

# GREEN SHEET

**California Department of Forestry and Fire Protection  
(CAL FIRE)**

## **Informational Summary Report of Serious CAL FIRE Injuries, Illnesses, Accidents and Near Serious Accidents**



**Tree Felling Accident**

**August 10, 2015**

**Humboldt Complex**

**15-CA-HUU-005606**

**California Northern Region**

A Board of Review has not approved this Informational Summary Report. It is intended as a safety and training tool, an aid to preventing future occurrences, and to inform interested parties. 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.

**Lookout**

**Communications**

**Escape Routes**

**Safety Zones**

## SUMMARY

On August 10, 2015, at approximately 2139 hours, a CAL FIRE inmate fire crew member was struck by a felled tree while constructing fireline on the Pine Incident (part of the Humboldt Complex) in Humboldt County. The inmate fire crew member suffered contusions to the neck and upper back, and a concussion.

## CONDITIONS

The incident occurred in a remote area of southeastern area of Humboldt County. The area was four miles east of the community of Blocksburg near N 40 16.550', W 123 32.346'.

### Topography

The accident occurred in the upper end of North Dobbyn Creek on a 75% slope.

### Fuels

Fuels at the accident scene were dense scrub oak and madrone with heavy leaf litter.

### Weather

Weather extrapolated for the site at 2200 (based on Ruth Lake and Alder Point Remote Automated Weather Stations)

Temperature: 66 ° Fahrenheit

Relative Humidity: 52%

Winds: Northeast at 1-2 miles per hour with gusts to four miles per hour

Skies: Smoke covered

### Fire Behavior

The inmate fire crews were building indirect fireline at the time of the accident. Fire behavior was a surface fire in forest/leaf litter, backing downhill approximately 0.25 miles away, with flame heights less than one foot.

## SEQUENCE OF EVENTS

The CAL FIRE inmate fire crew strike team was assigned to a 24 hour operational period which began on August 10, 2015, at 0700 hours. The fire crews arrived at their assigned division at approximately 1040 hours. The fire captains received their division briefing, scouted the line and gave a briefing to their crews. The briefing included the entire "Hazard Tree Analysis" from the incident action plan. At 1240 hours the fire crews began constructing indirect line downhill in heavy fuels on very steep terrain. At 1730 hours the determination was made to move the indirect line further east. The fire crews hiked back out to clearing, had dinner, and began constructing line in the new location at 2030 hours.

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The strike team was in a “super crew” configuration (four sawyers working simultaneously) while a fire captain supervised the saw operations. Just after 2100 hours, the crew strike team leader (STL1) witnessed a near serious accident when branches of a felled tree nearly struck another inmate fire crew member. STL1 stopped the operation and told the sawyers when falling trees they need to slow down, yell, “Back Cut Tree,” and give the direction of the intended fall. One and a half hours later, an inmate fire crew member (SAW2), fell a tree parallel to the fireline instead of the intended lay, perpendicular to the fireline, and struck another inmate fire crew member (SAW1). The tree struck SAW1 on the head. The tree was six inches in diameter at breast height (DBH), and 18 feet tall. Examination of the stump revealed the holding wood had been cut all the way through. In addition, no one heard a, “Back Cut,” announcement before the tree was felled. SAW2 was found to be trained and certified as an inmate B-Faller.

The fire crew captain and STL1 assessed SAW1’s injuries and observed SAW1 was alert and oriented to only person, CAOx1. SAW1 had a chief complaint of jaw, head, neck, back, chest and abdominal pain. The STL1 notified the division supervisor explaining they required a medivac and assistance from the nearest engine. A hoist medivac was attempted but proved impossible due to visibility (smoke) at the scene.

The engine company rendered basic life support care, including full spinal precautions. SAW1 was carried by stokes basket to an open area where a fireline medic assumed patient care. SAW1 was transported in a pickup truck to an advanced life support (ALS) ground ambulance waiting at the nearest paved road. The ambulance transported SAW1 to a landing zone, and then an ALS helicopter transported SAW1 to the nearest trauma center.

## **INJURIES/DAMAGES**

SAW1 was evaluated at the trauma center, and then transferred the next morning to the California Correctional Center Hospital for further evaluation and care. SAW1 was diagnosed and treated for a concussion and contusions to the left upper back and neck.

