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National Park Service  
U.S. Department of the Interior



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# NPS 72 Hour Report Holmes Investigation

## Sequoia & Kings Canyon National Parks

October 5, 2004

Pacific West Region  
National Park Service

*This report is intended to inform interested parties, for a safety and training tool, and as an aid to preventing future occurrences. Because it is published on a short time frame, the information contained herein is subject to revision as further investigation is conducted and additional information is developed.*

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## **SUMMARY**

On Saturday, October 2, 2004, at approximately 1250 hours, a burning piece from the top of a snag fell and struck wildland firefighter Daniel Holmes, age 26, on top of the head, while he was in the process of assessing this tree for removal. Upon impact, he was rendered unconscious, and did not regain consciousness. Other crew members moved the injured firefighter to a safe location and provided medical attention; he was then transported by park ambulance to a helicopter landing location (helispot) for transport to Fresno, CA. Resuscitation efforts began immediately but were not successful. He was pronounced dead at 1358 hours.

This accident occurred on the Grant West Prescribed Burn, located in the Grant Grove area of Kings Canyon National Park. Daniel was a member of the Arrowhead Interagency Hotshot Crew, based at Sequoia and Kings Canyon National Parks.

## **SEQUENCE OF EVENTS**

On the morning of October 2, all crew members gathered at Grant Grove for an operational and safety briefing at 9:00 a.m. Safe operation around snags was stressed along with other messages. The burn boss and the burn boss trainee determined that operations would begin with a five acre test burn. This would allow them to see the smoke dispersal patterns and confirm with the air quality authority that it was an appropriate day to continue the project.

Ignitions began at 1042 hours at the far eastern edge of the burn unit and moved slowly through the test area. The burn boss and burn boss trainee determined that smoke dispersal was adequate to continue the burn. They had completed and were preparing to sign the “go, no-go” checklist when the accident occurred.

The dead snag referred to in this report had been identified in the days before the burn. At that time, the crew put a fire line around the base to keep fire away from the base of the tree (a white fir approximately 115 feet in height and 58 inches in diameter). During the test burn, a flying ember set fire to the top of the snag.

The burning snag threatened to spot and spread fire beyond the control lines. Therefore, the decision was made to cut the tree down. Several crew members were assessing how to saw the tree when a section fell from the top portion of the tree. Observers saw the top of the tree break and made a warning call. This tree section hit one of the firefighters and had sufficient mass and velocity to crack his helmet and cause head trauma. Nearby crew ran immediately to his aid.

The park ambulance was called from Grant's Grove at 1251 and arrived on scene at 1256. A helicopter ambulance from Fresno, California was requested at 1257 for the injured crew member. He was moved to the park ambulance for transportation to the helispot. Before reaching the helispot he went into arrest; resuscitation procedures were administered. The helicopter ambulance landed and its medical personnel moved to the park ambulance to assess the situation. He was declared dead by Skyline personnel at 1358.

## **FUEL MODELS**

On the site of the Grant West I prescribed burn, the fuels are characterized as:

36% - Fuel Model 8 – closed canopy stands of short-needle conifers, including white fir, incense cedar, and some giant sequoia with some scattered heavy fuel concentrations. Understory species include dogwood, manzanita, and white thorn.

64% - Mixture of Fuel Model 10 (heavy timber litter) and Custom Fuel Model 14 (includes larger limb wood that creates large loads of dead material on the forest floor, as well as low elevation short needle conifers including white fir and giant sequoia). Understory species include bear clover, ribes, manzanita, and white thorn.

## **TOPOGRAPHY**

Grant West is variably sloped throughout with small meadow areas occurring in the flatter portions. Elevation ranges from 5900 to 6691 feet.

## **ACCIDENT SCENE**

The control line in this area is characterized as following a saddle in an east-west direction. The subject tree is located on the saddle adjacent to the control line.

