

MANN GULCH FIRE  
AUGUST 5, 1949  
MONTANA  
THIRTEEN FATALITIES

The Mann Gulch Fire occurred in the "Gates of the Mountains" wild area, just east of the Missouri River, some twenty miles north of Helena, Montana. The fire started by lightning on the afternoon of August 4, 1949 near the top of the ridge separating Mann and Meriwether Gulches. It was discovered and reported at 1230 on August 5. One local forest fire guard and fifteen smoke-jumpers were overrun by the fire shortly after arrival and prior to suppression action or complete scouting.

Background Information

This fire was one of about ten fires on the Canyon and Helena Ranger Districts started by the August 4 lightning storm. Two fires, the York and the Mann Gulch reached sufficient size to require support from outside the local organization. Predicted fire danger was "low", however, weather observations at the time of the accident indicate severe fire behavior potential (readings at Canyon Ferry Ranger Station were: RH = 22%, Fuel Sticks = 5%, and wind = 16 mph).

None of the firefighters were equipped with fire-resistant clothing nor fire shelters. Many of the smokejumpers had never been on a large fire. The foreman (initial attack incident commander) had not worked with most of the firefighters prior to this mission. Consequently, his abilities (although respected by his peers) was not known by the crew on this fire.

Topography

The slope in the area where the accident occurred was about seventy-five percent. Mann Gulch runs down to the southwest. The accident occurred on the southwest-facing slope above Mann Gulch. Most of the fatalities occurred near the ridge on this southeast slope. One body was found on the other side of the ridge on a northwest-facing slope. Mann Gulch drains into the Missouri River a little over one mile southwest of the accident site. Arthur Moir, the Supervisor of the Helena National Forest at the time of the accident described the fire site as "one of the roughest pieces of country east of the Continental Divide."

Vegetation and Fuels

At the point of origin, the fuel type consisted of a dense stand of six to eight inch diameter douglas fir, and some ponderosa pine poles. Scattered mature douglas fir and ponderosa pine were present in the pole stand.

This type merged into larger timber, mainly douglas fir, with stringers of ponderosa pine on the lateral ridges. The ground cover in the openings consisted of grass and forbs of medium density. At the point of the accident, the tree cover consisted of stringers of scattered, young ponderosa pine with occasional over-mature ponderosa pine trees. The ground cover was mostly bunchgrass and cheat grass.

### Weather and Fire Behavior

Relative humidity and temperature observations were not recorded for the fire site. Wind was observed as blowing steadily from the southwest at the time of the jump. This is consistent with normal afternoon upslope, upcanyon winds. Other observations at the closest ranger station indicated somewhat severe fire danger (see Canyon Ferry observations above). The fire was fifty to sixty acres at the time of the jumpers landings. Sometime shortly after the jump, spot fires occurred in the bottom of Mann Gulch, about 1/2 mile to the northwest of the main fire. These spots likely generated the fire which overran the firefighters. One of the survivors reported his observations at the time they jumped, "It was burning on the top of the ridge and I thought it wouldn't burn much more that night because it was the end of the burning period and it looked like it would have to burn down across a little saddle before it went uphill any more."

At some point after the jumping started and before it was completed, a thundercell entered the area, spreading the jumpers and gear "all over the hill". It also likely caused the spotting and subsequent upslope fire run toward the smokejumper crew.

### Strategy and Tactics

The strategy for this fire was to "hold as much of the fire on the ridge [between Mann Gulch and Meriwether Gulch] as possible." Initial actions on the fire were directed toward moving firefighters into position to anchor at the head of the fire, and then flank down both sides toward the toe. This was based upon the initial aerial observations of the fire behavior (it appeared to be relatively quiet). Also considered was the time of day (the burning period should be over soon and fire behavior would diminish).

