

# **GREEN SHEET**

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

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



#### **Inmate Serious Injury / Tree Felling Incident**

**December 4, 2009**

**Highway 89  
09-CA-LMU-005999**

**09-CA-CNR-000064**

#### **California Northern Region**

A Board of Review has not approved this 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.

Lookouts

Communications

Escape Routes

Safety Zones

## SUMMARY

On Friday, December 4, 2009, an inmate firefighter from Intermountain Crew #3 was struck by a falling tree during a roadside fuel reduction project along State Highway 89 in Siskiyou County. The inmate sustained a broken leg and a broken finger.

## CONDITIONS

**Topography:** Flat with a slight 0-3% grade.

**Fuel Type:** The incident occurred in fuel model 9 with an over story of pine and fir trees and associated ground litter.

**Weather Observations:** December 4, 2009, 1300 hours from Ash Creek RAWS Station.

**Temperature:** 49 Degrees Fahrenheit  
**RH:** 29%  
**Winds:** 4 MPH NW, gusts to 8 MPH

**Rainfall:** December 4, 2009 precipitation amounts reported by the Ash Creek RAWS showed 0.00 inches of rain within the previous 24 hours.

**Equipment:** Husqvarna 372 XP Chainsaw with 24" bar.

## SEQUENCE OF EVENTS

On January 14, 2009, the Lassen Modoc Plumas Unit entered into an agreement to clear vegetation and small trees along Highway 89 from Dead Horse Summit to Bartle in Siskiyou County. Crew #3 from Intermountain Conservation Camp in Bieber began the project on December 1, 2009. An IIPP-2 Job Hazard Analysis/Project Work Plan and IIPP-6 Employee Training Sign-up Sheet were completed on the first day of the project.

On Friday, December 4, 2009, Crew #3 with 14 inmates and a Fire Captain B arrived at the project site between 10:00 and 10:15 a.m. The Fire Captain B assigned tasks to his crew members and then monitored their progress throughout the morning, breaking for lunch at noon. The crew resumed their tasks at 12:45 p.m.

The Fire Captain B directed the crew's two sawyers to remove certain trees in the area of the accident and to have the trees fall into or towards the "slash pile" that would eventually be burned. The other crew members were directed to gather and pile vegetation.

At about 12:55 p.m., Sawyer #2 turned his attention to a 6" dbh (diameter at breast height), 46' 8" Sugar Pine. Falling this tree was complicated by two large standing trees and two downed logs lying adjacent to it. Sawyer #1 was near the brush pile refueling his saw. The Puller for

Sawyer #2 was standing 5' from the tree. Other crew members were in the area between 20 and 74 feet from this tree. The Fire Captain B was standing 40' from the tree near the slash pile.

Puller #2 stated that before cutting began, he yelled for everyone in the falling area to get out of the way. Sawyer #2 first removed a 1" diameter sapling that was growing near the trunk of the 6" dbh tree. Once that was out of his way, Sawyer #2 then initiated a single diagonal cut (also referred to as a "slab", "salami", "suicide" or "slashing" cut) about 4' above the ground. The angle of the cut was facing the slash pile.

As Sawyer #2 completed his cut, the tree slipped from its stump, dropped perpendicularly, hit the ground, then twisted and fell 30° to the right of the intended direction. Some crew members reported hearing the word "tree" while others reported hearing the victim's last name shouted as the tree fell. Victim #1 attempted to evacuate the area to avoid the falling tree.

Victim #1 was unable to fully avoid the falling tree which glanced off his helmet, knocking him to the ground. Victim #1 suffered serious injuries.

The Fire Captain B immediately initiated a medical response as crew members removed debris blocking access to Victim #1.

Victim #1 was transported by ambulance to Mercy Medical Center Mount Shasta.

## **INJURIES/DAMAGES**

The inmate crew member sustained a broken leg and a broken finger.