## **WEATHER**

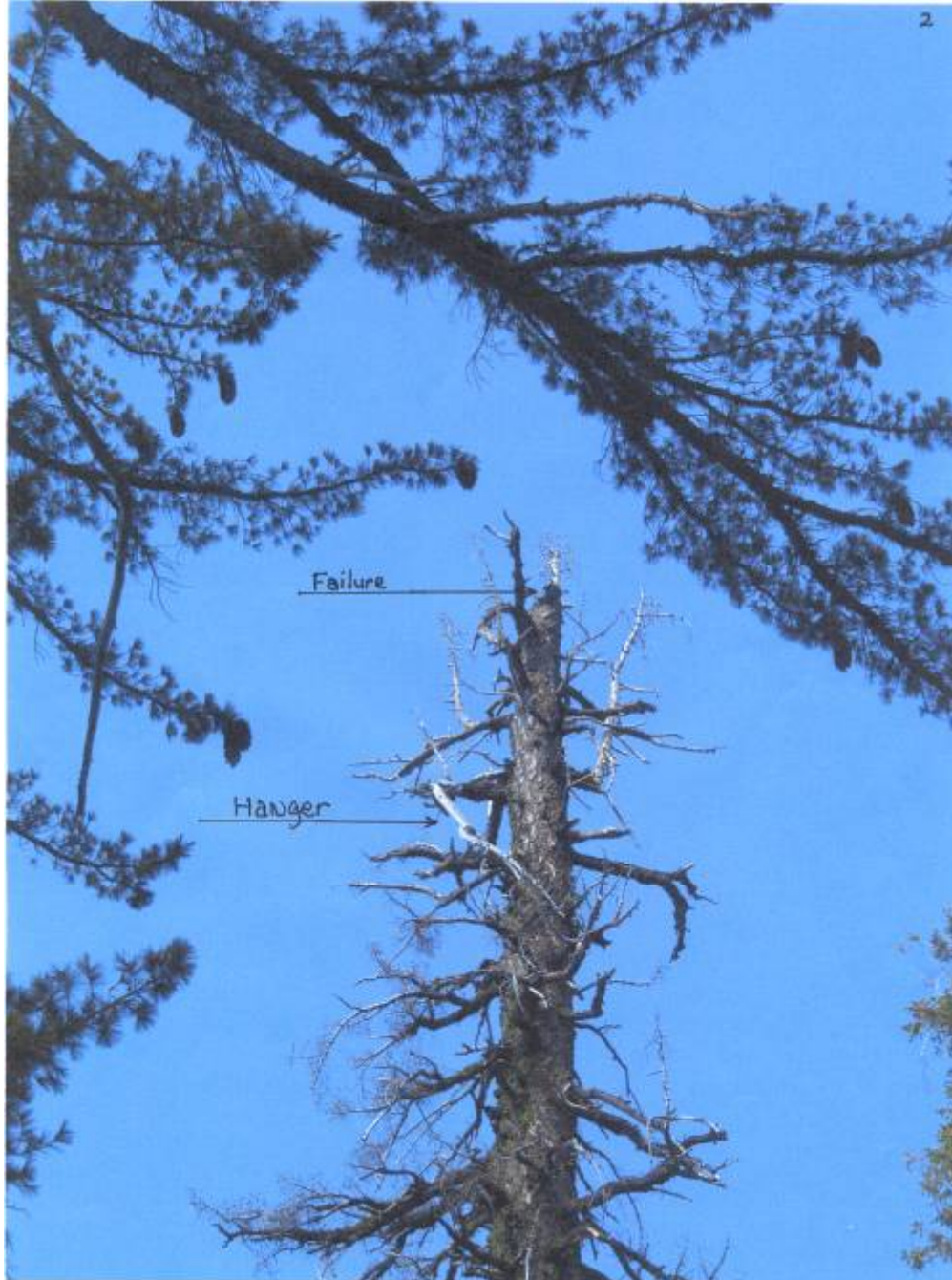
Temperature: 66-68 F

Relative Humidity: 25-30 %

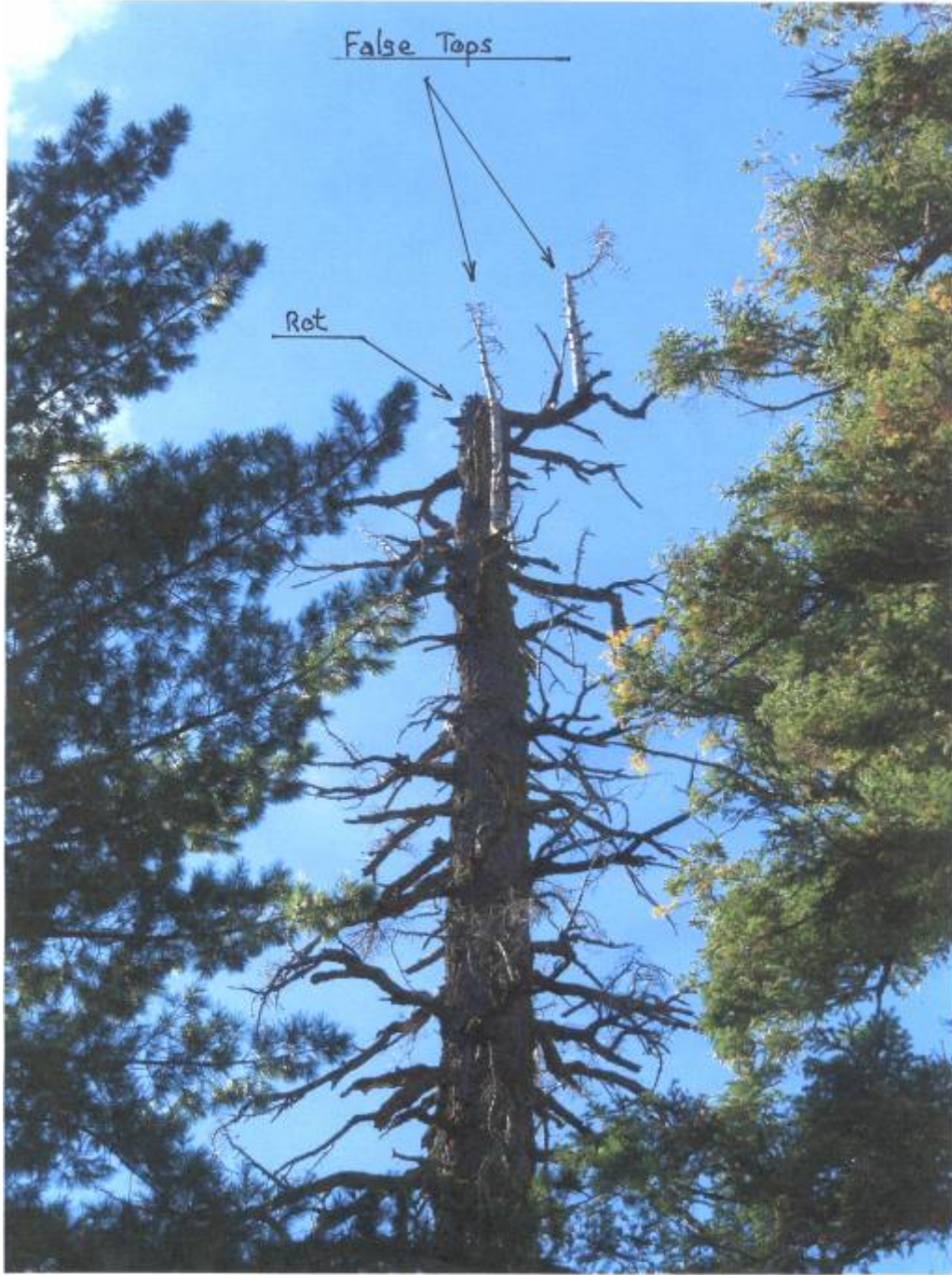
Wind: Light and variable. Mostly upslope 3-6 mph SW

No critical fire weather patterns (thunderstorms, frontal passage, etc.) were occurring at the time of ignition.

