

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



GREEN SHEET

Dozer Incident

June 24, 2017

Cable Incident

17-CA-BDU-008717

17-CA-BDU-009386

California Southern Region

SUMMARY

On Saturday, June 24, 2017, at approximately 2:35 PM, while making access to the Cable Incident in San Bernardino County, California, a CAL FIRE Caterpillar D6NXL Dozer (D1) was unable to progress due to very steep and loose terrain. While facing downhill, D1 requested a United States Forest Service (USFS) Dozer (D2) for a winching operation. While coordinating the winching operation, the Swamper (DS2) from D2 climbed on the D1 driver-side tracks to establish communications, due to inoperability of the assigned tactical frequency. While DS2 was conferring with D1, an unexpected movement of D1's tracks occurred, forcing DS2 to jump off and away from D1 to avoid serious injury.

CONDITIONS

Weather:

Temperature: 92° Fahrenheit

Relative Humidity: 35%

Winds: South at 5 MPH

Visibility: Good

Fuel Type: 12-15' brush/chaparral

Road Conditions: N/A

Topography: 70% slope

Fire Behavior: N/A

Make/Model of Equipment: 2015 Caterpillar D6NXL Bulldozer
(Enclosed cab, 6 way-blade and winch)

SEQUENCE OF EVENTS

On Saturday, June 24, 2017, at approximately 2:35 PM, in San Bernardino County, California, a CAL FIRE Dozer (D1) was assigned by the Operations Sections Chief (OSC) to make access to Division A on the Cable Incident. D1 was advised by the OSC to avoid the main access road due to excessive traffic. D1 took a direct route towards the western flank of the fire. After descending into a drainage, D1 was unable to progress up the other side of the drainage due to rock shelves. D1 determined the best egress would be the same path from which it entered. As D1 attempted to climb back out of the drainage, it was discovered the slope had been eroded, which created a steeper angle preventing D1's egress. D1 determined that winching assistance from USFS Dozer (D2) would be the most appropriate option in lieu of an alternative route through a riparian area.

D1 requested the assistance of D2 through Operations. D2 made access by following D1's tracks and attempted to contact D1 via the assigned tactical channel. D2 was unable to establish radio communications with D1, requiring them to make face-to-face contact and coordinate the winching operation. D2 constructed a flat pad to perform the winching operation at the top of the drainage. With D1 pointed downhill, D2 and D1 connected their winch lines and decided not to remove the slack in the line until they had radio communications established, because there was no line of sight with each other. DS2 was given instruction by D2 to hike down and establish radio communication with D1 on a tactical channel. DS2 made visual contact with D1 and was given permission to ascend onto D1 after the parking brake had been set and the blade was grounded. DS2 was squatting on the left track of D1 and was field programming a handheld radio when D1 had an unexpected movement of its tracks. The movement caused D1 to roll approximately 10 feet downhill. Despite the rapid

forward momentum of the dozer track, DS2 was able to gain footing, jump over the blade at an angle and avoid the path of D1. This action caused the radio and helmet of DS2 to become dislodged upon hitting the ground. Simultaneously, D1 applied the service brake of the dozer, bringing it to an immediate stop. D1 verbally inquired DS2's status, DS2 reported back to D1, "I'm okay". DS2 redonned personal protective equipment and finalized radio communication plan with D1. DS2 hiked out to a safe area to coordinate winching operations.

As D1 prepared to be winched by D2, the operator of D1 discovered the parking brake was disengaged. When and how the parking brake was released is unknown since the brake had been set before the unexpected movement. DS2 initiated the winching operation and D2 successfully winched out D1.

D1, D2 and DS2 debriefed at the winching pad on what had occurred and it was discovered that DS2 suffered an injury to the right hand. D2 advised Operations and the Incident Commander of the injury due to DS2 jumping off the dozer. The USFS Agency Representative coordinated transportation for medical evaluation of DS2. DS2 was treated and released the same day to full duty. It was later determined the inability to communicate on tactical channels was likely the result of radios not being properly programed for tone guarding.

