

# **CDF GREEN SHEETS**

## **Investigation Summaries of Serious CDF Injuries, Illnesses, Accidents and Near-miss Incidents**



**CONCOW FIRE  
CA-BTU-10476  
BUTTE RANGER UNIT  
COAST-CASCADE REGION  
SEPTEMBER 19, 2000  
SHELTER DEPLOYMENT**

A Board of Review has not approved this Summary Report. It is intended as an aid in accident prevention, to let interested parties know what happened, and to be used as a safety training tool. To that end it is published and distributed within a short time frame. Information contained within may be subject to revision as further investigation is conducted, and other reports and documents are received.

Lookouts

Communications

Escape Routes

Safety Zones

## **SUMMARY**

On Tuesday, September 19, 2000, at approximately 1515 hours, a CDF engine crew was involved in a burn over situation that developed into a fire shelter deployment. One Firefighter received a minor burn to his left forearm, the other Firefighter suffered from heat exhaustion. During the course of structure protection, a decision was made to increase the safety provided by the escape road by firing the vegetation along both sides of the roadway for approximately 100 yards. After completing their firing operation, the crew realized the route back to their engine was cut off by fire.

## **CONDITIONS**

The incident occurred on Tim Tam Lane, approximately 2 miles west of Highway 70. Tim Tam Lane is a maintained, hard-packed, dirt roadway. The average roadway width is 13 feet. The brush on both sides of the roadway, in the area of the deployment, had an average height of fifteen feet. The grade of the roadway at the deployment is 13 percent, rising from west to east. The roadway was cut mid-slope on a southwest aspect of a minor spur ridge.

The vegetation in the area of the shelter deployment is consistent with a fuel model 4. This is a brush model that is over 6 feet in height and will be the main carrier of the flaming front. The main brush species is manzanita. The overstory is sparsely spaced timber of mixed conifer and oak species.

The weather was hot and dry, temperature 103, relative humidity 16 %. The sky was clear, and wind was 5-10 out of the southwest.

## **SEQUENCE OF EVENTS**

Engine A was attached to Task Force 2 on the Concow incident. The assignment for Task Force 2 was to provide structure protection on Tim Tam Lane. At about 1500 hours, Engine A and Engine B stopped at a mobile home on Tim Tam Lane. Protection lines were extended from Engine B to both sides of the mobile home. A firefighter from Engine A fired out around the mobile home, as directed. The backing fire from that firing operation burned well without extending into the overstory vegetation.

Engine C joined Engine A and Engine B at the mobile home. A decision was made to have the crew of Engine C continue east on Tim Tam Lane and burn out the vegetation along the roadway to create a more secure escape route, if it was needed. The Task Force 2 Leader then directed Engine C to respond further east on Tim Tam Lane to work on a couple of spot fires, and consequently they did not fire out the road.

Lookouts

Communications

Escape Routes

Safety Zones

After Engine C left for their new assignment, the crew of Engine A took their drip torches and advised Engine B's officer that they were going to fire out the roadway for approximately 100 yards. There was no coordination of the firing operation with the Division Supervisor. The officer of Engine A took the lead putting down fire, on the south side of the roadway, approximately every twenty (20) feet. The firefighters burned out the vegetation between these spots. The firefighters only had one torch and no other tools were taken along. The extra firefighter was told to watch the progression of the fire, but was not specifically ordered to act as a lookout.

Approximately 70 yards into the firing operation, the engine officer noticed two small spot fires to the southwest of their position, and that there was fire on the ridge behind the spot fires. The officer also noticed a small spot fire on a knoll approximately 200 yards to the southeast of their position. The firing operation was proceeding well, with fire being carried slowly downhill, in the ground litter. Fire did not extend into the manzanita canopy.

After completing the firing to their objective, approximately 470 feet, the crew turned to go back to the engines. At that time the engine officer realized the main fire had come up behind them and was moving in their direction. The officer ordered the drip torches be put down and the firefighters to start back toward the engines. The fire started to sheet across the roadway from the south cutting off their escape route to the engines. They turned to go in the opposite direction and noticed the fire had extended up the minor drainage, from the pond to their east, and was also sheeting across the roadway.