## **SAFETY ISSUES FOR REVIEW AND LESSONS LEARNED**

- SAW1 was wearing full wildland PPE
- Establish cutting area controls and ensure all personnel are outside the two and one-half times the height of the tree being felled.
- Ensure all trees being felled are analyzed for lean and lay. When the holding wood is cut, the tree will follow the lean.
- Use proper felling cuts, even on small trees
- Remember to shout out, “Back Cut,” and communicate the direction of intended fall

and ensure the lay is clear of all personnel prior to the back cut being started.

- Review tree felling procedures with assigned personnel in a Tailgate Safety Briefing
- Review and maintain LCES
- Beware of complacency due to repetitious activity, extended deployments, and successive extended fire seasons.
- Maintain situational awareness when working on or near saw operations
- Follow standard operating procedures for felling per Training Handbook 4000, section 4031.

## PHOTOS/SITE DIAGRAMS/MAPS

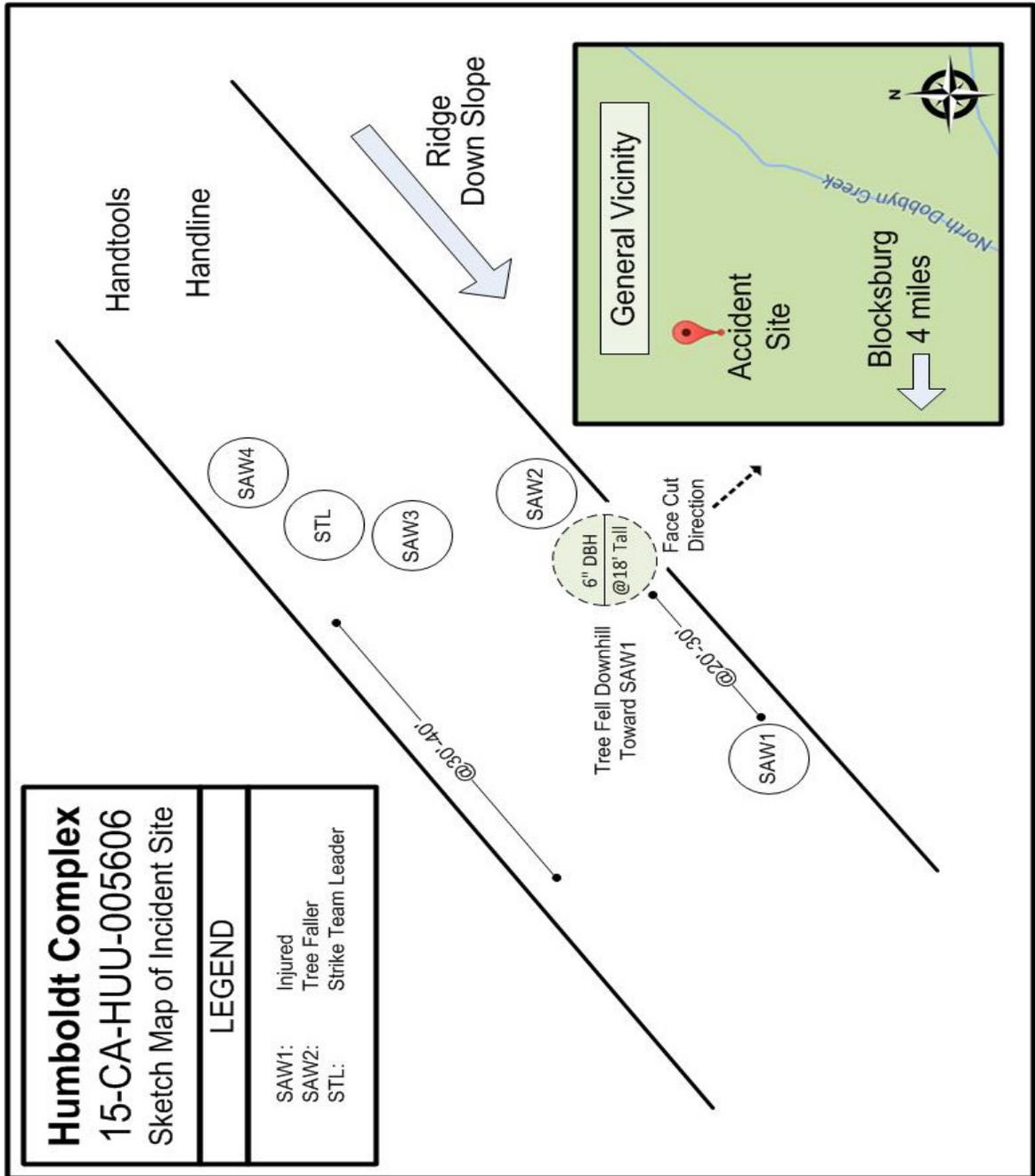


Figure 1. Sketch of accident scene.

