

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



GREEN SHEET

Engine Burnover

October 22, 2018

Brushy Mountain VMP

18-CA-MEU-012111

California Northern Region

SUMMARY

On October 22, 2018, a CAL FIRE fire engine staffed with one Fire Apparatus Engineer and two firefighters were participating in a Vegetation Management Program (VMP) hazardous fuel reduction burn near Covelo, CA. While the crew was away from the engine assisting with containment of several spot fires, the parked, unattended engine was impacted by spot fires burning outside of containment lines, and sustained major damage. No personnel were injured during the incident.

CONDITIONS

Weather (On site at 3:40 PM):

Temperature: 69° Fahrenheit
Relative Humidity: 21%
Winds: SW 1-2 MPH, Gusts to 4
Visibility: Clear – Unlimited

Fuel Type: Green leaf manzanita understory, black oak and grey pine over story

Topography: <10% slope

Fire Behavior: Low to moderate intensity, some spotting, with slope

Make/Model of Equipment: 2010 International 7400 Model 34

SEQUENCE OF EVENTS

On October 22, 2018, a CAL FIRE engine (E1) was assigned to the vegetation management project (VMP) on Brushy Mountain, south of Highway 162 and southwest of Outlet Creek in Mendocino County, California.

At 10:00 AM, the crew members from E1, which included one Fire Apparatus Engineer (FAE1), and two Fire Fighter I's (FF1 & FF2), attended the operational briefing approximately one mile south of Unit 8 of the Brushy Mountain VMP.

A Battalion Chief (BC1) was assigned as the incident commander (IC). A helitack crew (H1 Crew 1) was assigned to firing operations. The two helitack Fire Captains (H1 FC1 & H1 FC2) oversaw firing operations. The holding crew consisted of five CAL FIRE engines, one CAL FIRE Dozer (DOZ1), and a CAL FIRE inmate hand crew (CRW1). The overall holding operations were led by a Fire Captain (FC3) with several years of wildland firefighting and firing experience. A Forester I was assigned as the Incident Safety Officer (SOFR). A Forester III was assigned as the Resource Adviser (RA).

During the line briefing, the spot weather forecast was reviewed and the constraints for terminating burning operations were reviewed. The IC instructed E1 to take weather readings and broadcast the findings over the radio every hour starting at 12:00 PM. The last fire weather reading was completed at 3:40 PM. Between 10:30 AM and 11:30 AM, the crew from E1 was assigned to walk their section of line to plan their assigned holding operations.

At approximately 11:40 AM, a test burn was conducted. After a successful test burn, the IC was given permission to commence with firing operations. At approximately 12:00 PM, the firing operations began on the northwest corner of Unit 8 of the Brushy Mountain VMP.

Between 2:00 PM and 3:00 PM, three spot fires were reported. The first two spot fires were quickly contained. The crew from E1 was one of three engine crews requested to assist with the third spot fire with DOZ1, H1, and CRW1.

FAE1 parked E1, below the dozer line, and walked to the third spot fire. E1 would lead containment efforts.

From the location of the third spot fire, FAE1 had no line of sight of E1. Directly to the south of E1, the terrain gently sloped away from the engine and was covered in grass and scattered oak trees within the Unit 8 burn plot. The third spot fire was contained at 0.4 acres.

E1 was parked in a location outside of Unit 8. To the north, the slope continued upward at a gradual slope, transitioning to grey pine and black oak trees, with scattered manzanita. The single-blade wide dozer line (approximately 8') was in place prior to the VMP burn.

At approximately 3:50 PM, a fourth spot fire near the southeast corner of Unit 8 was reported by line personnel. The crew from E1 was assigned to contain this new spot fire, along with 3 additional engines, DOZ1, and H1.

At approximately 4:00 PM, FAE1 heard what he thought was an explosion originating from E1's location. FAE1 proceeded to E1's location and found the rear tires and compartments of E1 burning. FAE1 attempted to start E1 to engage the pump and extinguish the fire, however, the pump would not start.

FAE1 updated the IC on the radio. Additional resources were assigned to contain the additional spot fires and burning operations were suspended.

The IC advised the Emergency Command Center (ECC) of the engine burning and requested an Air Attack (AA1) and two airtankers to assist with the containment efforts of the spot fire behind E1.

