

SUMMARY REPORT

FIRE LINE FATALITIES

OF

TWO (2) FIRE CREW FIREFIGHTERS

AND

FIRE LINE INJURIES

OF

ONE (1) FIRE CREW CAPTAIN

AND

FOURTEEN (14) FIRE CREW FIREFIGHTERS

"CALIFORNIA FIRE"

RRU 26012

RIVERSIDE RANGER UNIT, REGION III

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

JUNE 27, 1990

SUMMARY

At about 2:40 PM on June 27, 1990, fire overran a crew that was attempting to backfire a handline. The fire was burning on moderate to steep slopes, in light vegetation during shifting winds and extreme temperatures. Two fire crew firefighters, received burn injuries to which they succumbed and the balance of the fire crew members received varying degrees of injury.

FIRE LINE CONDITIONS

FUEL:

TYPE: Fuel on the site is 95 to 98 percent consumed with remnants of brush 1.5 to 2.0 feet in height. From ash and carbon remaining on site, vegetative cover is estimated at 80 to 90 percent.

Using a sample site, the fuel was determined to be similar to NFFL fuel model #2 with a predominance of chamise and some grasses and forbes. Cover was nearly 60 percent.

LOADING: Fuel loading of the representative sample plot was 5.87 tons per acre.

RATIO: The percentage of live fuel (dried weight) in the total fuel load was 10 percent.

Live fuel moisture was 62 percent.

TOPOGRAPHY:

TERRAIN: The accident site is located on a rocky ridge that protrudes from north east to south west into a large drainage. There is an access road and cul-de-sac near the lower (south west) end of the ridge. The ridge rises at about 50 percent slope north east of the cul-de-sac and the south face drops off into a drainage at slopes that are very nearly impassible on foot.

ASPECT: The site is on a south west exposure.

FEATURES: The accident occurred at about 1800 feet of elevation in a large drainage. The drainage proceeds from the ridges at about 2000 feet of elevation, south westerly, and empties into a valley at 1600 feet.

WEATHER:

Weather readings were taken at the origin of the fire (north-west end) at 1420 hours and at Juniper flats, which is about 6 miles north west of the site and about 400 feet higher at 1400 hours.

Wind speed	9 miles per hour	(origin)
Wind degrees	340 degrees (NNW)	(origin)
Temperature	110 Fahrenheit	(origin)
Relative humidity	9 percent	(origin)
Fuel moisture	1 percent	(Juniper Flats)
Fuel temperature	114 Fahrenheit	(Juniper Flats)

FIRE BEHAVIOR:

Time fire started: 1310 hours

Time of burnover: 1442 hours

The fire had been burning with good intensity but in a very predictable manner until just before the accident. The main fire was being influenced by the northwesterly winds and was advancing down the south east face of the main ridge. As it entered the bottom of the drainage, and backfires were being set, a fast moving finger of fire progressed from the west, covering about 1000 feet in less than a minute (estimated), to a point just below the fire crew and their safety zone. A strong up canyon wind turned the head of the fire 90 degrees, sending it up the drainage sweeping over the fire crew's safety island and escape route.

SEQUENCE OF EVENTS:

The Incident Commander assigns a Model 1 fire engine with Fire Apparatus Engineer and five (5) Firefighters to scout ahead of the east flank for a suitable control location.

The engine company locates a north-south access in the form of a dirt road that proceeds up the north face of the mountain, through a saddle and down to an old burn from two years prior. The old burn ties back into the valley floor, and is relatively devoid of ground cover (0.34 tons per acre). Approximately 150 feet of hand line are needed to tie in the road with the old burn. The Fire Apparatus Engineer proposes a plan to the Incident Commander consisting of a back fire from the old burn, along the access road to the valley on the north side utilizing a crew and two

additional engines. The engine company starts building hand line, and the I.C. assigns a fire crew and three engines from a strike team to assist.

The fire crew arrives, receives a briefing from the fire apparatus engineer, tools up, walks to the cul-de-sac and relieves the engine company on the hand line.

The hand line is completed and the firing plan is initiated with the additional engines firing from the saddle) north, the original engine firing from the saddle) south, and the fire crew firing the hand-line from the old burn to the road.

Immediately upon starting their back fires, the resources experienced wind shifts, unstable fire behavior and blow-up conditions.