INJURIES/DAMAGES

- DS2 suffered a minor injury to the right hand.

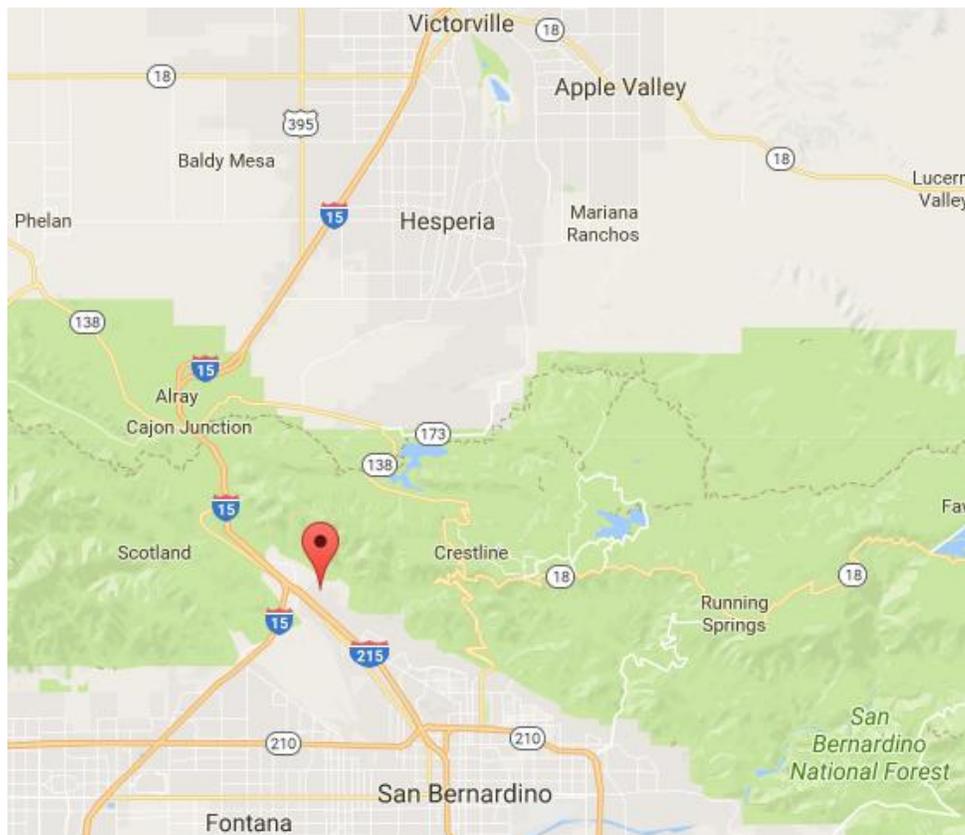
SAFETY ISSUES FOR REVIEW

- Review [CAL FIRE Handbook 4306.21 – Bulldozer Safety](#)
- LCES – Communication:
 - Resources initially unable to communicate on assigned tactical frequency

