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: **03-AUG-2012** TIME: **1014** HOURS

2. OPERATOR: **Mariner Energy, Inc.**
   REPRESENTATIVE:
   TELEPHONE:
   CONTRACTOR: **TETRA Technologies, Inc.**
   REPRESENTATIVE:
   TELEPHONE:

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

4. LEASE: **G05517**
   AREA: **EI** LATITUDE:
   BLOCK: **325** 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
   - [x] 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
   - [x] OTHER **Flash Burn**

6. OPERATION:
   - [ ] PRODUCTION
   - [ ] DRILLING
   - [ ] WORKOVER
   - [ ] COMPLETION
   - [ ] HELICOPTER
   - [ ] MOTOR VESSEL
   - [ ] PIPELINE SEGMENT NO.
   - [x] OTHER **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: **257** FT.

10. DISTANCE FROM SHORE: **63** MI.

11. WIND DIRECTION: **SW**
    SPEED: **6** M.P.H.

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

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

17. INVESTIGATION FINDINGS:-

At approximately 1014 hours on 3 August 2012, a worker employed by Tetra Offshore (Tetra) was injured while performing abandonment activities on Well A-003 located at Eugene Island (EI) Block 325A platform operated by Apache Corporation (Apache). However, at the time of the accident, the BSEE database did not reflect the change of ownership from Mariner Energy, Inc. (Mariner) to Apache by the Regional Office of Adjudication.

The Apache representative at the facility submitted to the BSEE a preliminary investigation report detailing the following information. Well A-003 abandonment activities involved the removal of a 20-inch (in) casing hanger that was welded to a 30-in drive pipe. The 20-in casing hanger had a 43.25-in flange with bolts that could not be removed with jacks or cold cutting saw due to weight and space limitations. Lower Explosive Limit (LEL) readings were taken and it was determined that it was safe to cut the flange off with a torch. Prior to the accident a Job Safety Analysis (JSA) and Hot Work Permit were completed and signed by all personnel involved in the Well A-003 abandonment operations. In addition, personnel verbally discussed in a pre-job safety meeting the procedures for safely cutting casing by first cutting a window into the 30-in outer casing from the outside so that the person operating the cutting torch would remain at arm's length away and at a right angle to the point of entry. Personnel were able to completely cut around the 30-in once, but the second cut to remove a window in the 30-in casing was partially completed. A LEL reading of zero was recorded over the 20-in casing and a worker placed the cutting torch directly inside the 20-in casing burning away some rust buildup. The worker heated up a small area inside the 20-in casing, then opened the oxygen valve to begin a penetration cut when gas from an unknown source ignited in the 20-in casing resulting in a flash burn to the worker's face. Apache concluded that the Injured Party (IP) did not follow the procedures verbally discussed and agreed upon during the pre-job safety meeting for safely cutting casing. LEL readings taken after the incident revealed the presence of an explosive atmosphere inside the 20-in casing.

The final investigation conducted by Apache concluded that when the IP was removing the rust within the 20-in casing with a cutting torch, the slag fell and reacted with biogenic gas that was present at the bottom of the casing. The biogenic gas then ignited into a flash fire that channeled up the 20-in casing injuring the worker. In addition, Apache determined that the IP made the decision on his own to deviate from the original plan, due to convenience, by cutting inside of the 20-in casing instead of continuing with cutting a window on the outside of the 30-in casing.

According to the operator, the IP did not follow the original plan verbally discussed during the pre-job safety meeting for safely cutting casing. There was no written plan in place available at the facility for this type of activity. The air monitoring method employed as well as the frequency of collecting LEL readings may not have properly characterized the atmospheric conditions in and around the 20-in casing.

The procedures verbally discussed during the pre-job safety meeting for safely cutting casing were not adhered to by the IP. Deviation from the original procedures was not communicated by the IP to the on-site contract supervisor or operator representative for approval. The air monitoring method and frequency for taking LEL readings did not detect the presence of explosive vapors inside the 20-in casing.

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

According to the operator, the IP did not follow the original plan verbally discussed during the pre-job safety meeting for safely cutting casing. There was no written plan in place available at the facility for this type of activity. The air monitoring method employed as well as the frequency of collecting LEL readings may not have properly characterized the atmospheric conditions in and around the 20-in casing.

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

The procedures verbally discussed during the pre-job safety meeting for safely cutting casing were not adhered to by the IP. Deviation from the original procedures was not communicated by the IP to the on-site operator representative and contract supervisor for approval. The air monitoring method and frequency for taking LEL readings did not detect the presence of explosive vapors inside the 20-in casing.

20. LIST THE ADDITIONAL INFORMATION:

The BSEE Lafayette District recommends that Mariner/Apache require contractors to provide site-specific written well abandonment work procedures for safely performing abandonment operations in areas where potential explosive atmospheres may exist. The procedures detailed in the written plan should be communicated and comprehended by all personnel prior to any work activities. Furthermore, Mariner/Apache should remind their employees and contractors that if there is a need to deviate from the approved well abandonment procedures; they should first coordinate with the operator representative and contract supervisor at the facility to perform another JSA to determine if it is safe to do so before proceeding.

21. PROPERTY DAMAGED: NATURE OF DAMAGE:

No property damaged occurred during this accident. **None**

ESTIMATED AMOUNT (TOTAL): **$**

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The BSEE Lafayette District makes no recommendations for the Agency.

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

The BSEE issued a G-110 Incident of Noncompliance to Mariner/Apache on 6 August 2012, for failure of the lessee to perform all operations in a safe and workmanlike manner. During abandonment activities on Well A-003 on 3 August 2012, as stated by the operator, a worker did not follow the site specific procedures discussed verbally during the pre-job safety meeting for conducting hot work when removing casing that resulted in a worker receiving a flash burn to the face.

25. DATE OF ONSITE INVESTIGATION:

06-AUG-2012 -

26. ONSITE TEAM MEMBERS: -

Ernest Carmouche / Troy Naquin /

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

OCS REPORT:

30. DISTRICT SUPERVISOR:

Marty Rinaudo

APPROVED DATE: **18-SEP-2012**

INJURY/FATALITY/WITNESS ATTACHMENT

[x] OPERATOR REPRESENTATIVE
[ ] CONTRACTOR REPRESENTATIVE
[ ] OTHER ______________________

[ ] INJURY
[ ] FATALITY
[x] 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

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