

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



# GREEN SHEET

## Burn Injuries

September 1, 2019

Thorne

19-CA-BEU-005016

19-CA-BEU-005025

California Southern Region

## SUMMARY

On September 1, 2019, at approximately 2:50 PM, three CAL FIRE firefighters received burn injuries while fighting a wind-driven vegetation fire in Monterey County, CA. The employees were treated and transported by air ambulance to burn centers for treatment and released later that day. All three firefighters required follow up appointments and treatment, with one requiring an overnight stay for observation.

### Link to the Video Green Sheet

<https://calfire.box.com/s/ut1m35c69ndgdllhz9whdwrlq2v4xyp9f>

### QR Code/Link to Survey

<https://www.surveymonkey.com/r/SVDV5SY>



## CONDITIONS

**Weather:** Weather was taken from the Arroyo Seco RAWs, approximately 4 miles southwest of the accident site.

Temperature: 100° Fahrenheit.

Relative Humidity: 16%.

Winds: East @ 9 MPH with Gusts to 17 MPH.

Visibility: Clear – Unlimited.

**Fuel Type:** GR7 – Moderately coarse continuous grass, average depth about 3 feet. Spread rate very high; flame length very high.

**Road Conditions:** Maintained dirt roads that access the vineyards.

**Topography:** >60% Slope.

**Fire Behavior:** Moderate intensity, some spotting & sheeting, with the slope.

## SEQUENCE OF EVENTS

On September 1, 2019, at approximately 2:13 PM, a CAL FIRE Engine (E-1) was dispatched to a reported structure fire on Cherry Ave. near the community of Greenfield. While enroute to the incident it was determined that the reports of the structure fire were, in fact, drift smoke from the Thorne vegetation fire. E-1 was cancelled from the structure fire and responded to the Thorne vegetation fire.

E-1 arrived at scene of the Thorne incident with personnel in a mixture of structural and wildland personal protective equipment. The CAL FIRE Fire Captain (FC-1) made positive contact with the Incident Commander, a CAL FIRE Battalion Chief, (BC-1). FC-1 was given directions to follow BC-1 into the incident and initiate a hoselay on the active flank of the fire. FC-1 drove to the head of the fire and attempted a hoselay (Site #1) from the dirt road, up the cut-bank, toward the top of the hill. This proved unsuccessful so FC-1 moved E-1 approximately 223 feet South (down the dirt road) and prepared for a second hoselay. The fire outran their position again so they decided to move the engine further South down the dirt road. The decision was then made to engage in a firing operation.

FC-1 repositioned the engine to the top of the cut-bank, dropping off a CAL FIRE Fire Fighter (FF-1) at the bottom of the mid-slope road, which was approximately 8 feet wide and 800 feet long. The firing operation was made below the mid-slope road extending from the lower dirt road to the upper dirt road (Picture #3). FF-1 was to start at the bottom while FC-1 & a CAL FIRE Fire Fighter (FF-3) started from the top. An additional CAL FIRE Fire Fighter (FF-2) made the decision to stay near the engine to pick up any spot fires. The plan was to take fire from the two furthest points and work toward each other, meeting in the middle. This was to build black line ahead of the fire, building depth against the dirt road. At about the time that FC-1, FF-3, & FF-1 completed the firing operation FC-1 directed FF-1 to create additional depth while returning to the bottom of the mid-slope dirt road. This was accomplished by dropping fuses below the initial blacked line. At that time a

sudden switch in fire behavior and direction of fire travel occurred. FF-2 noticed fire across the mid-slope road and yelled "spot fire".

FC-1 moved up the hill towards the spot fire and noticed the increase in fire behavior and spread across the road. FC-1 immediately started back uphill, towards the engine, and noticed FF-2 moving that direction as well. FF-3 noticed FC-1 pass FF-3's location, back up the hillside. While traveling up the hill FC-1 & FF-2 determined they would not make it and decided to take refuge in a crouched or laying position on the ground while the fire blew over them.

