

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



# GREEN SHEET

## Fire Shelter Deployment

August 30, 2017

Pleasant

17-CA-NEU-022877

17-CA-NEU-022934

California Northern Region

## SUMMARY

On August 30, 2017, at approximately 1532 hours, CAL FIRE and local resources were dispatched to a vegetation fire in Nevada County, California, south of the community of North San Juan. The initial dispatch included two private dozers (Dozer E-7, Dozer E-8). At approximately 1750 hours, while building dozer line on the left flank, Operator E-7 deployed a fire shelter. The aircraft on the Pleasant Fire were able to lead suppression personnel to the deployment site and Operator E-7. Following a medical assessment, Operator E-7 was walked to a nearby residence. Operator E-7 was ground transported to a local hospital with a chief complaint of coughing and dizziness. Operator E-7 was treated and released the same day.

## CONDITIONS

The slope leading up to the fire shelter deployment site varied from 31% to 37%. The fuels surrounding the fire shelter deployment site were comprised of Fuel Model 122 (GS2/Grass-Shrub), Fuel Model 147 (SH7/Shrub), Fuel Model 165 (TU5/Timber-Understory), and Fuel Model 186 (TL6/Timber Litter). The fire shelter deployment site was a flat graded area adjacent to a greenhouse.

**Weather:**

Temperature: 101° Fahrenheit

Relative Humidity: 19%

Winds: WSW 6 mph, gusts to 10 mph

Visibility: Clear

**Fuel Type:** Annual grasses, brush and timber with leaf and timber litter understory

**Road Conditions:** Dirt, graded

**Topography:** Saddle

**Fire Behavior:** Dangerous ROS with short range spotting, isolated torching and crowning

**Make/Model of Equipment:** Caterpillar D6N XL Dozer

## SEQUENCE OF EVENTS

On August 30, 2017, at approximately 1532 hours, the Grass Valley Emergency Command Center started receiving multiple reports of a vegetation fire in the area of Highway 49 and Pleasant Valley Road in Nevada County, California. As part of the initial dispatch, a CAL FIRE Dozer Boss (HEQB1) and two private dozers, Dozer E-7 and Dozer E-8, responded to the fire.

While resources were en route, a CAL FIRE Airtanker responding to a separate incident came upon the Pleasant Fire and reported the fire as one-quarter of an acre burning in heavy fuels with crowning and structures threatened. Prior to departing, the Airtanker made two retardant drops on the fire.

At approximately 1605 hours, HEQB1, Dozer E-7 and Dozer E-8 arrived at scene and staged on Highway 49. HEQB1 noticed the fire was burning on both sides of the highway. At approximately 1621 hours, after scouting the area, HEQB1 advised the Incident Commander (IC) that the left flank was more accessible than the right flank.

At approximately 1630 hours, HEQB1 briefed the private dozer operators, Operator E-7 and Operator E-8, with their assignments. Operator E-8 was familiar with a road that could access the right flank of the fire. Based on Operator E-8's knowledge of the area and current fire conditions, HEQB1 made the decision to split the dozers and put one on each flank. Operator E-7 was assigned to the left flank of the fire and instructed to high blade up the road to the fire's edge and begin work downhill towards the heel of the fire.

At approximately 1705 hours, a spot fire established near the heel of the fire on the east side of Highway 49, north of the original left flank. Shortly after the report of the spot fire, Washington Ridge Crew 4 (WAR 4) requested a dozer to the area to construct fireline. HEQB1 attempted to contact Operator E-7 on the assigned tactical channel (Tac) to redirect Operator E-7 to WAR 4's location. Operator E-7 did not reply after multiple attempts.

There was significant traffic on Tac. WAR 4 advised they were pulling off the line due to increased fire activity on the left flank. HEQB1 made several more attempts to contact Operator E-7. HEQB1 then proceeded directly up Heron Road from Highway 49 in an attempt to locate Dozer E-7. At the "Zorro" house (Attachment A) HEQB1 observed dozer tracks, but did not find any dozer line leaving the roadway. HEQB1 advised Division M (DIV M) at the Zorro house that there was no contact with or known location of Dozer E-7.

At approximately 1709 hours, HEQB1 contacted Pleasant Air Attack (AA) on Air to Ground (A/G). HEQB1 requested that AA search for Dozer E-7 assigned to build direct line on the left flank. AA attempted to locate Dozer E-7 and due to decreased visibility would assign a copter to search the area.