The officer gave the order to deploy fire shelters. One of the firefighters had difficulty getting the shelter out of the carrying case, and then removing it from the plastic cover. The officer pulled the head and torso of the firefighter into the officer's shelter. The head of the firefighter was in the lap of the officer. The officer was in a sitting position. The second firefighter, who was also in his fire shelter, put his shelter over the first firefighter's legs.

After the fire crossed the roadway from the south side the officer ordered the first firefighter who had trouble deploying to finish the deployment of his shelter. The crew then experienced an increase of heat from the north side of the roadway. During this time air support was requested, but due to the smoke obscured conditions, the water and retardant drops did not reach the sheltered crew.

After the heat from the north side subsided, the crew exited their shelters and walked back to Engine A.

## INJURIES

Two CDF Firefighters were injured. The first firefighter was treated for heat exhaustion, and received intravenous fluid replacement. The second firefighter suffered two, ½ inch diameter, 2<sup>nd</sup> degree burns to the left forearm. Both were released after treatment at Oroville

Lookouts

Communications

Escape Routes

Safety Zones

Medical Center.

## **SAFETY ISSUES FOR REVIEW**

1. Post lookouts whenever working away from an established deployment area or safety zone.
2. Coordination between crews, leaders, and division supervisors has to be established prior to firing operations.
3. Crewmembers not actively putting down fire in a firing operation need to have a fire-fighting tool in their possession.
4. Be aware of dynamic fire behavior in the area of operation, and if the main fire is not seen contact someone who can see the fire, or post a lookout
5. Be aware of the surrounding topography and the effect of topography on fire behavior.
6. Identify the risk/benefit of firing out the downslope side of a midslope roadway, while moving in an uphill direction.

Lookouts

Communications

Escape Routes

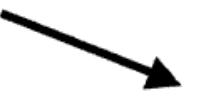
Safety Zones

---

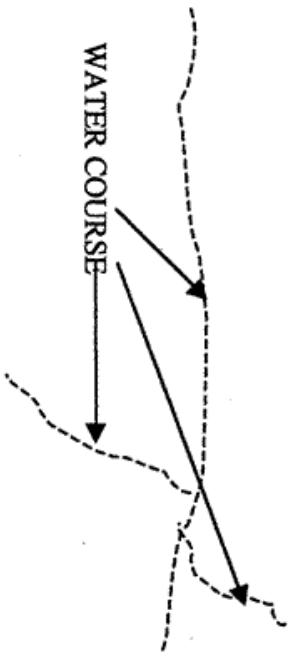
OVERGROWN ROAD

1. 470 FEET FROM DEPLOYMENT SITE TO ENG A & ENG B
2. 1,040 FEET FROM THE DEPLOYMENT SITE TO THE ROCK PILE

N



WATER COURSE



HIGHWAY 70

SHELTER  
DEPLOYMENT

7% SLOPE

0-3% SLOPE

10% SLOPE

13% SLOPE

0-3% SLOPE



ENG A  
ENG B

MOBILE HOME

TIM TAM LANE

ROCK  
PILE

PINE TREE

200 FEET

40 FEET

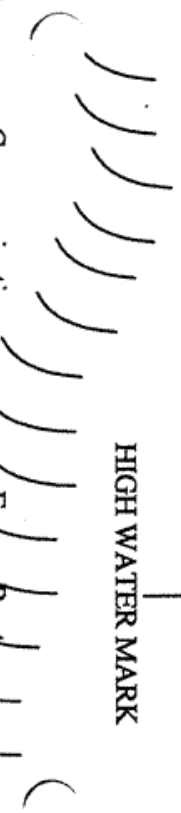
5% SLOPE

WATER DITCH

WATER COURSE

POND

HIGH WATER MARK



NOT TO SCALE