

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: 13-APR-2019 TIME: 0615 HOURS

2. OPERATOR: EnVen Energy Ventures, LLC

REPRESENTATIVE:
TELEPHONE:

CONTRACTOR:
REPRESENTATIVE:
TELEPHONE:

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

3. OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR ON SITE AT TIME OF INCIDENT: 8. OPERATION:

4. LEASE: G09384

AREA: WC LATITUDE:
BLOCK: 61 LONGITUDE:

5. PLATFORM: A 1 FS/BRIDGE
RIG NAME:

- PRODUCTION
- DRILLING
- WORKOVER
- COMPLETION
- HELICOPTER
- MOTOR VESSEL
- PIPELINE SEGMENT NO.
- OTHER Well TA Operations

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

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

- FATALITY
- POLLUTION
- FIRE
- EXPLOSION

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

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

9. CAUSE:

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

- 10. WATER DEPTH: 36 FT.
- 11. DISTANCE FROM SHORE: 9 MI.
- 12. WIND DIRECTION: S
SPEED: 23 M.P.H.
- 13. CURRENT DIRECTION:
SPEED: M.P.H.
- 14. SEA STATE: 4 FT.
- 15. PICTURES TAKEN:
- 16. STATEMENT TAKEN:

17. INVESTIGATION FINDINGS:

On 13-APR-2019 at 6:30am, an incident occurred at West Cameron 61A platform (WC-61A) while tripping workstring into the A1 well. A hammer union pump connection with a 90° angle (pump connection, i.e., Type 1502) weighing 40.6 pounds fell 36.8 feet striking the injured person's (IP) hard hat, upper right arm, right thigh, and right foot. The pump connection fractured the IP's upper right arm and lacerated the IP's big toe. A helicopter transported the IP to Oschner St. Patrick's Hospital in Lake Charles, LA. The IP had surgery to repair his right humerus bone; he also received treatment for bruising to the thigh and a laceration on big toe.

On the day of the incident, the liftboat Brazos operated by Laredo Offshore Services was on location assisting in the abandonment operation of the A1 well. ARO Solutions, LLC (ARO) personnel were completing the 24-hour abandonment operations and Diverse Safety & Scaffolding, LLC (DSS) personnel were installing and inspecting scaffolding for the abandonment operations. At approximately 6:00am, an ARO worker connected a pump connection to a crossover sub (sub) installed on a tubing joint. The liftboat crane lifted and swung the tubing joint and pump connection over the A1 well to connect the tubing joint with the work string in the A1 well. While two ARO workers were making-up the tubing joint and workstring, a DSS worker started assisting. The workers were using pipe wrenches to connect the tubing joint to the work string. At 6:10am, the pump connection fell off the tubing joint striking the DSS worker. At the time of the injury, the IP was attempting to connect the tubing joint and workstring. At 6:15am, the IP reported to the company representative he was injured. At 6:30am, the onsite safety representative provided the IP with first aid. At 9:44am, a helicopter arrived and transported the IP to Oschner St. Patrick's Hospital in Lake Charles.

On April 15, 2019, the Bureau of Safety and Environmental Enforcement (BSEE) performed an onsite visit. During the onsite investigation, BSEE investigators took photographs, collected statements, reviewed Job Safety Analysis Forms (JSA), reviewed daily reports, and requested documents related to the incident. BSEE reviewed the statements and the events that occurred prior to the incident.

The ARO night supervisor left the abandonment work area prior to the end of the night shift to complete the day shifts JSAs (EnVen confirmed this was acceptable at the time of the incident during a meeting in Lake Charles district office on April 23rd at 9:00am). The supervisor completed three JSAs for Crane Operations, Mixing and Pumping Cement, and Operating Cement Pump-Transferring Fluid. Prior to 6:00am, the day shift crew had a pre-tour meeting to discuss the following: 1).the night shifts operations (operations performed by previous shift crew) and 2). The day shifts upcoming task. During the meeting, the day shift was informed that tripping operations were completed and the pump connection was installed on the work string, although, it had not been. EnVens day and night company representatives, AROs day and night supervisors, ARO's day shift workers, Larado workers, and the DSS worker attended the pre-tour meeting.

BSEE found the DSS worker was assigned job task's in all three JSAs including work outside his normal job functions. The JSAs were approved by the day company representative and the day supervisor without visiting the work site. The JSAs have instructions on the first page that states, "To be reviewed in the area that the work is being conducted". It was also found the tripping operations were not completed and the pump connection was not installed on the tubing work string. When the ARO day shift workers started their shift at 6:00am, the company representative and supervisor were in their offices on the liftboat. Stop Work Authority was not used by the workers due to completely different job scope/hazards and proceeded with tripping operations.

At 6:00am, the workers connected the sub to the tubing joint and the pump connection to the sub. According to the witness statements, a worker "bumped" the hammer union.