### Sequence of Events

A Douglas C-47 plane with sixteen smokejumpers arrived at the fire locality at 1510. One smokejumper had become ill enroute, so only fifteen jumped. Prior to the jump, the spotter and foreman carefully observed the fire, unburned fuels, topography and fire conditions while circling the fire. The jump was considered to be routine in nature. The fire was about fifty to sixty acres at this time. The personnel jump and cargo drop were completed by 1608. The jump spot was about 1/2 mile north of the northeast corner of the

fire. The cargo landed without incident except for the radio. This was made inoperable when the chute failed to open (it is not certain whether or not lack of a radio had any effect on subsequent actions). The smokejumper cargo and gear were assembled at the camp site (located below the jump area) by 1700.

A local ranger district fire guard met the smokejumper foreman at about 1700, halfway up the east side of Mann Gulch, near the head of the fire (Point #4). The foreman, after observing the increased fire intensity at the head, decided to move all of the firefighters back down to the toe of the fire, and to proceed from there. While hiking back down toward the toe of the fire (Points #4 to #6) spot fires in the bottom of the gulch began making a run up the gulch. At about 1745, midway down the trail toward the toe, the foreman noted that the fire was below them in the gulch, and had also crossed to the northwest side. Finding that the route to the toe of the fire and the river was cut off by the advancing fire, they doubled back and climbed toward the top of the ridge to the northwest of Mann Gulch (Points #6 to #7).

After proceeding for about 1,500 feet at as fast a pace as the terrain would permit, the foreman concluded that it would be better to lighten their loads, and directed the firefighters to discard their heavy equipment (all of the firefighters were together at this point). The fire was about five hundred feet behind them at this time. As they continued, they angled up the slope towards the ridge (Points #7 to #8) and came out of the timber onto a small grass-covered slope.

At this point the foreman concluded that they couldn't outrun the fire and decide to take refuge in the opening. He explained to those nearest him (at least eight of the crew) that they would need to burn off the grass and get back into the black before the fire below them reached the opening. He set a clump of bunchgrass on fire and told those nearest him to wait a few seconds, then "cross through the flames into the burn area where we can make a good stand and our chances of survival are more than even." He walked to the north side of the fire that he had started, called to the crew to get into the burned area, but was unsuccessful in getting them to do so. At about 1755 he walked through the flames into the burned area for about thirty feet, lay down and continued to call the crew to join him.

