UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Safety and Environmental Enforcement
GULF OF MEXICO REGION
ACCIDENT INVESTIGATION REPORT

1. OCCURRED
   DATE: 30-AUG-2011  TIME: 1630  HOURS

2. OPERATOR: Apache Corporation
   REPRESENTATIVE: Wetzel, Gary
   TELEPHONE: (337) 354-8130
   CONTRACTOR:
   REPRESENTATIVE:
   TELEPHONE:

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

4. LEASE: 00247
   AREA: WC  LATITUDE:
   BLOCK: 102  LONGITUDE:

5. PLATFORM: 2
   RIG NAME:

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

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

   PATTERN CYCLE
   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 Eline failure - corrosion

   PRODUCTION
   DRILLING
   WORKOVER
   COMPLETION
   HELICOPTER
   MOTOR VESSEL
   PIPELINE SEGMENT NO.
   OTHER Plug and Abandonment

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

9. WATER DEPTH: 39 FT.

10. DISTANCE FROM SHORE: 14 MI.

11. WIND DIRECTION: SE
    SPEED: 3 M.P.H.

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

13. SEA STATE: 0 FT.
Express Energy Service was on location at Apache WC 102-2 to TA (Temporary Abandon) Well #5. On August 29, 2011, the electric line (eline) operator reheaded the wire rope socket on eline unit #107. The eline operator made five runs in well #5 from August 29-30, 2011. On August 29, 2011, the first three runs were made since the reheading of the wire rope socket. The first run was a 9-5/8 inch gauge run to a depth of 1200 feet. The second run was a 1-9/16 inch perforating gun run to a depth of 1188 feet. The third run was a 9-5/8 inch cement retainer run to a depth of 988 feet. On the morning of August 30, 2011, a pre-tour daily safety meeting was held. During this meeting a Job Safety Analysis (JSA) was completed and discussed for the days activities. The fourth run was a 8-1/4 inch jet cutter run to a depth of 750 feet. The fifth run was a 12-inch gauge run to a depth of 732 feet. Approximately 9 hrs after the safety meeting, the eline operator began the sixth run in the well #5. While attempting to lift the 13-3/8 inch Cast Iron Casing Bridge Plug (CIBP) and setting tool, the eline wire rope parted near the rope socket when the 1000 pound CIBP assembly had been lifted approximately 6 inches from the deck. The top section of the CIBP assembly struck the Injured Person (IP), who was guiding the assembly to the well bore, on the foot as a result of the IP being inside the 9 feet fall radius of the CIBP assembly.

On August 31, 2011, BSEE Lake Charles inspectors conducted an onsite investigation into the incident. The investigation team observed the eline wire rope to be severely corroded and brittle. Paper work from the eline operator stated that after the wire rope parted, he cut 1500 feet of the wire rope off the drum. After his inspection, the line was still brittle with 5 out of 18 strands broken. The unit was sent back to Express Energy for testing. BSEE inspectors found the step 34 of the approved Application for Permit to Modify (APM) stated to rig-up a 13-3/8 inch CIBP on a workstring and set same at 423 feet; however, the inspection determined that the 13-3/8 inch CIBP was lifted with the eline instead of the workstring. BSEE inspectors also discovered the JSA was performed approximately 9 hours prior to the job, without all risk identified for the specific job at hand.

The wire rope was sent to Bryan Laboratory, Inc. for testing. Findings from Bryan Laboratory, Inc’s visual examination are as follows:

* Both the outer and inner wires of the sample eline wire rope containing the failed end were found to be corroded and pitted.
* Portions of the fractured outer wires were found to be distorted and bent. The fracture surface of the outer wires were found to exhibit slight necking (stretching) and a 45 degree fracture path, indicative of shear/overload fracturing due to corrosion. * The fractured surfaces were battered, abraded and corroded.

Findings from the Scanning Microscopic (SEM) Examination are as follows:

* The fractures were confirmed to be by shear/overload due to corrosion.
* Corrosion of the fracture surface and corrosion and pitting of the wire surface adjacent to the fractures was also confirmed.

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

The eline wire rope was corroded and brittle which indicated the possible lack of wire rope preventative maintenance; therefore, the most probable cause of the electric line wire rope failure.
19. LIST THE CONTRIBUTING CAUSE(S) OF ACCIDENT:
   Human error by all parties involved in the lifting operation:
   1. Failure by the eline operator to recognize the excessive corrosion on the wire rope.
   2. Failure by the Apache representative to follow the approved Application for Permit to Modify (APM).
   3. Failure by the Apache representative to include the lifting and setting of the CIBP with the workstring as defined in the JSA.
   4. This job required a lift and setting of a CIBP weighing 1000 pounds. It also required a worker to be within the 9 foot fall radius of the lift, with this hazard mitigation not addressed in the JSA.
   5. There was not any JSA risk assessment of the eline condition or eline capability to make the lift.

20. LIST THE ADDITIONAL INFORMATION:

1. The operator couldn't provide any eline unit Standard Operating Procedures.
2. The operator couldn't provide any long term maintenance records or preventative maintenance records for eline unit #107.

21. PROPERTY DAMAGED:

   NATURE OF DAMAGE:
   Eline parted near rope socket.
   No other significant damage since lift being made was only 6 inches above the deck.

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

   The Lake Charles District recommends to the Office of Safety Management that a Safety Alert be prepared to outline the necessity for eline/wireline operators to maintain an eline/wireline preventative maintenance program with record keeping as required.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

   G-110 On August 30, 2011, a severely corroded and brittle electric line wire rope was used to lift 13-3/8 inch Casing Bridge Plug (CIBP). Due to the severely corroded and brittle electric line wire rope, the wire rope parted dropping the CIBP causing an injury to a worker.

   G-802 On August 30, 2011, an Apache representative failed to follow the approved (August 12, 2011) Application for Permit to Modify (APM); specifically step 34 which states to rig-up a 13-3/8 inch CIBP using a workstring.

25. DATE OF ONSITE INVESTIGATION: 22-NOV-2011
26. ONSITE TEAM MEMBERS:

Larry Miller / Darron Miller / Wayne Meaux / William Olive / Mitchell Klumpp /

30. DISTRICT SUPERVISOR:

OCS REPORT:

Larry Williamson

APPROVED

DATE: 17-NOV-2011
<table>
<thead>
<tr>
<th>Name: Tony Lagman</th>
<th>Home Address: 2455 Hallman Lane</th>
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<td></td>
<td>City: Cottondale</td>
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<tr>
<td></td>
<td>State: FL</td>
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<tr>
<td></td>
<td>Work Phone: (337) 205-0986</td>
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<td>Total Offshore Experience:</td>
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<th>Name: Thomas Trosclair</th>
<th>Home Address: 201 Glen Paul St.</th>
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<td>City: Chauvin</td>
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<tr>
<td></td>
<td>State: LA</td>
</tr>
<tr>
<td></td>
<td>Work Phone: (985) 466-3451</td>
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<td>Contractor Representative</td>
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**NAME:**

**HOME ADDRESS:**

**CITY:**

**STATE:**

**WORK PHONE:**

**TOTAL OFFSHORE EXPERIENCE:**

**YEARS**

**EMPLOYED BY:**

**BUSINESS ADDRESS:**

**CITY:**

**STATE:**

**ZIP CODE:**