At 1711 hours, AA identified a wind shift west toward Highway 49. AA assigned Copter 528 (C528) to search for the missing dozer. C528 reported that the dozer line led into the flames and there was no sign of the dozer.

During this time period, Operator E-7 observed increased fire activity while constructing dozer line above the Green Lawn House (Attachment A). In an attempt to find a safe location, Operator E-7 high bladed through the green and observed a clearing with a greenhouse. As Operator E-7 backed up to the greenhouse, smoke and flames were observed in the cab of the dozer. Operator E-7 advised the transport driver via cell phone that Dozer E-7 had a broken hydraulic line and was on fire. Operator E-7 then attempted to extinguish the dozer fire with a fire extinguisher.

At approximately 1718 hours, the transport driver of Dozer E-7 contacted HEQB1 on Tac and advised of positive contact with Operator E-7 via cell phone. During the cell phone call, communication between the transport driver and Operator E-7 was lost. Based on this information, HEQB1 asked two firefighters from a local government fire engine to grab their medical gear and they proceeded up the dozer tracks. At 1723 hours, HEQB1 relayed to AA priority traffic of the missing dozer.

At approximately 1725 hours, HEQB1 and the two firefighters followed the dozer tracks up the hill through the fire area and came across an area of constructed dozer line. Due to radiant heat and poor visibility, HEQB1 and the two firefighters had to return downhill to the Green Lawn House (Attachment A).

At approximately 1750 hours, HEQB1 made contact with AA and requested another attempt to locate Dozer E-7. HEQB1 also made multiple attempts to contact Operator E-7 on the cell phone, but the calls went directly to voicemail.

During this time, Operator E-7 observed increased fire behavior and deployed a fire shelter in a clearing on the west side of the greenhouse (Attachment B).

At 1800 hours, Operator E-7 transmitted on the assigned Tac that Dozer E-7 had sustained a hydraulic failure and Operator E-7 deployed a fire shelter. HEQB1 confirmed Operator E-7 was uninjured. DIV M contacted Operator E-7 on Tac for a location; however, Operator E-7 was unable to provide a location.

At 1808 hours, C528 located Dozer E-7 and Operator E-7, and confirmed the fire shelter deployment near a greenhouse. C528 hovered overhead to mark the location to assist DIV M and HEQB1 to Operator E-7's location. Due to decreased fire activity, HEQB1 hiked back up the dozer line with a medical kit. Copter 106 replaced C528 and led DIV M and HEQB1 to the fire shelter deployment site.

At approximately 1823 hours, HEQB1 arrived at the fire shelter deployment site, shortly after DIV M. Operator E-7 was medically assessed by DIV M and HEQB1. Operator E-7 complained of coughing/dizziness and appeared weak. Based on Operator E-7's condition, DIV M and HEQB1 walked Operator E-7 downhill to an ALS ambulance and transferred care for transport to a local hospital.

## INJURIES/DAMAGES

Operator E-7 was transported to a local hospital by ground ambulance with smoke inhalation and dizziness. Operator E-7 was treated and released the evening of the Incident. Dozer E-7 sustained major fire damage as a result of the broken hydraulic line.

