

**SUMMARY REPORT**

**OF**

**FIRE LINE INJURIES**

**OF**

**1 FIRE CAPTAIN  
1 FIRE APPARATUS ENGINEER  
2 FIREFIGHTER 1s**

**"OLD TOPANGA FIRE"**

**LAC 158556**

**CDF# BDU 68436**

**FIRE# 938**

**REGION III**

**CALIFORNIA DEPARTMENT OF FOI  
AND FIRE PROTECTION**

**NOVEMBER 2, 1993**

*Karen,  
These are the three  
incidents you asked about.*

**SUMMARY**

At approximately 1130 hours, November 2, 1993, a major brush fire occurred in the Malibu area of Los Angeles County. At roughly 1500 hours, CDF Engine 2179 was assaulted by heat and smoke from an uphill run of fire. The members of the crew suffered burns and smoke inhalation as they were forced to abandon their positions and seek refuge. The four member engine company used various means to seek refuge from the fire including their fire engine, a residence, and fire shelters. The Fire Captain received serious burns to his back, nose, and elbows. The FAE and one Firefighter received minor burns to the face. One Firefighter suffered smoke inhalation. The Model 12 engine was destroyed when airborne embers ignited a pile of "out-of-county" bags stowed on the build-up of the engine.

**FIRE LINE CONDITIONS**

**FUEL:**

**Type:** The area around the accident site was a nearly continuous cover of medium to heavy brush. Grass was present as available fuel, but not continuous.

The area directly around the structure and driveway had been cleared of most flammable vegetation. Ornamental shrubbery and a few scattered pine trees were within 30 feet of the house.

**Loading:** Fuel loading was estimated to be 25-40 tons/acre.

**Ratio:** The live-to-dead fuel ratio was estimated to be 75-80% live fuel.

**TOPOGRAPHY:**

**Terrain:** The area in which the fire developed is a well defined, north-south oriented bowl-like drainage called Carbon Canyon.

**Elevation:** Elevations in the area directly adjacent (north and west) to the fire accident site ranged from 1200 to 1300 feet.

**Aspect:** Slopes face all aspects in the canyon, however the area near the accident site was generally a west facing slope.

**Slope:** The area in and around the accident site had slopes between 30 and 50%.

**WEATHER:**

Weather observations taken a 1/4 mile north of the accident site at approximately 1643 hours on November 2, 1993, were as follows:

Dry bulb temperature: 79 degrees F.

Wet bulb temperature: 52 degrees F.

Relative humidity: 10 percent

Wind speed and direction: 10-15 mph North (from the north)

Estimates for dead fuel moistures ranged from 4 to 6%

**FIRE BEHAVIOR:**

At the time of the accident, the fire was approximately 8,000 acres and was being pushed by Santa Ana winds. In Carbon Canyon, the fire had been wind driven to a point below E2179's position. The fire had burned into a chimney which was sheltered from the wind. The combination of sheltering and pre-heating caused the fire to race uphill in the chimney.

Based on burn indicators, victim's statements and physical evidence, it seems likely winds were between 15 and 20 mph which produced flame lengths of 30 feet.

**SEQUENCE OF EVENTS**

On November 2, at approximately 1400 hours, Engine 2179, an element of ST 9251C, was assigned to structure protection duty on the Old Topanga Fire in Los Angeles County. E2179 backed down a driveway

to a position that facilitated an immediate escape. One 100' length of 1-1/2" hose was laid for an engine protection line. A 300' 1-1/2" was laid for structure protection. The engine motor was left running and the vehicle was unchocked.

The FAE was approximately 150 yards below E2179 checking out another structure. One FF was positioned at the nozzle of the structure protection line, the FC and other FF was positioned approximately 30 feet to the rear of E2179 with the engine protection line.

The fire had burned its way into a wind-protected chimney which allowed heat and smoke to be channeled uphill. The FAE saw the fire advancing and retreated to the residence. Reaching the west end of the residence, he joined the FF on the structure protection hose. The hose ruptured and the FAE ran into the house. The FF ran to the east end of the house and deployed his shelter. Both of them received first degree burns on their faces and suffered smoke inhalation.

Heat and smoke reached the FC and FF at the rear of the engine. They abandoned the hoseline and ran to the engine. They were showered with firebrands and extreme heat and smoke. The FF followed the FC to the right side of the engine and entered the cab. The FC ran around the front of the engine and attempted to enter the cab through the driver's door. The driver's door did not open and he immediately ran back around the front of the engine and entered the cab through the right front door. At some point, the engine protection hoseline ruptured. The FC opened a fire shelter and pressed it against the windows as a shield against the radiant heat. He then told the FF he thought his back had been burned.

The FAE and FF exited the house through the garage door and met the FC and other FF in the driveway. The FC had opened another shelter and had it draped over himself to shield against the heat and flying embers. The four returned to the garage where they poured water on the FC's back and shoulders and radioed for assistance.

A small fire was observed in the "out-of-county" bags which had been stowed on the deck of the build-up behind the cab. During the "firestorm" both hoses had ruptured. The pump was running and it only took a few short minutes to empty the water tank on E2179. They tried several times to put the fire out in the out-of-county bags. They used fire extinguishers, a water cooler, and buckets unsuccessfully. By this time the fire had extended into the cab.

Assistance arrived and extinguished the fire in the engine and an attic fire in the structure. An unidentified L.A. County Battalion Chief arranged transportation and L.A. County Fire Air Squad 9 airlifted the FC and FAE to the Sherman Oaks Burn Center. The L.A. County Incident Safety Officer arrived at the scene and determined that one FF should be given medical attention also and

arranged transportation to the Sherman Oaks Burn Center via L. A. County Sheriff's Air Rescue 5. Later in the day, the other FF became nauseous and began to exhibit symptoms of respiratory irritation. He was transported by ground ambulance to Westlake Hospital and later transported to the Sherman Oaks Burn Center to rejoin his crew.