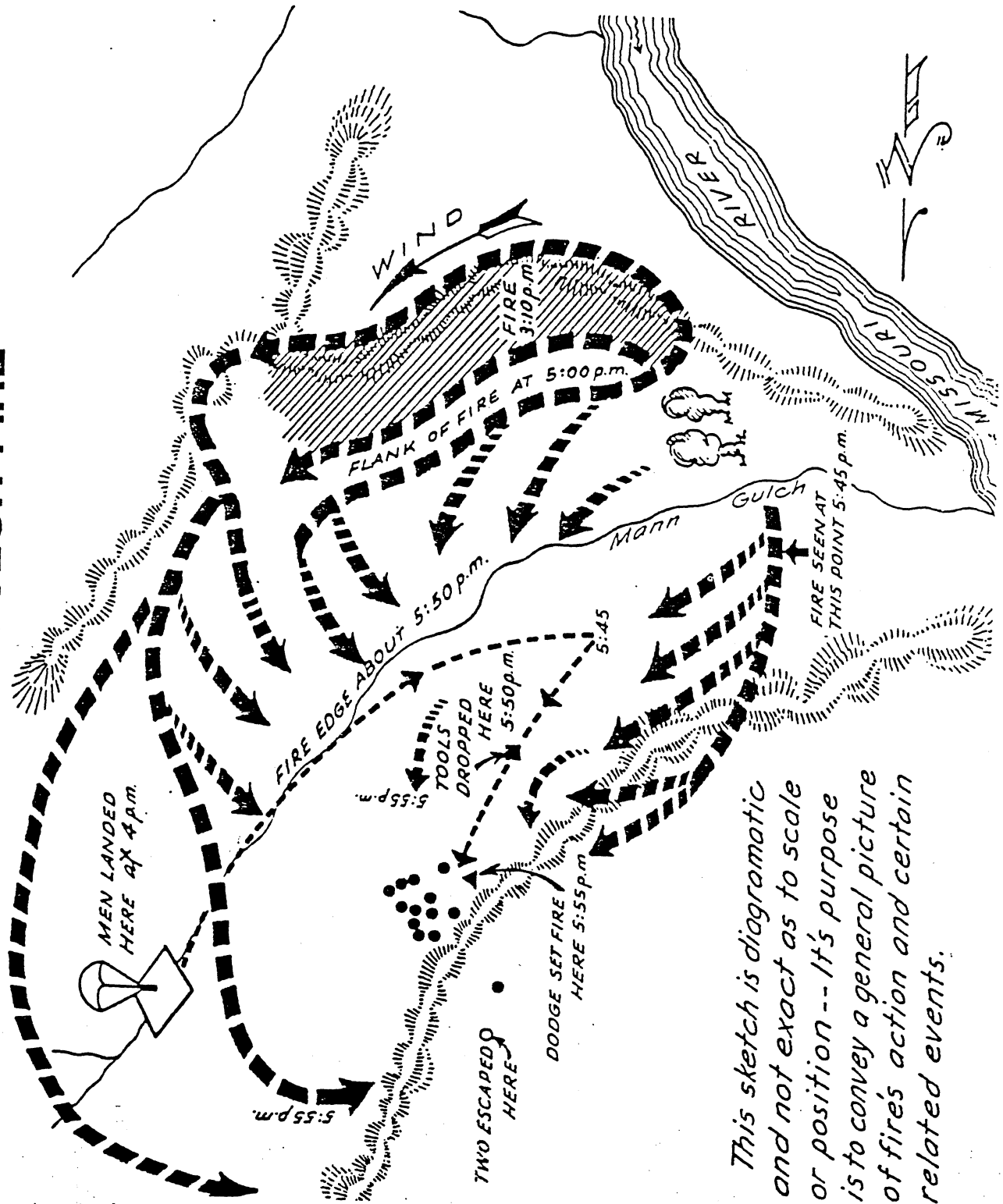
It is not clear how many of the crew heard the foreman's orders or understood what he was trying to do by setting the escape fire and taking refuge in the burned over area. The roar of the fire was tremendous (tall timber as well as doghair thickets were crowning within two hundred feet of the refuge site). Some of the crew deliberately ignored the foreman. One of the comments just after the foreman initiated his escape fire was, "To hell with this, I'm getting out of here!" In any case, all of the firefighters began running away from the onrushing fire.

Within seconds, the fire passed over the refuge site. The heat of the fire lasted ten to fifteen minutes. The crew continued to run to the north-northwest. Two of them reached a rockslide about 1,000 feet beyond the

ridge, north of the foreman's refuge site. These two, and the foreman, were the only survivors (see map for location of fatalities A through M).

