

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:

- 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

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

6. OPERATION:

4. LEASE: 00247

AREA: WC LATITUDE:

BLOCK: 102 LONGITUDE:

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

5. PLATFORM: 2

RIG NAME:

6. ACTIVITY:

- EXPLORATION (POE)
- DEVELOPMENT/PRODUCTION (DOCD/POD)

8. CAUSE:

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

7. TYPE:

HISTORIC INJURY

- REQUIRED EVACUATION 1
- LTA (1-3 days)
- LTA (>3 days)
- RW/JT (1-3 days) 1
- RW/JT (>3 days)
- Other Injury

- FATALITY
- POLLUTION
- FIRE
- EXPLOSION

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

- 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.

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

17. INVESTIGATION FINDINGS:

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 ran 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:

Eline parted near rope socket.

NATURE OF DAMAGE:

No other significant damage since lift being made was only 6 inches above the deck.

ESTIMATED AMOUNT (TOTAL):

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:

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

# INJURY/FATALITY/WITNESS ATTACHMENT

OPERATOR REPRESENTATIVE

INJURY

CONTRACTOR REPRESENTATIVE

FATALITY

OTHER \_\_\_\_\_

WITNESS

NAME:

HOME ADDRESS:

CITY:

STATE:

WORK PHONE:

TOTAL OFFSHORE EXPERIENCE:

YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

CITY:

STATE:

ZIP CODE:

OPERATOR REPRESENTATIVE

INJURY

CONTRACTOR REPRESENTATIVE

FATALITY

OTHER \_\_\_\_\_

WITNESS

NAME:

HOME ADDRESS:

CITY:

STATE:

WORK PHONE:

TOTAL OFFSHORE EXPERIENCE:

YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

CITY:

STATE:

ZIP CODE:

# INJURY/FATALITY/WITNESS ATTACHMENT

OPERATOR REPRESENTATIVE

INJURY

CONTRACTOR REPRESENTATIVE

FATALITY

OTHER \_\_\_\_\_

WITNESS

NAME :

HOME ADDRESS :

CITY :

STATE :

WORK PHONE :

TOTAL OFFSHORE EXPERIENCE :

YEARS

EMPLOYED BY :

BUSINESS ADDRESS :

CITY :

STATE :

ZIP CODE :

