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: **24-OCT-2014** TIME: **1455** HOURS

2. OPERATOR: **Arena Offshore, LP**
   REPRESENTATIVE:
   TELEPHONE: -
   CONTRACTOR: **L&L Sandblasting** -
   REPRESENTATIVE: -
   TELEPHONE:

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

4. LEASE: **G14342**
   AREA: **WC** LATITUDE:
   BLOCK: **544** LONGITUDE: -

5. PLATFORM: - **A**
   RIG NAME:

6. ACTIVITY:
   - [ ] EXPLORATION(POE)
   - [X] DEVELOPMENT/PRODUCTION (DOCD/POD)

7. TYPE:
   - [ ] HISTORIC INJURY -
     - [X] REQUIRED EVACUATION **1** -
     - [ ] LTA (1-3 days)
     - [X] 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
   - [ ] STRUCTURAL DAMAGE
   - [ ] CRANE
   - [ ] OTHER LIFTING DEVICE
   - [ ] DAMAGED/DISABLED SAFETY SYS.
   - [ ] INCIDENT >$25K
   - [ ] H2S/15MIN./20PPM
   - [ ] REQUIRED MUSTER
   - [ ] SHUTDOWN FROM GAS RELEASE
   - [ ] OTHER

6. OPERATION:
   - [X] PRODUCTION
   - [ ] DRILLING
   - [ ] WORKOVER
   - [ ] COMPLETION
   - [ ] HELICOPTER
   - [ ] MOTOR VESSEL
   - [ ] PIPELINE SEGMENT NO.
   - [X] OTHER **Sandblasting & Painting**

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

9. WATER DEPTH: **182** FT.

10. DISTANCE FROM SHORE: **93** MI.

11. WIND DIRECTION: **N** -
    SPEED: **10** M.P.H.

12. CURRENT DIRECTION: **S**
    SPEED: **5** M.P.H.

13. SEA STATE: **2** FT.

On October 24, 2014, during routine sand blast and paint operations, an incident occurred at approximately 3:00pm on Arena Offshore's West Cameron 544-A facility. At the time of the incident, witnesses heard a loud pop and were all instructed by the platform's person in charge (PIC) to assemble under the heliport on the top deck. During this time, it was apparent the sand hopper had a failure due to the sand and air escaping from the unit which alerted one of the blast and paint crew members to respond to the air compressor supplying the sand hopper by closing the ball valve to the supply line, as well as shutting down the unit. Also, they discovered an injured person (IP) along the walkway adjacent to the sand hopper. Upon assessing the IP's condition the PIC immediately made phone calls to initiate an emergency response which involved an Air Med Helicopter to fly offshore and transport the IP to the hospital. The Air Med Helicopter arrived on location at 4:20pm and once the Paramedic checked the IP's condition, the crew members loaded him onto a stokes litter and lifted him with the platform's crane up onto the heliport. The IP was then transported to a trauma facility in Galveston, Texas. The initial report from his employer stated that he was in stable condition but had sustained a significant amount of injuries including: several cuts on the back of his head, damage to two of his fingers, breaks on his mandible jaw line, broken teeth along with some missing, and a small fracture on his pelvic area.

On October 27, 2014, the BSEE Lake Charles District conducted an onsite investigation into this incident. At this time the inspectors requested to see the company's required Best Management Practices (BMP) Plan for blast and paint operations and they were unable to produce the document. Additionally, the platform operator indicated there was not any sort of formal on-site equipment inspection performed prior to start-up. Upon BSEE's inspection of the sand hopper it was determined that the top hatch lid had dislodged from the hopper, was deflected by the upper rack assembly, and then struck the IP as he was along a nearby walkway. The normal operating pressure of the hopper is approximately one hundred twenty five pounds per square inch. The lid is ten inches in diameter and was originally fastened to the hopper via four bolt/cam-lock type fasteners. It was discovered that the bolt threads associated with the cam-lock fasteners were in poor condition and numerous flattened as well as stripped threads were identified. It appeared that, as the threads were worn down on the bolt, washers would be added in order for the nut to obtain a gripping surface. Inconsistencies were noted with regards to both the number of washers (one bolt had a single washer and one had five washers in place) and the type of nuts used to secure the lid in place. Moreover, two of the four nuts were completely missing and one of the two remaining nuts was the wrong type for the application. This was an indication that two of the fastener's nuts slipped off the threads allowing the lid to blow off the hopper. The BSEE was unable to determine the number of washers and the type of nuts utilized on the two bolts that the failure occurred.