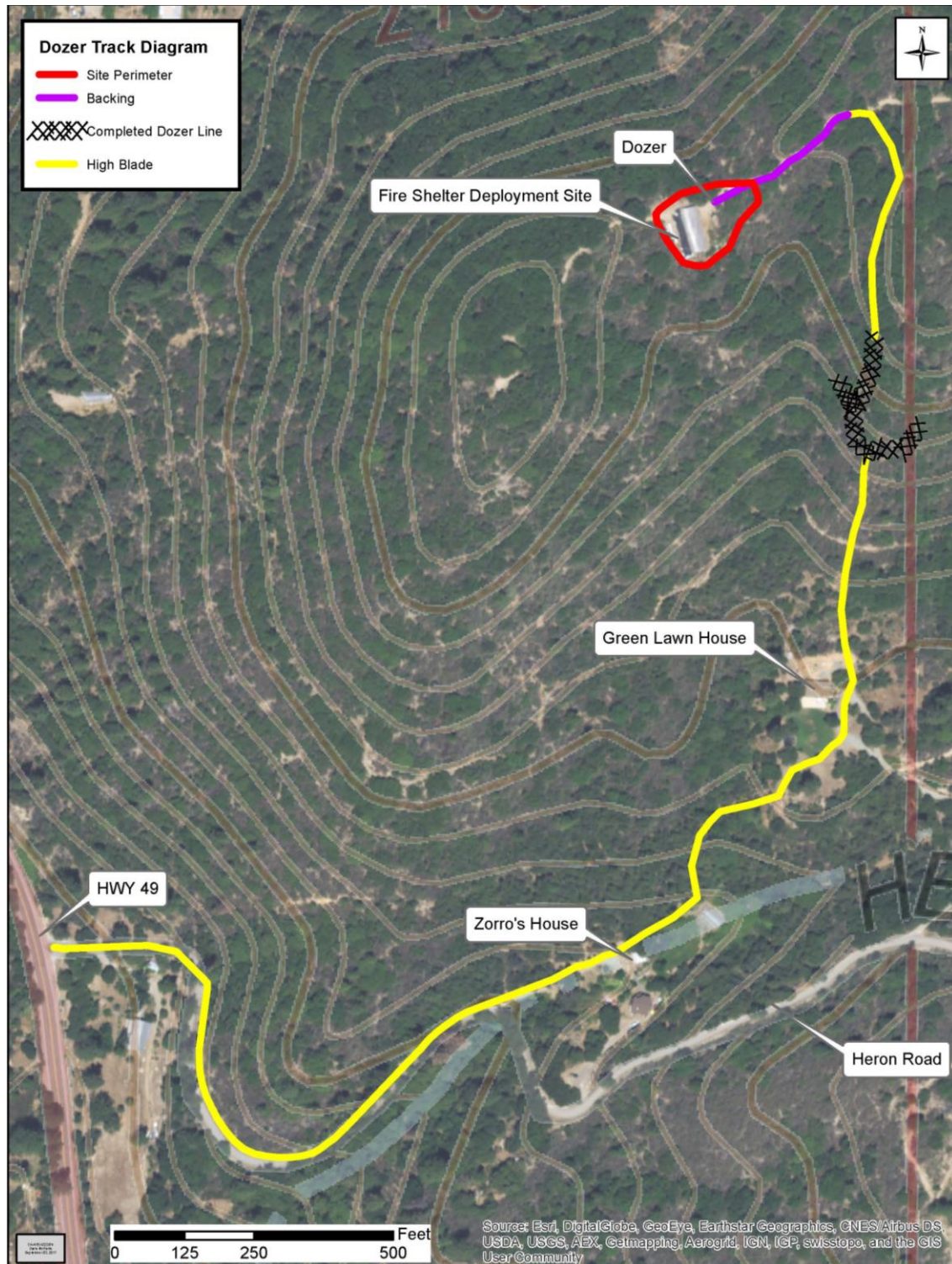
## SAFETY ISSUES FOR REVIEW

- Review [CAL FIRE Handbook 4300, Section 4306.2](#) – The “10 Standard Fire Orders”
  - Provide clear instructions and ensure they are understood.
  - Know what your fire is doing at all times.
  - Maintain prompt communications with your forces, your supervisor, and adjoining forces.
- Review [CAL FIRE Handbook 4300, Section 4306.3](#) – The 18 Fire Situations that Shout “Watch Out”
  - Establish and maintain an anchor point at all times.
- Review [CAL FIRE Handbook 7700, Section 7761](#) – Hiring and Utilization Guide
  - Maintain span of control. Privately owned bulldozers under agreement to CAL FIRE shall have a fully trained and qualified fire line supervisor available in the immediate area who is assigned to direct the private bulldozer operator at all times during any suppression activities. These private operators will not work on the fire line without such supervision.
- Radio operations are a perishable skill. Be sure your personnel are trained and familiar with the proper operations of their radio.

## **INCIDENTAL ISSUES/LESSONS LEARNED**

- Adhere to the 10 Standard Fire Orders at all times and “know what your fire is doing at all times”.
- Post LOOKOUTS, including Initial Attack.
- COMMUNICATION is paramount. Ensure that all personnel are briefed on proper radio frequencies and radio use.
- Identify ESCAPE ROUTES and SAFETY ZONES and adapt as needed.
- Consider human factors that affect decision making (Human Factors in the Wildland Fire Service L-180).
- Consider the experience of ALL fire line personnel.
- Ensure fire line is constructed with a safe and secure anchor point.

## PHOTOS/SITE DIAGRAMS/MAPS



Attachment A – Aerial overview of Dozer E-7's route of travel into the Pleasant Incident and the fire shelter deployment site.





Attachment B – Fire Shelter Deployment Site