Resources contained the spot fire at approximately two acres. E1 was consumed by fire, resulting in a total loss of the engine.

INJURIES/DAMAGES

No injuries to personnel. The CAL FIRE engine was determined to be a total loss.

SAFETY ISSUES FOR REVIEW

Standard Fire Orders:

- Base all actions on current and expected fire behavior.

Watch Out Situations:

- Wind increases and/or changes direction.
- Getting frequent spot fires across the line.
- Post lookouts in hazardous locations.

Hazardous Fuels:

- Drought-stricken fuels burning with greater intensity and their ignition may not be predictable.

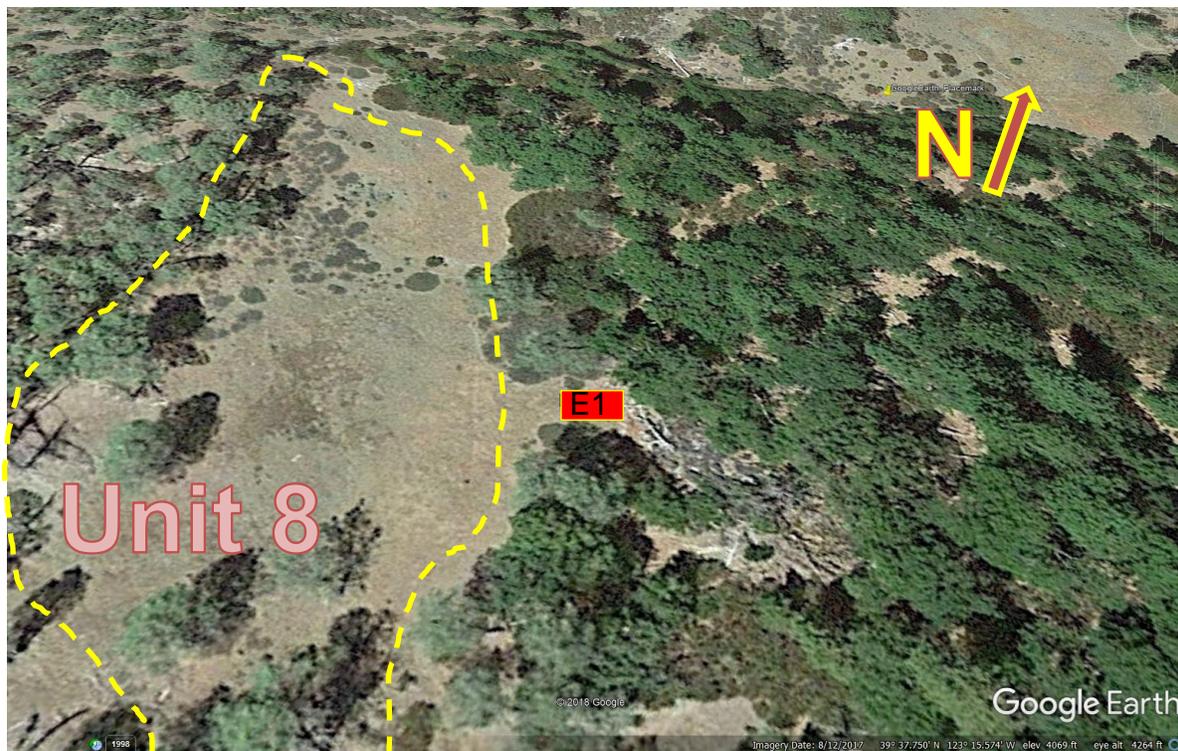
Common Denominators of Fire Behavior on Tragedy Fires

- In relatively light fuels, such as grass, herbs, and light brush.

INCIDENTAL ISSUES/LESSONS LEARNED

- Prescribed fires have the same hazards as wildland fires.
- No fire is routine.
- Consider topographical features and fuels, no matter how minor.
- Small changes in slope, greatly increase rates of spread.
- Anticipate changes in fire behavior and/or direction when placing vehicles in potentially hazardous locations.
- Situational awareness by personnel should be maintained at all times.
- Ensure all personnel properly use the applicable PPE.
- Take appropriate precautions to protect mobile equipment when parked in potentially flammable fuels.

PHOTOS/SITE DIAGRAMS/MAPS



Dashed yellow line is VMP boundary line. Red box is E1.