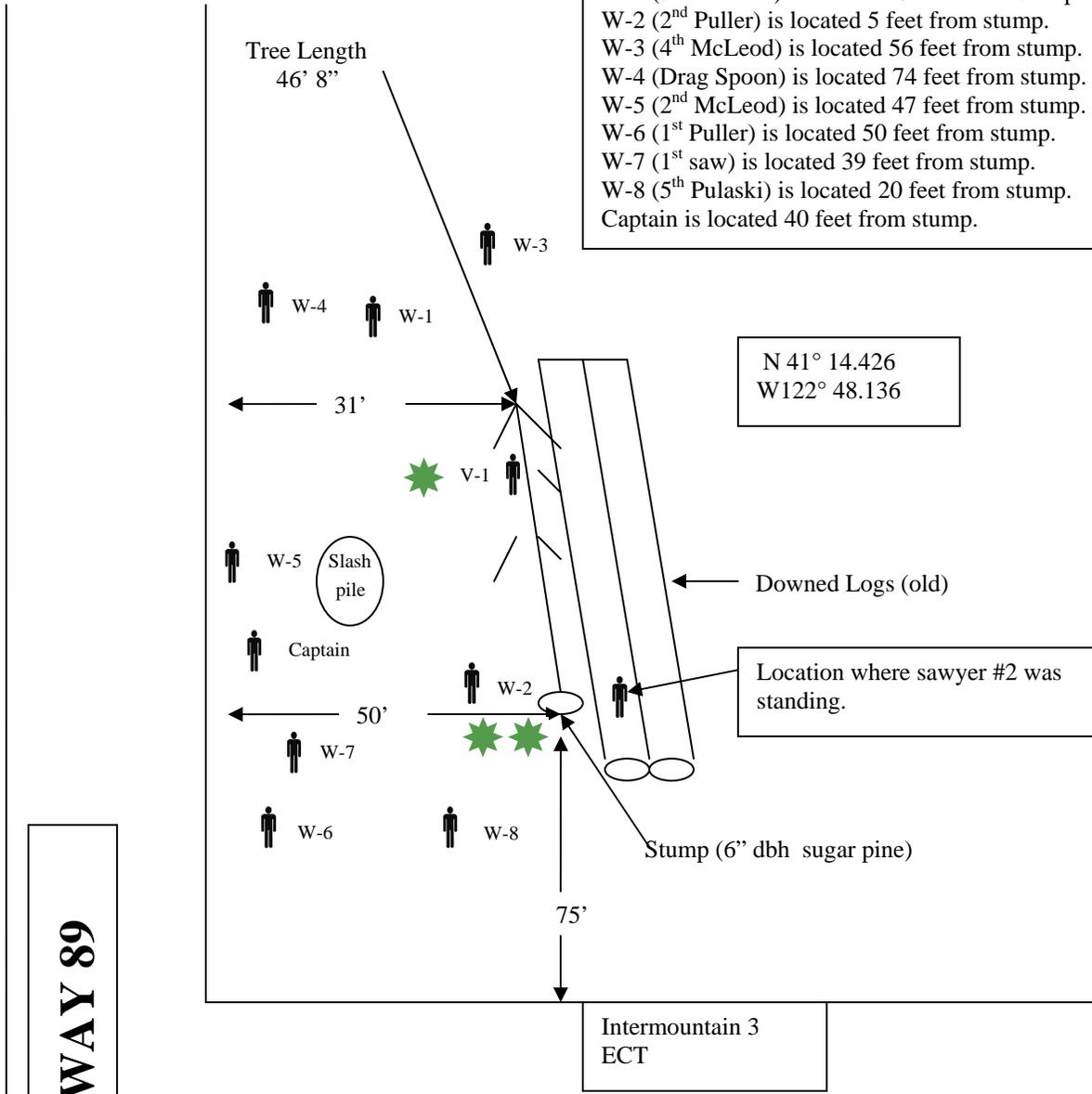
## **SAFETY ISSUES FOR REVIEW**

- Review tree felling procedures with all crew members in a pre-work safety briefing.
- Maintain situational awareness when involved with all saw operations, particularly tree felling operations.
- - Provide adequate measures to keep personnel at a safe distance from felling operations (2 times tree height).
- - Use approved felling methods for each fuel type/size.
- - Follow standard operating procedures for felling per Section 4044.1.1 of the Training Handbook.

# Highway 89 Incident

**CA CNR 000064**  
**CA LMU 005999**

V-1 (3<sup>rd</sup> McLeod) is located 35 feet from stump.  
 W-1 (5<sup>th</sup> McLeod) is located 49 feet from stump.  
 W-2 (2<sup>nd</sup> Puller) is located 5 feet from stump.  
 W-3 (4<sup>th</sup> McLeod) is located 56 feet from stump.  
 W-4 (Drag Spoon) is located 74 feet from stump.  
 W-5 (2<sup>nd</sup> McLeod) is located 47 feet from stump.  
 W-6 (1<sup>st</sup> Puller) is located 50 feet from stump.  
 W-7 (1<sup>st</sup> saw) is located 39 feet from stump.  
 W-8 (5<sup>th</sup> Pulaski) is located 20 feet from stump.  
 Captain is located 40 feet from stump.



**HIGHWAY 89**

Forest Road 42N04

Intermountain 3  
ECT

 Standing trees



Drawn By: Darin Quigley, Safety Officer

Not to Scale