FF-3 witnessed a wall of flame in the direction of FC-1 and FF-2 and quickly looked downhill. Noticing a wall of flames in that direction as well, FF-3 made the decision to jump through the flames from the edge firing on the downhill side of the mid slope road toward an unburned island of the hillside. FF-3 threw the driptorch downhill and jumped, landing approximately 5 feet down the hillside. FF-3 tumbled and landed face first in an unburned area of the fire. FF-3 quickly stood up and proceeded toward the lower dirt road. Personnel from a Local Government Engine (E-2), located at the lower dirt road, witnessed FF-3 running down the hillside out of the smoke and fire. E-2 personnel and FF-1 quickly assessed FF-3, noticed burn injuries, and initiated treatment.

Smoke initially obscured FC-1's vision making it difficult to account for all FF's. FF-1 contacted FC-1 via radio to advise that FF-3 was with FF-1 at the bottom of the hill. FC-1 & FF-2 met at E-1 and quickly realized each other had burn injuries. FC-1 made an "emergency traffic" call to BC-1 and advised of the burn injuries to FC-1 and FF-2. BC-1 made immediate notification the San Benito Monterey Emergency Command Center (BEU ECC) of the burn injuries and requested two Advanced Life Support (ALS) ground ambulances and a CAL FIRE Helicopter.

BC-1 arrived at E-2 and placed FF-1 and FF-3 into the BC-1 vehicle and drove up the mid-slope road to meet with FC-1 and FF-2. BC-1 then made notification to the BEU ECC of an additional FF with burn injuries. Initial treatment and transport was established at scene by the two ALS ground ambulances. FC-1, FF-2, and FF-3 were all transported by ground ambulance to awaiting ALS Air Ambulances approximately four miles from the accident site. FC-1 and FF-3 were airlifted to Community Regional Medical Center, (Burn Center), in Fresno, California. FF-2 was airlifted to Santa Clara Valley Medical Center, (Burn Center), in San Jose, California.

## **INJURIES/DAMAGES**

The employees were treated and transported by air ambulance to local burn centers for treatment and released later that day. FC-1, FF-2, and FF-3 all had follow up appointments for debridement and treatment, with one requiring an overnight stay for observation.

- FC1 suffered minor burns to the nose and left ear, with second degree burns to both hands.
- FF1 did not suffer any injuries.
- FF2 suffered minor burns to the right side of the back, left side of face, nose, and forehead. FF-2 also had second degree burns to both hands and elbows.
- FF3 suffered minor burns to the face and second degree burns to the left arm and both elbows.

