

UNITED STATES DEPARTMENT OF THE INTERIOR
 MINERALS MANAGEMENT SERVICE
 GULF OF MEXICO REGION
ACCIDENT INVESTIGATION REPORT

1. OCCURRED
 DATE: **27-MAY-2009** TIME: **1200** HOURS

2. OPERATOR: **Stone Energy Corporation**
 REPRESENTATIVE: **walters, Amy**
 TELEPHONE: **(337) 237-0410**
 CONTRACTOR:
 REPRESENTATIVE:
 TELEPHONE:

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

4. LEASE: **G22620**
 AREA: **VR** LATITUDE:
 BLOCK: **122** LONGITUDE:

5. PLATFORM: **B**
 RIG NAME: *** LIFT BOAT**

6. ACTIVITY: 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

FATALITY
 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 **Underwater gas release**

6. OPERATION:

PRODUCTION
 DRILLING
 WORKOVER
 COMPLETION
 HELICOPTER
 MOTOR VESSEL
 PIPELINE SEGMENT NO.
 OTHER **Toppled Well P&A operations**

8. CAUSE:

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

9. WATER DEPTH: **76** FT.

10. DISTANCE FROM SHORE: **40** MI.

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

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

13. SEA STATE: FT.

17. DESCRIBE IN SEQUENCE HOW ACCIDENT HAPPENED:

On May 27, 2009, an uncontrolled subsea gas release occurred while the Lessee was engaged in hot tapping operations to properly secure and then permanently abandon the VR 122 Platform B #1 wellbore. Abandonment operations were a result of Hurricane Ike generated wind and waves that toppled and submerged the VR 122 Platform B structure. The VR-122 B #1 wellbore which consisted of 30 inch, 10 3/4 inch, 7 5/8 inch, and 2 7/8 inch piping was bent over near the mud line and the wellhead was inaccessible in the structure's debris field. The diver's initial assessment of the well indicated that the 30 inch and 10 3/4inch casing strings were fully breached or parted and holes were visible. This situation required the casing strings and production tubing string to be hot tapped, since they were not accessible using conventional methods. The hot taps were made below the bend, because of the possible sealing nature of the bend, and the necessity of determining the pressure(s) in the vertical run of the well where the well's casings would be mechanically severed. The location of the bend required the hot taps to be made approximately 7-10 feet below the mudline in an excavation surrounding the well. Subsequent to the successful completion of the hot tap procedures, the casings and production tubing were severed or cut in a "wedding cake" fashion and then a new wellhead was installed. Operations were designed to result in a vertical well geometry to allow conventional abandonment procedures.

When the gas release occurred, the Lessee had already completed the hot tap of the 7 5/8 inch x 2 7/8 inch annulus and found that the annulus was on a slight vacuum. The Lessee filled this annulus with sea water through the 3/4 inch hot tap assembly and determined the annulus to be static (0 psig). The next step in the procedure was to rig down the hot tap assembly and rig up the hydraulic 4 inch hole-saw assembly to open the 3/4 inch hole in the 7 5/8 inch casing to a larger diameter (4 inch). The Lessee successfully installed the 4 inch hole-saw and began procedures designed to create a 4 inch hole in the 7 5/8 inch casing. The diver advanced the hole-saw with the positioner until he felt resistance. At this point, the diver incorrectly thought that the 4 inch hole-saw landed on a lip of the 10 3/4 inch casing due to the hole-saw being slightly off-center. The diver then advanced the positioning device 10 rounds, which is enough to cut through the lip of the 10 3/4 inch casing. Afterwards, the diver expressed concern to the hot tap supervisor at the surface that he may have bored through the 7 5/8 inch casing and not cut through the lip of the 10 3/4 inch, as he previously thought. The hot tap supervisor at the surface overrode the divers concern and directed the diver to continue operations, as planned, and cut through what they thought would be the 7 5/8 inch casing. In reality, the 7 5/8 inch casing had just been penetrated with the 4 inch hole-saw and the next string of pipe contacted with the hole-saw was the 2 7/8 inch production tubing. As the diver continued his cut, he inadvertently cut into the 2 7/8 inch production tubing. He then observed uncontrolled gas bubbling from the hole-saw apparatus. After observing the gas, the diver backed out the hole-saw with the positioning device, and returned to the surface (lift boat Bull Shark) to report his findings. This incident resulted in gas emanating from the cuts in the 2 7/8 inch production tubing which created a gas plume approximately 30 feet in diameter at the surface. There were no liquid hydrocarbon discharges or injuries associated with the incident.

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

The diver failed to ensure that the hole-saw apparatus was properly centered, and operations were allowed to continue assuming that the hole-saw was off center to the extent that it would first land on the lip of the 10 3/4 inch casing. As operations continued, the diver failed to properly monitor the depth of penetration of the hole-saw, as evidenced by the first cut being actually made on the 7 5/8 inch casing instead of the 10 3/4 inch casing. It was at this point in the operation that the supervisor overrode the diver's concerns and instructed him to continue with the cutting operations by advancing the 4 inch hole-saw which prematurely breached the 2 7/8 inch production tubing. The hot tap supervisor and diver failed to exercise Stop Work Authority (SWA) and thoroughly assess the situation when the diver expressed his concerns about being unsure of the string of pipe he was cutting.

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

- * The fact that hot tap / hole-saw procedures are conducted underwater adds an additional degree of complexity to the operation.
- * Working in the excavated area below the mudline in a water depth of 76 feet, may have limited the diver's visibility and led to the misinterpretation of which casing string was being cut.

20. LIST THE ADDITIONAL INFORMATION:

Once the diver was safely out of the water, the lift boat was relocated a safe distance away from the leak until a contingency plan could be executed. The Lessee engaged the Incident Command team to handle the well control incident. The gas plume was monitored as it gradually depleted to approximately 10 feet in diameter and stabilized. The lift boat was then moved closer to the plume so that divers could assess the leak. The divers found that most of the gas was coming from the breach in the 30 inch casing that was located approximately 7-10 feet above where the hot tap had been performed. The decision was made to have the divers move the hot tap / hole-saw apparatus down about three feet and begin the entire hot tap / hole-saw procedure over again so that the 2 7/8 inch production tubing could be safely hot tapped. The hot tap of the 2 7/8 inch production tubing revealed 3400 psi on the production tubing. The Lessee pumped 8.6 ppg seawater into the production tubing until the well was killed. After killing the well, normal approved abandonment procedures were resumed. It was later discovered that the hole-saw made two small horizontal cuts in the tubing 4 inches apart.

21. PROPERTY DAMAGED:

None

NATURE OF DAMAGE:

N/A

ESTIMATED AMOUNT (TOTAL):

\$

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

The Lake Charles District does not have any recommendations for the MMS Regional Office of Safety Management.

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

G-110 Unsafe workmanlike operation.

An uncontrolled subsea gas release occurred from VR-122 Well B-1 when personnel involved in the hot tap procedures failed to exercise Stop Work Authority and verify the depth of the hole-saw after the diver expressed concerns regarding which string of pipe he was cutting.

25. DATE OF ONSITE INVESTIGATION:

26. ONSITE TEAM MEMBERS:

**Meaux, Wayne / Mouton, Scott /
Osterman, Mark /**

29. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

Larry Williamson

APPROVED

DATE: **10-AUG-2009**