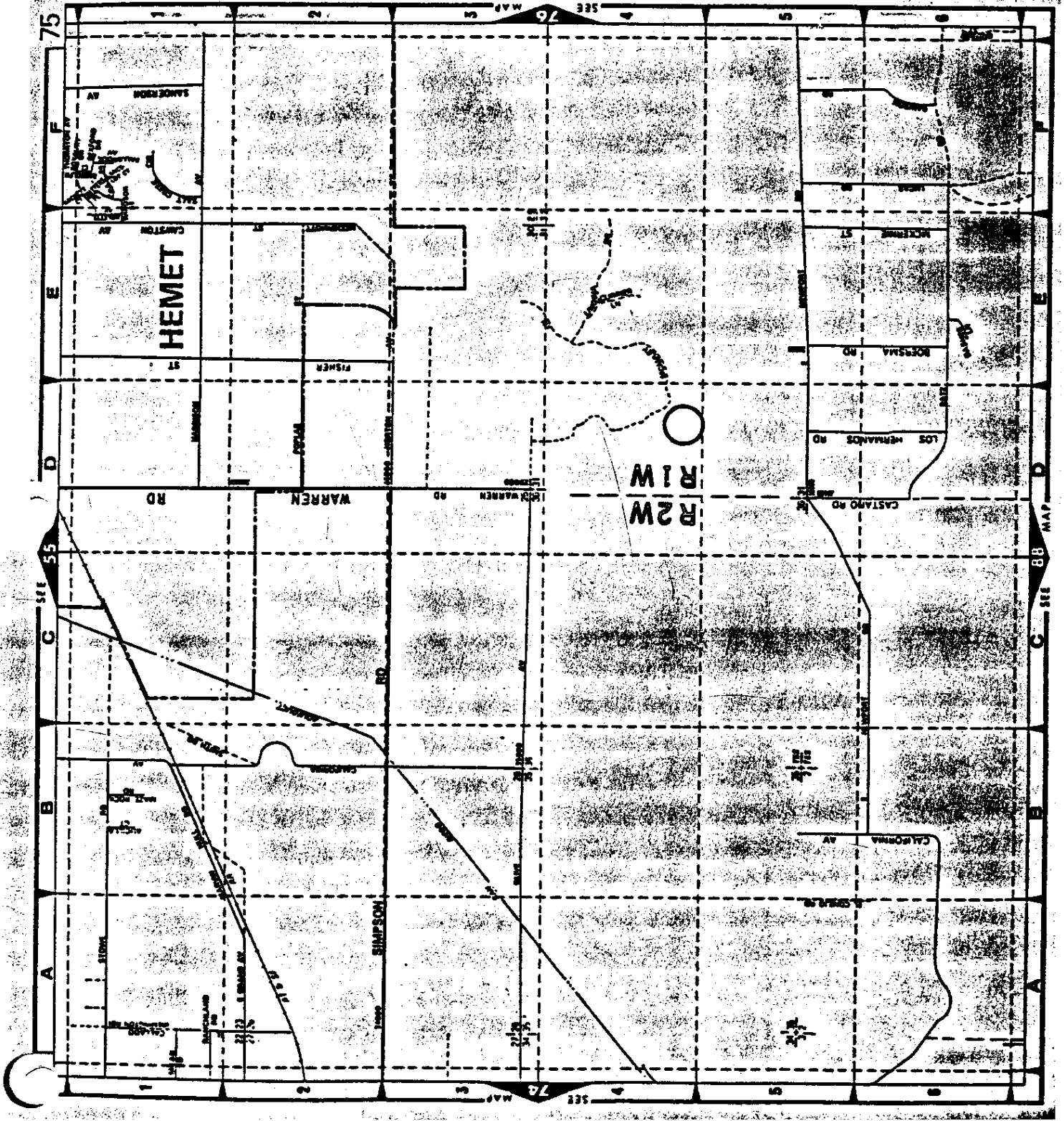
The fire crew attempted a retreat into their safety zone and were overrun.