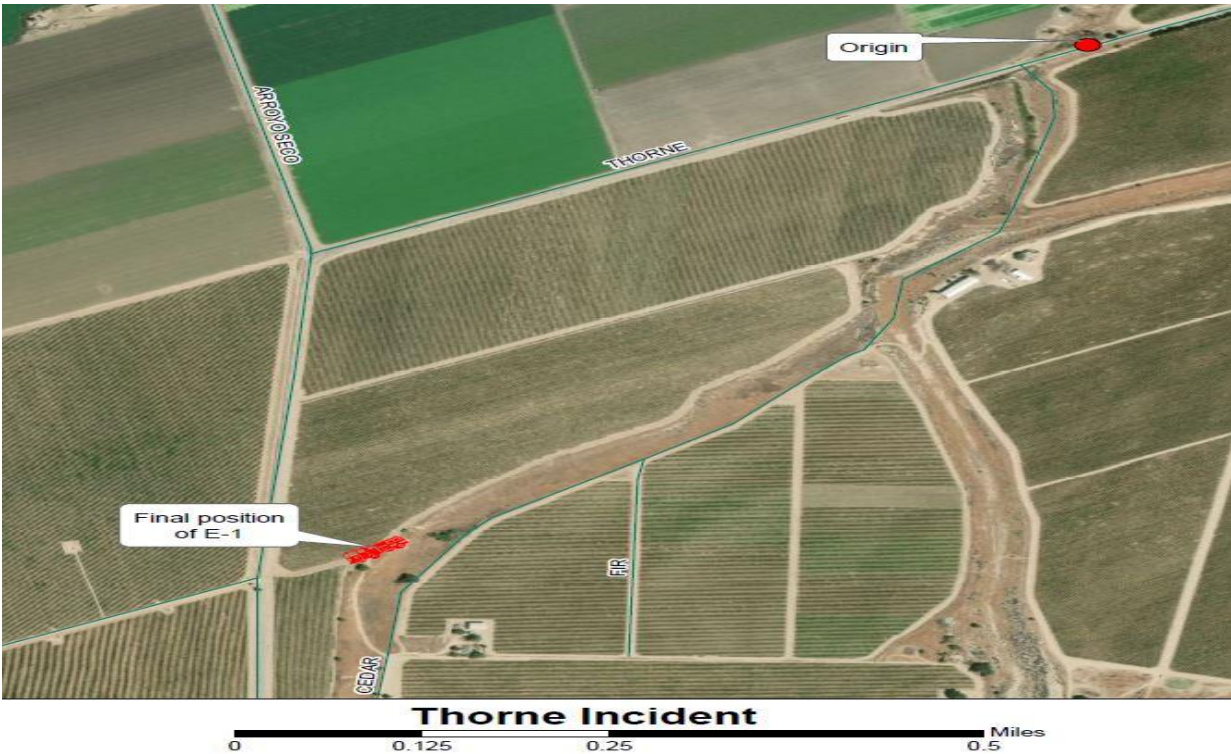
## **SAFETY ISSUES FOR REVIEW**

- Terrain and fuels can make escape to safety zone difficult.
- Escape routes should be known to all, and should be accessible under changing fire conditions.
- Use extreme caution when attempting a frontal assault on a fire.
- Communicate your plan to your crew, supervisor and adjoining forces.
- Ensure instructions and assignments are given and understood.
- Maintain control of your forces at all times.
- Use full Wildland Personal Protective Ensemble during active firefighting operations.

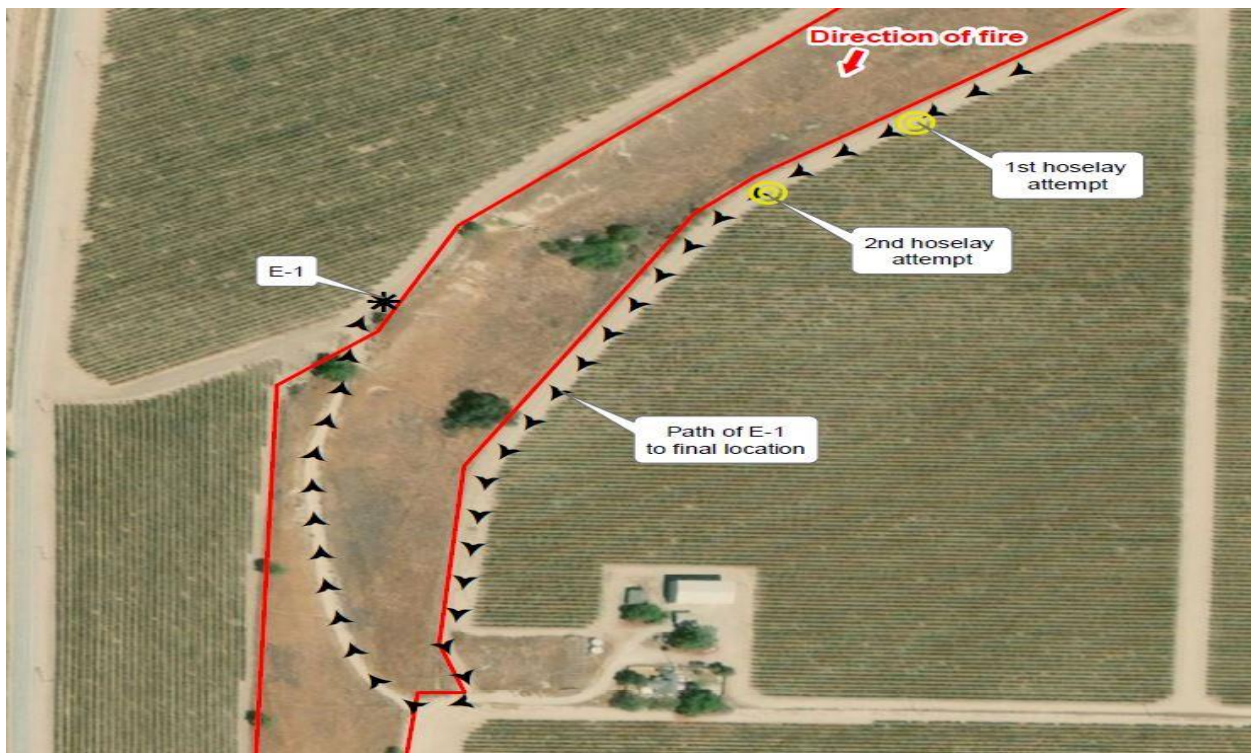
## **INCIDENTAL ISSUES/LESSONS LEARNED**