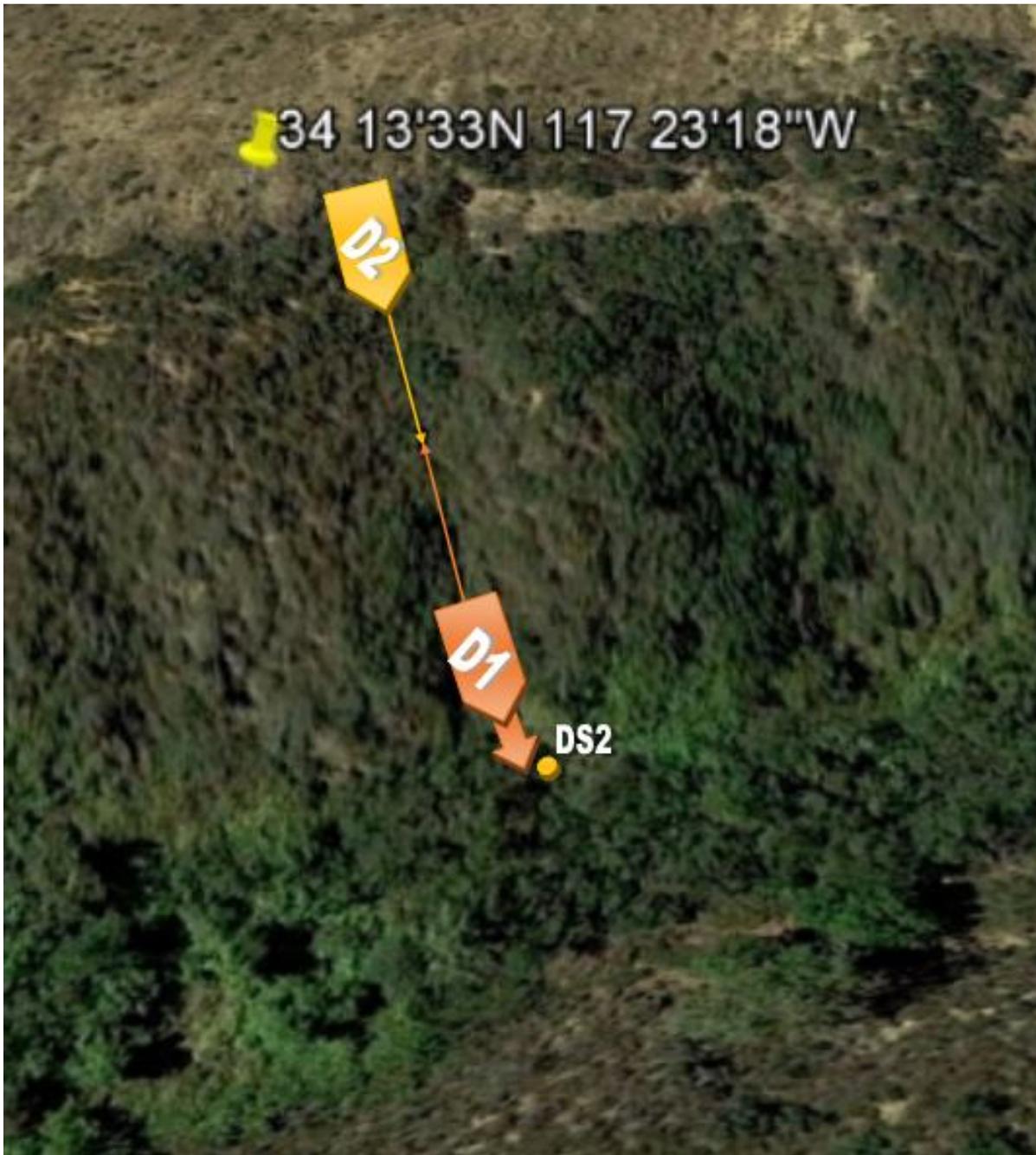
INCIDENTAL ISSUES/LESSONS LEARNED

- On Friday, July 7, 2017, the CAL FIRE Caterpillar D6NXL was inspected by the Caterpillar dealer and was found to be free from all mechanical defects. D1 was operating within manufacturer specifications, including all braking systems.
- No error codes were transmitted through the dozer's Automated Monitoring System at the time of the incident.
- A significant finding during the review showed the parking brake, throttle control, and hydraulic lock-out switch are in very close proximity to the steering control. The location of the switches pose a significant risk of accidental application.
- Incident personnel should ensure all radio channels, tones, and tone protection/guards are operational prior to engaging on assignment.

PHOTOS/SITE DIAGRAMS/MAPS



AREA MAP



DRAINAGE WHERE INCIDENT OCCURRED



OVERVIEW OF CATERPILLAR D6NXL CAB



STEERING CONTROL AREA