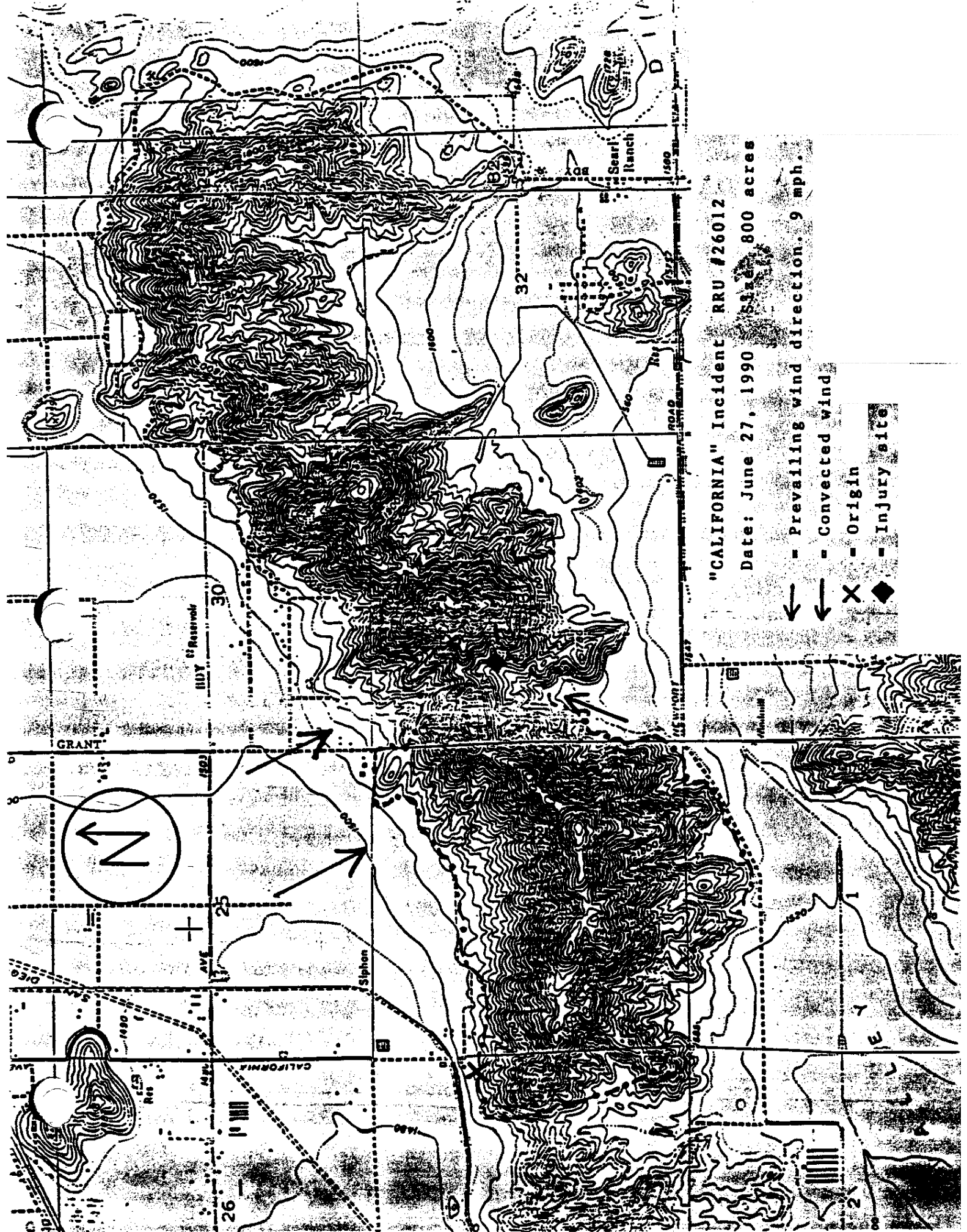
CAUSE:

The fire crew was overrun by fire while the majority of the crew members were on an area that had been designated a safety zone. Some fire crew firefighters were unable to reach the safety zone due to flame impingement. Flames of approximately 60 foot lengths laid over the safety zone which consisted of a 54 foot diameter turn around in the end of the road. The crew members were carrying their fire shelters in special compartments of their back packs which made them inaccessible without removing the pack. In the brief period of time they had to deploy their fire shelters, most crew members opted to try outrunning the fire.