An elevator was rigged up with a two part sling (sling) attached to the fast line of the liftboat crane. The elevator latched around and attached to the tubing joint near the pump connection. The crane operator lifted and moved the tubing joint over the A1 well to make the connection with the work string. During the first attempt to screw the tubing joint to the work string with pipe wrenches, the workers realized they could not make the threads up due to a misalignment of the connection. Therefore, the crane operator repositioned the tubing joint and the workers once again turned the tubing joint clockwise to make the connection up. During the second attempt to make the connection, the pump connection unthreaded, released, and fell striking the IP.

BSEE Investigation team requested a safe reenactment of the job task performed at the time of the incident. EnVen Energy Ventures Management approved BSEE's request for a safe reenactment of the job task with a secured pump connection on the tubing joint. During the reenactment, as the worker turned the tubing joint the sling wrapped around the pump connection. When the sling wrapped around the pump connection, the hook started to rotate on the crane as it is designed to perform. The BSEE incident team found as the tubing joint is turning clockwise; the sling turns the pump connection counter clockwise. BSEE documented the reenactment with pictures. With the tubing joint laid down on a pipe rack, BSEE incident team wanted to know how much torque it would take to unscrew the pump connection. Two workers attempted to unscrew the hammer union with pipe wrenches; they were unsuccessful. It is not known how much torque it would take to unscrew a properly fastened hammer union. However, it can be established from the reenactment that a properly fastened hammer union and a properly functioning hook on the fast line of the crane would not allow the sling to unscrew the hammer union pump connection. It takes eight rounds to connect the tubing joint and work string together while taking three and a quarter turns to unscrew the pump connection from the sub. Based on the results of the reenactment and review of all related documents, it was determined the pump connection was not properly secured to the tubing joint and the sling unscrewed the pump connection as the workers turned the tubing joint. In other words, the pump connection had fewer threads than the tubing.

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

The pump connection was not properly secured to the tubing joint and the sling unscrewed the pump connection as the workers turned the tubing joint. The pump connection weighing 40.6 pounds fell 36.8 feet striking the IP on the hard hat, upper right arm, right thigh, and right foot.

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

Supervision/Human Performance Error

1. Communication: the day/night supervisors and EnVen company representatives were unaware of the night shifts progress prior to completing the JSAs for the day shift. During the day shift safety/pre tour meeting, the workers were informed the tripping operations were completed and the pump connection was installed on the work string. This information was incorrect.
2. Inadequate supervision: the on-duty day supervisor never inspected the work area prior to or during the operation. The supervisor was in his office during the incident.
3. No work permit prepared: a JSA was not approved for connecting the pump connection to the tubing joint or tripping work string into the well.
4. Complacency: the ARO workers did not use stop work authority when they found the pump connection not installed on the tubing work string and the tripping operations not completed. The ARO workers were seemingly overconfident or too comfortable due to

their experience with the current operation.

5. Inattention to the tasks: Completed all tasks in 10 minutes from the start of the shift, leaving the pump connection not properly secured to the tubing.

6. Instructions/Procedures not followed: the JSAs were approved by the day company representative and day supervisor without visiting the work site. The JSAs have instructions on the first page that states "To be reviewed in the area that the work is being conducted".

7. Inadequate work permits prepared and approved: the three JSAs have tasks assigned to the IP outside his normal job functions.

20. LIST THE ADDITIONAL INFORMATION:

Definitions

Elevator: A hinged mechanism that may be closed around drill pipe or other drill string components to facilitate lowering them into the wellbore or lifting them out of the wellbore.

Hammer Union: A connection common in the oil industry consisting of two joints coupled by a threaded nut. Protrusions on the nut are hit with a sledgehammer to tighten the connection and energize the seals.

Tubing Joint: A single length of pipe that is generally around 30' long with a thread connection on each end.

Work String: A generic term used to describe two or more tubing joints joined together by threaded connections for well service activities.

21. PROPERTY DAMAGED: NATURE OF DAMAGE:

N/A N/A

ESTIMATED AMOUNT (TOTAL): \$

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

Recommend safety alert on findings of how the pump connection fell 36.8 feet striking a worker.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

On 13-APR-2019, at 6:30am, an incident occurred at West Cameron 61A platform (WC-61A) while tripping work string into the A1 well. The pump connection was not properly secured to the tubing joint and the sling unscrewed the pump connection as the workers turned the tubing joint. The pump connection weighing 40.6 pounds fell 36.8 feet striking the injured person's (IP) hard hat, upper right arm, right thigh, and right foot. The IPs upper right arm was subsequently fractured and big toe was lacerated requiring an evacuation.

25. DATE OF ONSITE INVESTIGATION: 15-APR-2019

26. INVESTIGATION TEAM MEMBERS:

**Mitchell Klumpp / Guy Bertrand /
Preston White /**

29. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

30. DISTRICT SUPERVISOR:

OCS REPORT:

Mark Osterman

27. OPERATOR REPORT ON FILE:

APPROVED

DATE: **12-JUN-2019**