**FIGURE 1: Upper portion of subject tree, post accident**

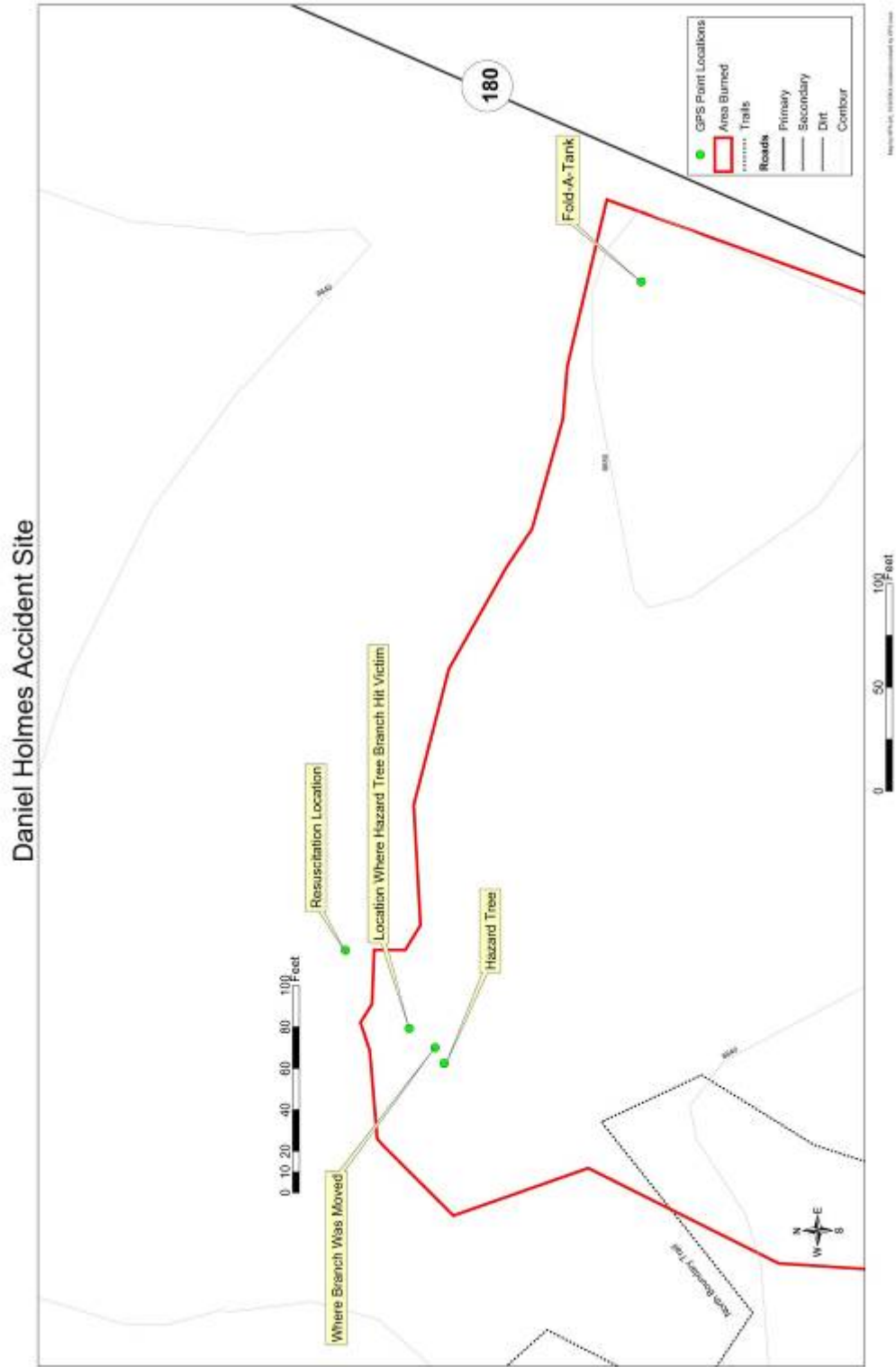


**FIGURE 2: Upper portion of subject tree, post**





**FIGURE 3: Accident Site**



**FIGURE 4**