GRAPHICS:

Attached

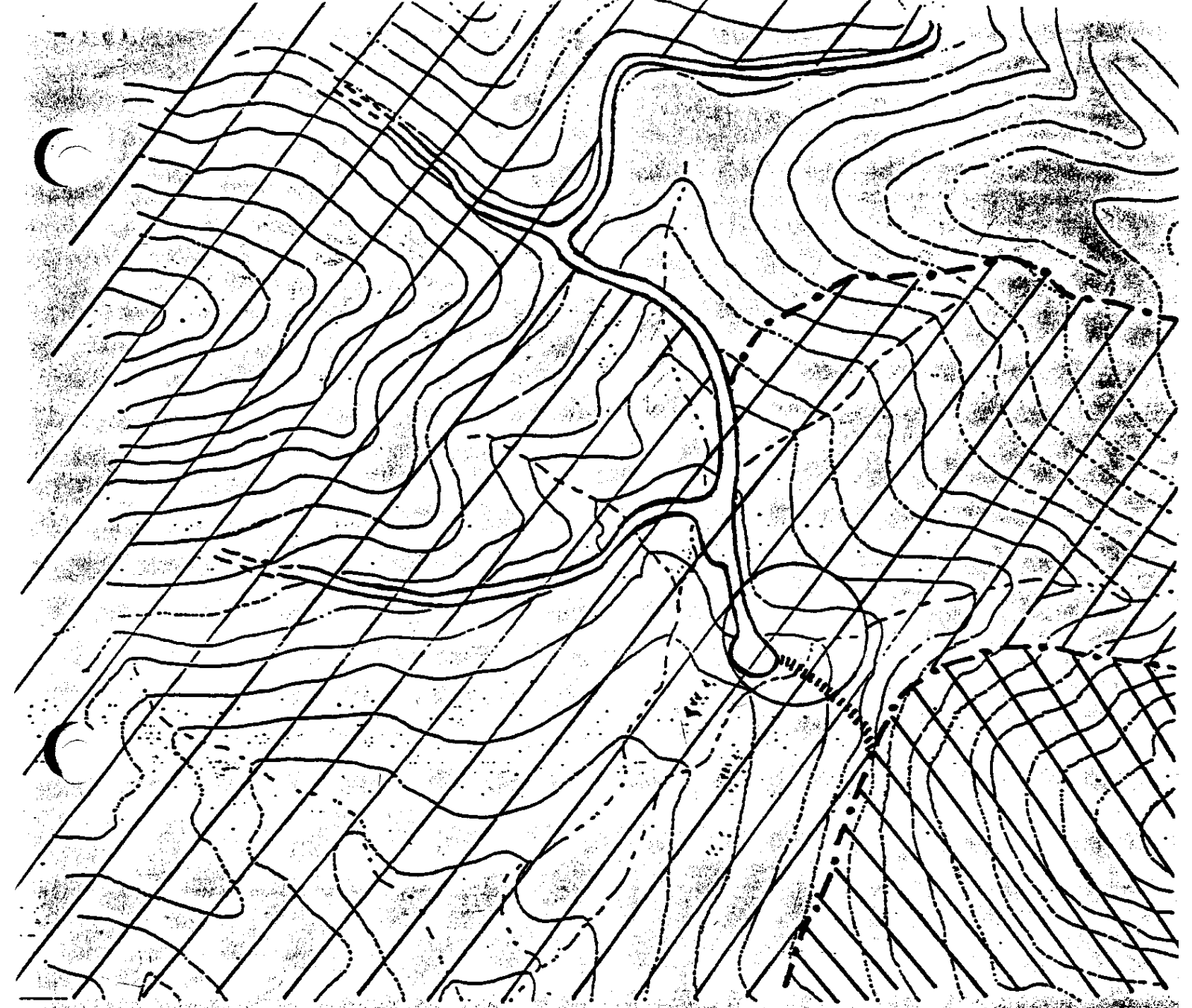




"CALIFORNIA" Incident RRU #26012

Date: June 27, 1990 Size: 800 acres

- - Prevailing wind direction. 9 mph.
- - Convected wind
- X - Origin
- ◆ - Injury site



"CALIFORNIA" Incident RRU #26012

Date: June 27, 1990

|||| - Old burn (8-24-88)

○ - Injury site

//// - New burn area (6-27-90)

|||| - Handline/Dozer line

not to scale

