

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



GREEN SHEET

Firefighter Fatality

July 28, 2019

De Luz Incident

19-CA-MVU-010842

19-CA-MVU-010852 (SART)

California Southern Region

SUMMARY

On Sunday, July 28, 2019, at approximately 10:38 AM, a CAL FIRE Engine Company was on a training hike behind the De Luz Fire Station 16 in a remote and rugged area of San Diego County, California. During the hike, a CAL FIRE Firefighter suffered a medical emergency and was airlifted off the trail to Temecula Valley Hospital. The Firefighter later succumbed to his injury and passed away at the hospital.

CONDITIONS

Weather

Roblar Canyon RAWS station at 10:22 AM (located approximately 5 miles from the incident site)

Temperature: 78° Fahrenheit

Relative Humidity: 63%

Winds: 2 mph from the southwest with gusts to 10 mph

Visibility: Mostly Sunny

Topography

De Luz Fire Station 16 is located in a remote area of San Diego County within the southern range of the Santa Ana Mountains. From Station 16 there is an established 1.45 mile loop trail (known as the Lippe Hike) used by station personnel for physical fitness training. The hiking trail traverses through relatively flat terrain, then continues towards the first of two prominent elevation gains. The first section of the trail has an average slope of 10% with a maximum slope of 87%. The second, and steeper portion of the trail, starts at a drainage and rises to a ridgeline. The average slope of this ascent is 23% with the steepest section measured at 97% at a rock outcropping near the top of the ridge. The remainder of the hike from the ridge back to the fire station is primarily downhill.

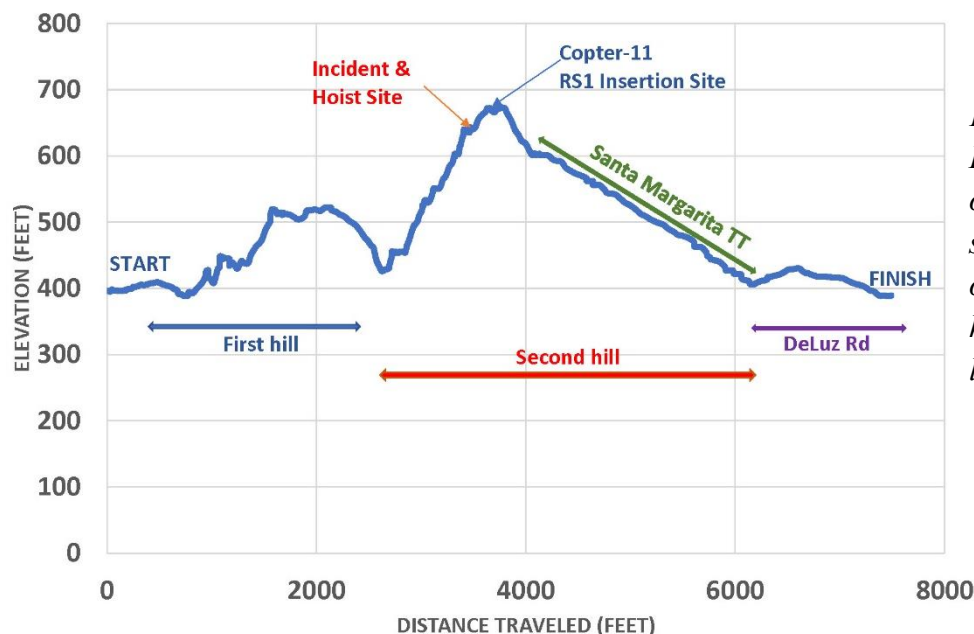


Figure 1-
*Elevation profile
of the hike
showing location
of incident and
hoist rescue
location.*

Conditions

The hiking trail ranges from a single-track path to a 4-wheel drive road comprised of dirt, loose gravel and boulders. The trail traverses across two drainages. Vegetation in the surrounding area includes mixed chaparral, chamise, coastal sage scrub, coast

live oak and areas of native grass. The vegetation in the area provides little to no shade. During mid-morning the south and west facing slopes receive full exposure from the sun. The hike can best be characterized as a moderately difficult trail that traverses through rugged terrain with moderate to steep slopes.

SEQUENCE OF EVENTS

On Sunday, July 28, 2019, from approximately 7:00 AM to 8:00 AM, CAL FIRE firefighters at the De Luz Fire Station 16 prepared for a shift change of personnel, which included an oncoming Fire Captain (FC1) and Firefighter (FF2). During the transition, the off-going Fire Captain passed down the previous shift activities to FC1. Based on the pass down, FC1 decided to start the morning with a hike behind the fire station.