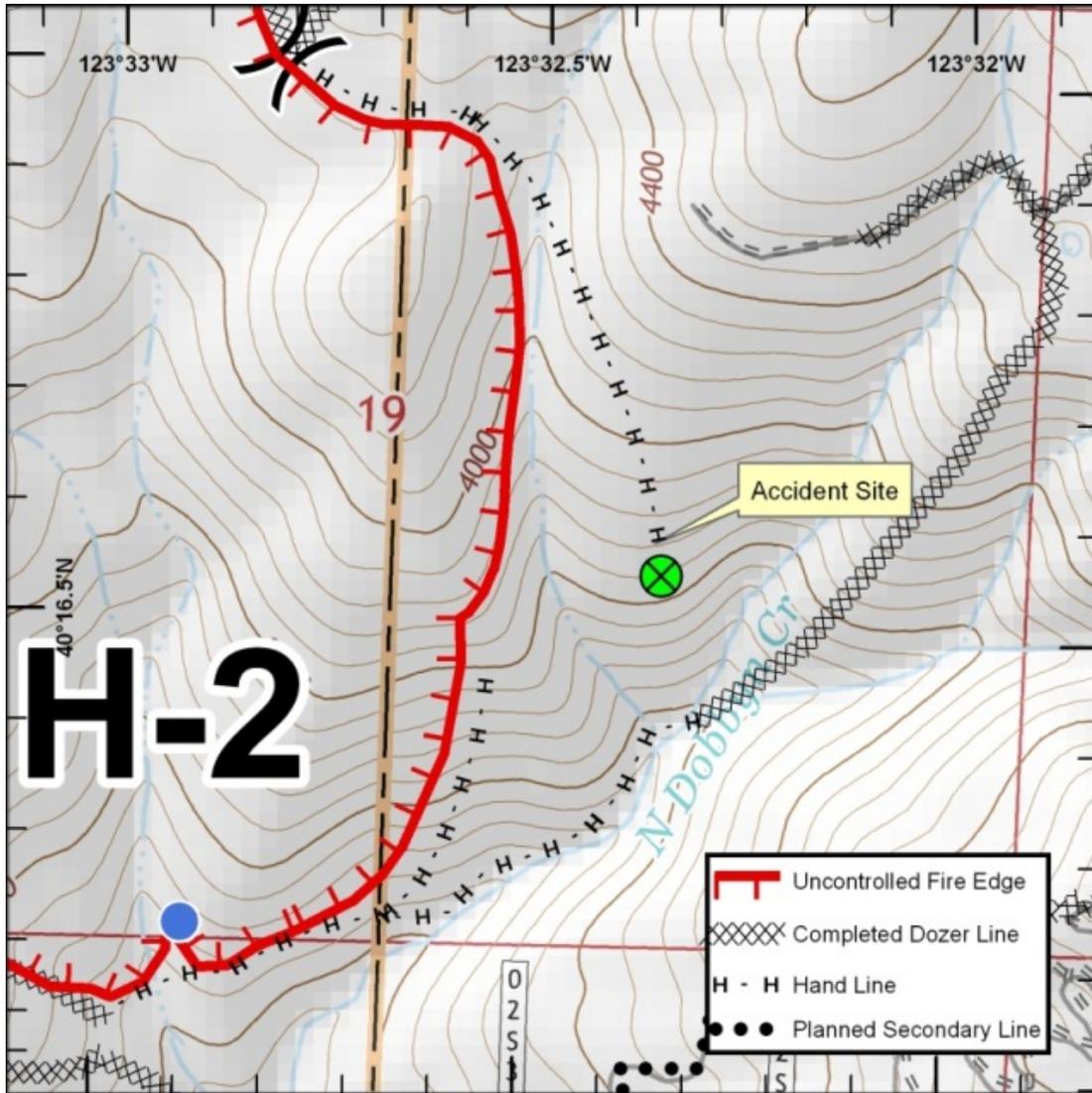


Figure 2. Map of accident site.



Figure 3. Side view of the stump (no holding wood)



Figure 4. Top view of the stump (no holding wood)