- Fire conditions can rapidly change in light flashy fuels and will respond quickly to wind and slope.
- Your plan should allow for unexpected or unpredicted shifts in wind direction or wind speed.
- Use caution when working with fire below you.
- Analyze risk versus gain and values at risk when making your plan.
- Fully brief your crew on the plan including what to do if things go wrong.
- Fire runs uphill in chimneys, gullies, or on steep slopes.
- Utilize the appropriate firing device(s) for the associated fuel type/conditions.

## PHOTOS/SITE DIAGRAMS/MAPS

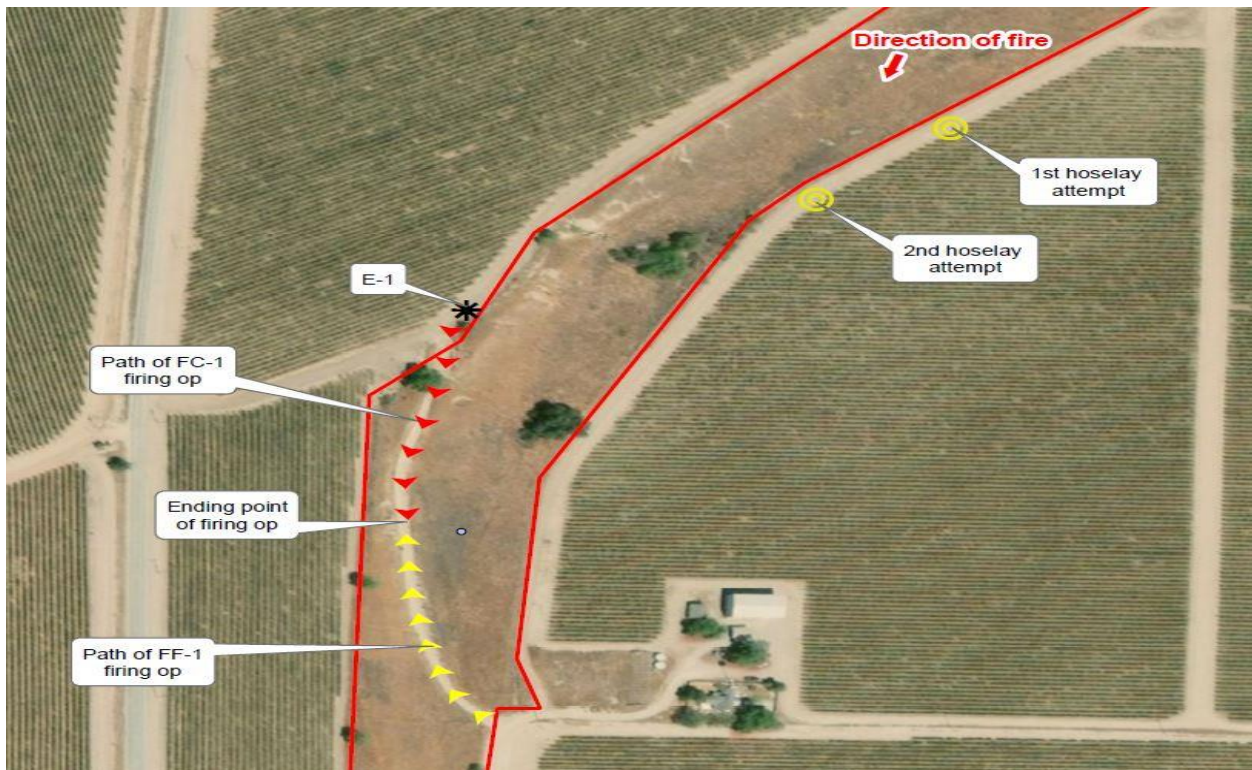


Picture 1 - Overview depicting the fire's origin to the burn over site, which was approx.  $\frac{3}{4}$  of a mile.

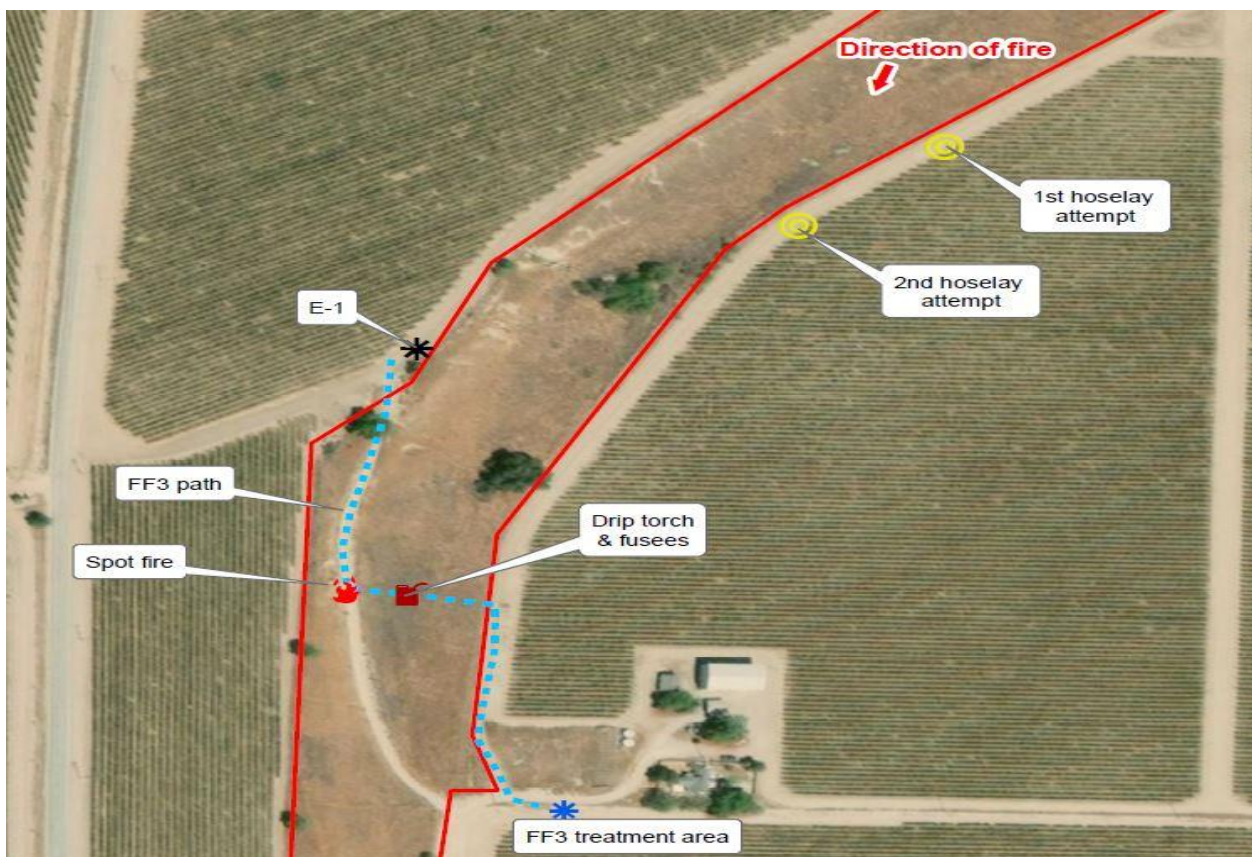


Picture 2 - E-1's travel path from the origin to the head of the fire where the firing operation occurred.





Picture 3 - Depicting the firing operation and FC-1 & FF-1's starting & ending points.



Picture 4 - FF-3's travel path from the ending point of the firing operation to the treatment area.