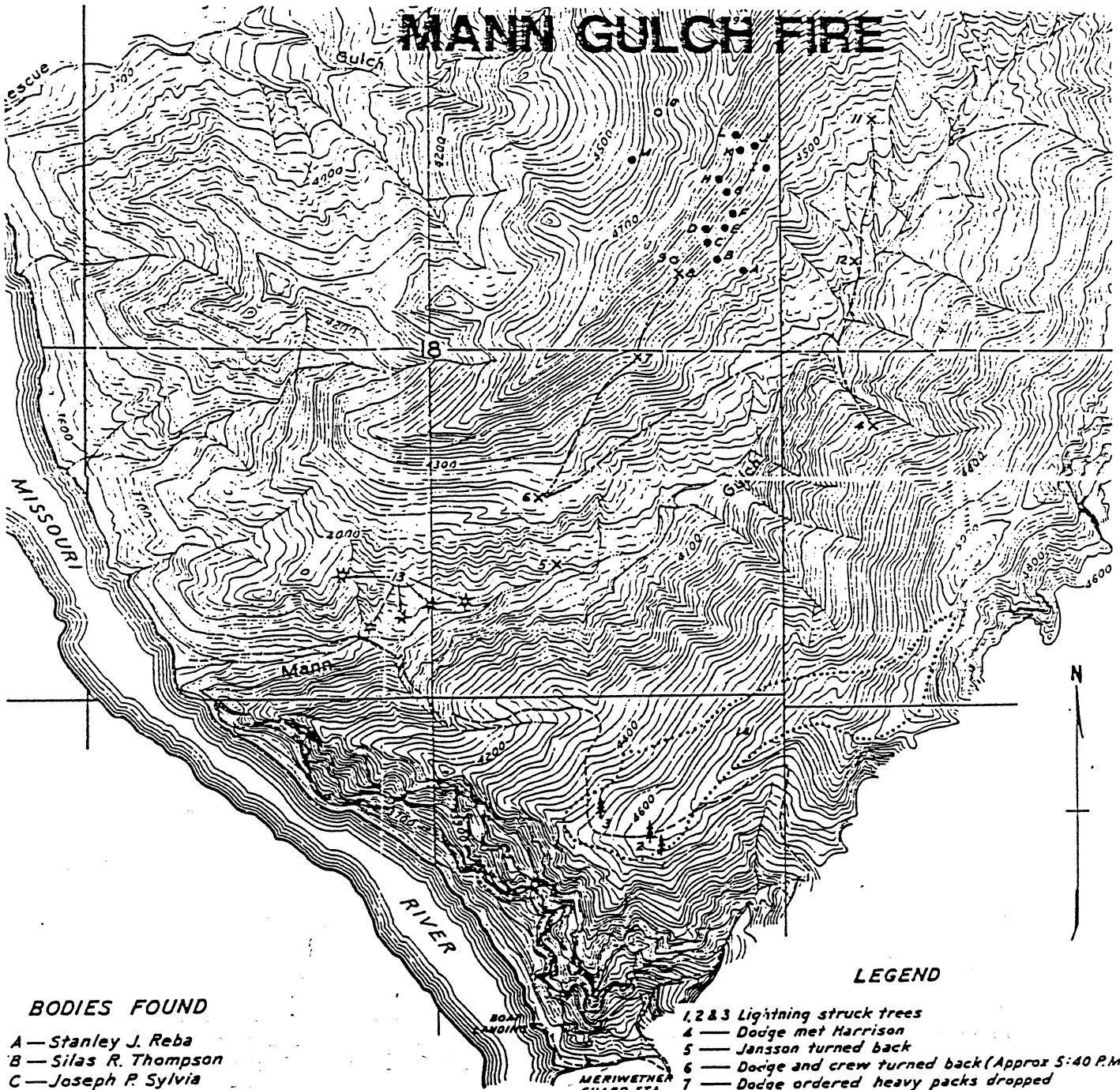
Spread of the fire was stopped on August 7th at about 5,000 acres. It was declared controlled on August 10. Thirteen firefighters (twelve smokejumpers and one local fire guard) died.

# MANN GULCH FIRE



*This sketch is diagrammatic and not exact as to scale or position -- It's purpose is to convey a general picture of fire's action and certain related events.*

# MANN GULCH FIRE



## BODIES FOUND

- A—Stanley J. Reba
- B—Silas R. Thompson
- C—Joseph P. Sylvia
- D—James O. Harrison
- E—Robert J. Bennett
- F—Newton R. Thompson
- G—Leonard L. Piper
- H—Eldon E. Dieltert
- I—Marvin L. Sherman
- J—David R. Navon
- K—Philip R. McVey
- L—Henry J. Thol Jr.
- M—William J. Hellman

## LEGEND

- 1, 2 & 3 Lightning struck trees
- 4 — Dodge met Harrison
- 5 — Jansson turned back
- 6 — Dodge and crew turned back (Approx 5:40 P.M.)
- 7 — Dodge ordered heavy packs dropped
- 8 — Dodge set escape fire
- 9 — Dodge survived here (Approx 5:55 P.M.)
- 10 — Rumsey and Sallee survived here
- 11 — Jumping area (Chutes assembled - burned)
- 12 — Cargo assembly spot (burned)
- 13 — Spot fires (About 5:30 P.M.)
- 14 — Approximate fire perimeter at time of jumping and cargo dropping (3:10 P.M. - 4:10 P.M.)
- 15 — Helicopter landing spot

CONTOUR INTERVAL 20 FEET

Scale

1 Mile