At approximately 8:10 AM, FC1 ate a light breakfast with two firefighters assigned to Station 16, FF2 and Firefighter 1 (FF1). They discussed the day's weather as well as FC1's physical fitness training plan for the morning. Following breakfast, at approximately 8:30 AM, they prepared for the hike by donning their full wildland personal protective equipment (PPE), including a fire line hand tool. Just prior to starting the activity, FC1 briefed the two firefighters of the expectation of a 30-minute fire station standard time for the hike.



***Photo 1-** View from hiking trail looking west back down second hill from ridge.*

At approximately 8:40 AM, they began the hike. FC1 and FF2 moved ahead of FF1, but occasionally stopped in order to allow FF1 to catch up. Upon completion of the hike, FC1 decided to hike the route an additional time because FF1 completed the hike in 40 minutes and 40 seconds, not meeting the 30-minute fire station standard. FC1 directed both firefighters to take a 20-minute break, cool off and rehydrate prior to restarting the hike. During the break FF2 noticed that FF1 had not fully recovered from the first hike.

At approximately 9:40 AM, they started the hike a second time. During the second hike, FC1 placed FF1 in front as the lead hiker while FF2 trailed behind. FC1 noticed that FF1 was moving slow. At the first benchmark above the drainage, FF1 stopped and told FC1 that he was exhausted. As FF1 began his ascent up the steepest section of the trail, FC1 noticed FF1 struggling. As a result, FC1 took both

hand tools from FF1 and FF2. FC1 then directed FF2 to assist FF1 up the trail. FC1 noted that FF1 took over 20 breaks along the trail and documented FF1's time at each benchmark.

FF2 noticed that FF1 was stumbling and losing his balance about half way up the trail. FF2 positioned himself directly behind FF1 based on direction from FC1. FF2 held FF1's web gear to make sure FF1 did not fall off the trail. As they approached a rocky outcropping just below the ridgeline, FF2 pushed FF1 from behind in order to get him up and over the outcropping to the top.

Once on the ridge, FF1 fell forward and sat down. FF1 was directed to remove his web gear and jacket in order to cool down but was unable to do so. FF2 initiated cooling measures by removing FF1's helmet, nomex jacket and t-shirt, leaving his uniform pant, nomex pants and boots on. FF2 poured water over FF1's head and chest and used a nomex shirt to provide shade. As FF1's mental status declined, FC1 initiated a medical response.

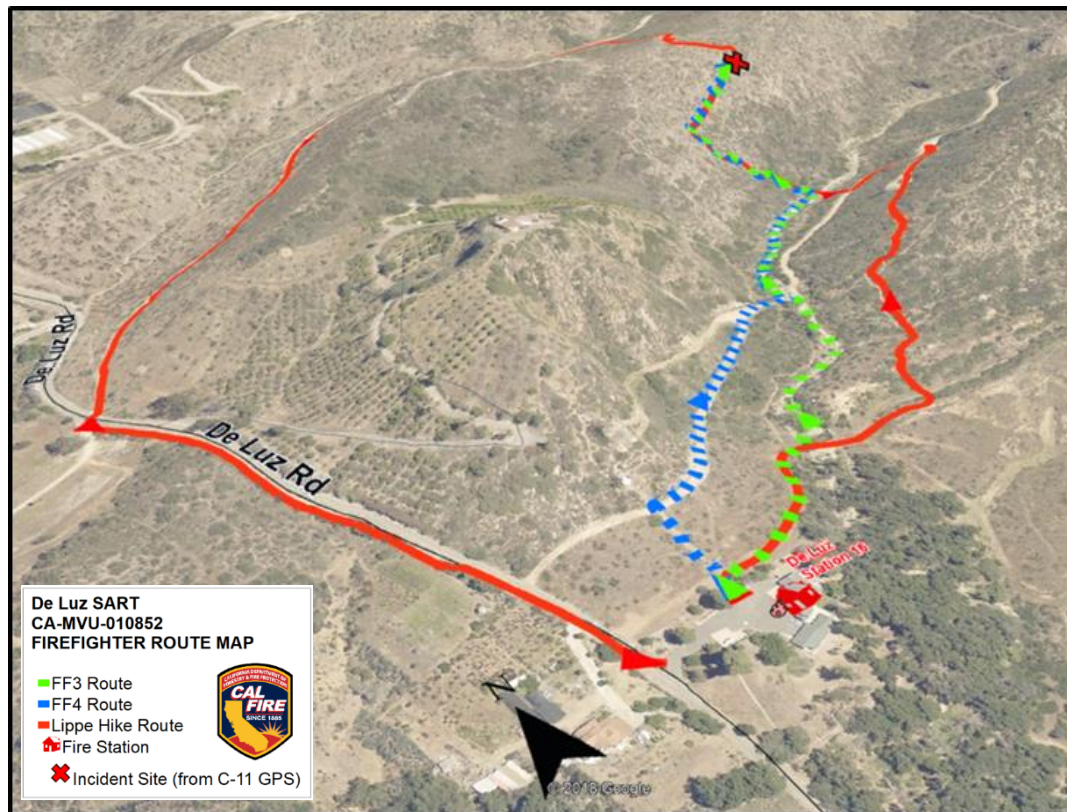
At approximately 10:38 AM, FC1 notified the Monte Vista Emergency Command Center (ECC) of a firefighter down and requested a hoist rescue and air ambulance. Monte Vista ECC initiated a medical rescue which included a Battalion Chief, CAL FIRE Engine, North County Fire Advanced Life Support (ALS) Engine and Medic Unit, and two helicopters, the CAL FIRE/San Diego County Sheriff's Department helicopter (Copter 11) for the hoist rescue and a Mercy Air helicopter (Mercy 5) for the air ambulance. FC1 assumed De Luz Incident Commander (IC).