On July 10, 2014 a "Sand Hopper Pre Job Check List" was completed prior to sending the equipment offshore; however, this inspection failed to identify the poor condition of the bolt threads. The third party blast and paint company's pre-job/start up procedure states the "crew will make walk thru to check all equipment associated with blasting operations, to ensure equipment is in good, safe working condition." Additionally, their "Filling Sand Hopper Safe Work Practices" procedure states to "replace top hatch to proper position, check cam locks, and bolts/nuts." Furthermore, their written checklist "Pressurizing Sand Hopper Safe Work Practices/Checklist" states to "Inspect bolts on hatches for tightness and wear daily. When lid is re-installed, ensure lid is on correctly and cam locks are re-secured evenly." These guidelines, if followed, should have identified the poor condition of the bolts and fastening components, triggered stop work, and thus eliminated the failure that occurred.

On November 21, 2014, the BSEE Lake Charles District witnessed a third party test being performed on the original site equipment, and the results concluded overpressure was not a contributing factor to the top hatch lid failure.

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

The top hatch lid failure was due to the poor condition of the fastening components, along with the potential of having the wrong type of nuts mounted on the associated bolts.

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

*** Failure to follow the company's Best Management Practices Plan**
*** Failure to identify the poor condition of the bolts threads associated with the cam-lock fasteners, during the Sand Hopper Pre Job Check List, prior to sending the equipment offshore**
*** Failure to discontinue the use of defective equipment and recognize the hazards involved with altering the cam-lock fasteners (i.e. use of mix matched nuts and number of washers)**
Failure to follow company policy:
*** "Crew will make walk thru to check all equipment associated with blasting operations, to ensure equipment is in good, safe working condition."**
*** "Replace top hatch to proper position, check cam locks, and bolts/nuts."**
*** "Inspect bolts on hatches for tightness and wear daily. When lid is re-installed, ensure lid is on correctly and cam locks are re-secured evenly."-**

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

N/A

NATURE OF DAMAGE:

ESTIMATED AMOUNT (TOTAL): **$**

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The Lake Charles District recommends the Office of Safety Management issue a safety alert identifying the hazards associated with sandblasting equipment when not being properly maintained.

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

G-111 the failure to maintain the sand hopper's top hatch lid fastening components in a safe and workmanlike manner led to the incident on October 24, 2014

25. DATE OF ONSITE INVESTIGATION:

27-OCT-2014

26. ONSITE TEAM MEMBERS:

29. ACCIDENT INVESTIGATION PANEL FORMED: **NO**

OCS REPORT:

Victor Erugo / Scott Bazinet / Cody LeBlanc / Darron Miller /

30. DISTRICT SUPERVISOR:

Mark Osterman

APPROVED DATE: **16-JAN-2015**

INJURY/FATALITY/WITNESS ATTACHMENT

[ ] OPERATOR REPRESENTATIVE
[X] CONTRACTOR REPRESENTATIVE
[ ] OTHER _____

[ ] INJURY
[ ] FATALITY
[X] WITNESS

NAME:

HOME ADDRESS:

CITY: STATE:

WORK PHONE: TOTAL OFFSHORE EXPERIENCE: **4** YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

CITY: STATE:

ZIP CODE:

[ ] OPERATOR REPRESENTATIVE
[X]- CONTRACTOR REPRESENTATIVE
[ ] OTHER _____

[ ] INJURY
[ ] FATALITY
[X] WITNESS

NAME:

HOME ADDRESS:

CITY: STATE:

WORK PHONE: TOTAL OFFSHORE EXPERIENCE: YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

INJURY/FATALITY/WITNESS ATTACHMENT

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CITY: STATE:

ZIP CODE:

[ ] OPERATOR REPRESENTATIVE
[X] CONTRACTOR REPRESENTATIVE
[ ] OTHER _____

[ ] INJURY
[ ] FATALITY
[X] WITNESS

NAME:

HOME ADDRESS:

CITY: STATE:

WORK PHONE: TOTAL OFFSHORE EXPERIENCE: **16** YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

CITY: STATE:

ZIP CODE:

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[ ] OPERATOR REPRESENTATIVE
[X] CONTRACTOR REPRESENTATIVE
[ ] OTHER _____

[X] INJURY
[ ] FATALITY
[ ] WITNESS

NAME:

HOME ADDRESS:

CITY: STATE:

WORK PHONE: TOTAL OFFSHORE EXPERIENCE: YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

CITY: STATE:

ZIP CODE:

[ ] OPERATOR REPRESENTATIVE
[X] CONTRACTOR REPRESENTATIVE
[ ] OTHER _____

[ ] INJURY
[ ] FATALITY
[X] WITNESS

NAME:

HOME ADDRESS:

CITY: STATE:

WORK PHONE: TOTAL OFFSHORE EXPERIENCE: **14** YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

CITY: STATE:

ZIP CODE:

INJURY/FATALITY/WITNESS ATTACHMENT

[ ] OPERATOR REPRESENTATIVE	[ ] INJURY
[X] CONTRACTOR REPRESENTATIVE	[ ] FATALITY
[ ] OTHER _____	[X] WITNESS

NAME:

HOME ADDRESS:

CITY: STATE:

WORK PHONE: TOTAL OFFSHORE EXPERIENCE: **4** YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

CITY: STATE:

ZIP CODE: