead was tested to 3,000 psi before killing operations were able to proceed. A DDH plug was set on a packer at 200 ft CTM and a back-pressure valve (BPV) was installed in the wellhead tubing hanger. The tree was removed and replaced with a new

5,000-psi wellhead, followed by a pressure integrity test on the wellhead.

On November 23, 2011, after being delayed by weather and dense fog, the Lafayette BSEE inspectors were able to fly to EI-252-I platform where they met with Chevron's lead operator for the EI 252 field. He informed BSEE inspectors that he was not present at the time of the accident since he was on his scheduled days off. The lead operator traveled with the inspectors to the accident site at E.I. 252-G. BSEE inspectors took pictures of the accident location and the associated wellhead equipment. At this time, the valve and all related equipment that were involved in the accident had already been shipped to shore for further investigation by Chevron, so BSEE was unable to view the equipment onsite.

Additional information requested by the inspectors indicated that the valve stem was not properly assembled as per manufacture drawings. A schematic, which was part of Chevron's Root Cause Analysis (RCA), showed that the bearing retainer nut was missing and the valve hand wheel nut was still attached to the stem. The bearing retainer lock nut and the thrust bearing were still on the stem between the upset on the stem and the valve hand-wheel.

Chevron deviated from their normally used vendors which they recognized as a participant in the Gulf of Mexico Business Unit (GOMBU) valve maintenance program.

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

* The only way that the retainer bearing nut was missing was that it was never installed. It is not certain when the retainer nut was removed and who would have removed it. The last service records date back to 1997 when the well was last flowed and has remained shut-in since that time.

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

* The third party valve technician was not alerted to the fact that the valve stem was very loose and should have disassembled the valve and examined the internal valve parts for damage and wear.

* Chevron's deviation from their GOMBU vendor may have identified a flaw in Chevron's Safety Environmental Management System (SEMS) Management of Change (MOC) program/process.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

ESTIMATED AMOUNT (TOTAL): \$1,500

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The BSEE Lafayette Office recommends to the BSEE Regional Office of Safety Management that the Regional SEMS Coordinator identify to the National SEMS Coordinator that Chevron be listed as a possible SEMS audit candidate for the following reasons:

Management of Change (MOC)

Chevron elected to use an approved valve supplier normally used by their drilling and completion department, but the personnel selected to perform the valve work for this specific job was not part of their Gulf of Mexico Business Unit (GOMBU) Valve Maintenance Program. This change in personnel should have triggered a MOC process.

Safe Work Practices

Chevron is required to document that each contractor working for their company is knowledgeable and experienced in the work practices they will be performing; in this case servicing the wellhead's manual valves. The third party valve technical elected to grease the valve instead of disassembling the valve to verify the condition of the internal parts.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

An "After the Fact" Incident of Noncompliance (INC) G-110, is issued to Chevron U.S.A. for failure to properly oversee repairs to Well G-8 lower manual master valve. It was identified in Chevrons Root Cause Analysis report dated January 12, 2012, that the valve stem was found "very loose" by the third party valve technician performing the work. The Lafayette District has determined that operations should have been terminated and proper maintenance should have been performed. This Incident of Noncompliance is hereby issued to document the findings that were revealed during this accident investigation.

25. DATE OF ONSITE INVESTIGATION:

23-NOV-2011

26. ONSITE TEAM MEMBERS:

Jeremy Adams / Johnny Serrette /
Troy Naquin / Ernest Carmouche /

29. ACCIDENT INVESTIGATION

PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

Elliott S. Smith

APPROVED
DATE:

27-FEB-2012

INJURY/FATALITY/WITNESS ATTACHMENT

OPERATOR REPRESENTATIVE

INJURY

CONTRACTOR REPRESENTATIVE

FATALITY

OTHER _____

WITNESS

NAME :

HOME ADDRESS :

CITY :

STATE :

WORK PHONE :

TOTAL OFFSHORE EXPERIENCE :

YEARS

EMPLOYED BY :

BUSINESS ADDRESS :

CITY :

STATE :

ZIP CODE :