At approximately 10:45 AM, FC1 reported to the ECC that FF1 was not alert and oriented but was breathing. At approximately 11:02 AM, the North County Engine arrived at De Luz Fire Station followed by the Medic Unit and CAL FIRE Engine (E3371). Based on the anticipated timing of the hoist rescue and transfer of patient care from Copter 11 to Mercy 5, the North County Engine and Medic Unit were directed by the FC1 to a landing zone established approximately one mile north at the De Luz Elementary School. The firefighters assigned to E3371 (FF3 and FF4) hiked up to FF1's location from the fire station with ice and additional water based on a request from the FC1.

At approximately 11:17 AM, Mercy 5 arrived at the landing zone and dropped off their crew. At approximately 11:19 AM, Copter 11 arrived at FC1's location. Copter 11 inserted Rescuer 1 via a hoverstep maneuver approximately 300 feet from FF1's location with a medical bag and equipment to package FF1 for the rescue. Rescuer 1, FF3 and FF4 all reached FF1's location at approximately the same time. As Rescuer 1 assembled the Bauman bag and tagline, the other personnel loaded FF1 into the scoop stretcher for extrication from the ridge.

At approximately 11:33 AM, Copter 11 transported FF1 to the landing zone. In order to make room at the landing site, Mercy 5 lifted off the ground prior to Copter 11's

arrival. At approximately 11:38 AM, Copter 11 landed and transferred patient care to the Medic Unit and Mercy Air ground crew where Advanced Life Support measures were initiated, including additional cooling measures and the removal of FF1's nomex pants and boots. Copter 11 cleared the landing zone for Mercy 5 while ALS personnel prepared FF1 for transport. At approximately 12:04 PM, Mercy 5 lifted off and transported FF1 to Temecula Valley Hospital.



Aerial Imagery- Overview of hiking loop and incident site showing De Luz Fire Station (lower right) and route of travel of Firefighter 3 and Firefighter 4 to the ridge as part of the medical response.

INJURIES/DAMAGES

FF1 succumbed to his injuries. The cause of death is pending.

SAFETY ISSUES FOR REVIEW

Review [CAL FIRE Policy 1701 – Injury and Illness Protection Plan \(IIPP\)](#) and the [Heat Illness Prevention Plan](#):

- Supervisors shall ensure that employee accountability and monitoring is established and a plan/procedure is in place to respond to and care for an employee experiencing a heat related emergency.
- All employees who would or could work in conditions that can create a heat stress environment shall be trained on recognizing the signs and symptoms of heat stress (cramps, heat exhaustion, heat stroke) on both themselves and other personnel.
- If a supervisor observes, or any employee reports, any signs or symptoms of heat illness in any employee, the supervisor shall take immediate action commensurate with the severity of the illness.

Review the [Incident Response Pocket Guide - Planning for Medical Emergencies](#) (page two):

- Supervisors operating in remote locations should preplan for the possibility of an employee injury occurring during training or operations and prepare accordingly.
- Serious injuries and fatalities are nearly always the result of a series of events. Incidents occurring as a result of a single overpowering cause are rare. Review the [2019 Annual Focus on Safety](#), specifically; *What is Crew Resource Management Anyway?*

INCIDENTAL ISSUES/LESSONS LEARNED

- All employees shall be proficient in identifying early signs and symptoms of heat illness.
- If personnel present signs and symptoms of heat illness, stop the physical activity, attempt to remove patient from the environment, and initiate rapid cooling measures including removal of all clothing.
- Early ALS intervention in all **potential** heat related injuries is a critical component of treating heat illness.
- Underestimating the severity of a heat related injury may delay medical treatment and could lead to permanent disability and even death.

- Always initiate a secondary plan for patient extrication in remote locations and ensure the appropriate resources are ordered for all extrication possibilities.

PHOTOS/SITE DIAGRAMS/MAPS

