

DISASTER RESEARCH CENTER
THE OHIO STATE UNIVERSITY
COLUMBUS, OHIO 43201

Working Paper #36

A DESCRIPTION OF THE ACTIONS OF THE FOREST SERVICE
IN THE COYOTE FOREST FIRE NEAR SANTA BARBARA,
CALIFORNIA IN SEPTEMBER, 1964

by

E. L. Quarantelli
Department of Sociology
Disaster Research Center
The Ohio State University

rev. 7/71

The Disaster Situation

At 2:03 p.m., Tuesday, September 22, 1964, a fire was reported at the junction of Mountain Drive and Coyote Road, several miles northeast of Santa Barbara, California. A tanker truck from the Mountain Drive Forest Service station arrived on the scene almost immediately, and by 2:25 p.m., two converted World War II bombers had begun dropping a fire-retardant on the area. Throughout the day, 8 air tankers, 2 helicopters and crews, 28 tankers, 8 tractors, and 250 firefighters plus the Santa Barbara County and City, and Montecito Fire Departments were called into service increasing to a total of 1,500 men by 5:00 a.m. Wednesday. Later a Forest Service official reported that the fire was moving in a northeasterly direction with hot, six to eight mile-per-hour winds and gusts up to forty mile-per-hour quickly increasing its strength, causing it to move toward Hide Track, a residential area just above East Mountain Drive, and down toward Westmont College.

At about 5:00 p.m., a meeting was held between the Forest Service and all fire agencies plus the sheriff and California Highway Patrol in connection with fire action. Zones of responsibility were agreed upon and probable down slope winds and need for evacuation were noted. By 7:00 p.m., most of the fire perimeter had been controlled and only about one-quarter to one-half mile of open line was burning on the northeast and east corner in Cold Springs Canyon. However, an hour later, a northeast wind developed and the whole north line of the fire came to life. Control of that area and eventually the entire fire perimeter was lost with the fire moving into a developed area as far south as Sycamore Road.

By 8:00 p.m., the sheriff's department asked for the evacuation of the entire area between Cold Springs Road and Romero Canyon above East Valley Road, and by 11:45 p.m. of Sycamore Canyon, Stanwood Drive down to Stoddard Lane, and all of the Westmont College area where a fire camp was set up. This area measures about 5.25 miles from east to west.

The winds spread the fire quickly, jerking it about and causing some flames to soar over tree tops starting spot fires. About 10:45 p.m., the upsweeping winds made an about-face pushing the fire toward the Santa Barbara city limits where a line of defense was prepared. The hot winds pushed the fire into one canyon after another causing the fire fighters to abandon a back country blaze on the shores of Gibraltar Lake in order to protect the endangered residential areas. Before the night was over, Coyote fire had developed into a three-front attack: (1) Coyote Road near up Montecito, (2) the crest north of El Camino Cielo, and (3) a spot fire which had jumped from east of Gibraltar Road to Rattlesnake Canyon. This third front moved west into the Mission Canyon area reaching San Roque Canyon about 1:00 a.m. Wednesday, passing across San Marcos Pass Road about 4:45 a.m., toward the Goleta Valley.

By 3:00 a.m. Wednesday, the electrical power had been cut along the San Marcos Pass area, the telephone lines in the Mission Canyon-Las Canoas area down to Foothill Road were out, and the Montecito village had become a hubbub of refugee activity where parents were losing their children and many became hysterical as homes were being evacuated from east of Montecito to west of San Marcos Pass Road -- an east-west line of about 9 miles. At 6:00 a.m., approximately 1,800 acres had been burned or were burning, 12 homes had been destroyed and 6 damaged, and Westmont College had lost a womens' dormitory. The forces had been increased to 10 air tankers (bombers), 3 helicopters and crews, 47 tankers, 26 tractors and 1,300 firefighters, 3 of whom had sustained minor injuries. During the day Highway 154 from Santa Barbara to San Marcos Pass was closed to the public by the Sheriff's office due to the many evacuees and others jamming the roads and thus hindering fire crews from getting into danger spots.

In the early morning hours of September 23, the hot winds subsided and welcomed marine air began flowing into the front. However, the fire flared again directly northeast of Westmont College, jumping from Cold Springs Canyon east to Hot Springs Canyon far up the ocean side of the Santa Ynez Mountains, and began burning on Montecito Peak. Despite efforts of crewmen on the mountaintop, a wide tongue of flame roared up and over the summit, crossing Camino Cielo at Cold Springs Saddle. It was being pushed northeast by a "ground-hugging" wind toward Forbush Flat and the headwaters of the Santa Ynez River -- an area of valuable watershed. But again, the capricious wind subsided, and by 6:00 Wednesday evening, about half of the fire perimeter from the mouth of Cold Springs Creek west to Gibraltar Road, due north into Rattlesnake Canyon and back across the northern boundary into the bottom of the West Fork of Cold Springs Canyon, was controlled and a line was being held.

At 6:30 p.m., another coordinating meeting was held at the Westmont College fire camp between the Forest Service, fire chiefs, the sheriff and California Highway Patrol. The weather and fire behavior forecast were favorable. There was only a ten percent chance that the northeast winds would return to ground level that night. Nevertheless, that ten percent chance became reality. Just an hour later, at 7:30 p.m., the winds dropped, reversing the flames and causing them to move down the mountains into the developed and residential areas along the entire front of the fire perimeter: from Toro Canyon (north of Summerland) on the east, to San Marcos Pass Highway (northeast of Goleta) on the west. Fortunately, precautions had been taken on the basis of another surge into the populated area, so that the fire prevention people were not caught totally unaware. But the fire raged out of control and power outages hampered firemen dependent upon electrically driven pumping stations.

By 8:00 p.m. evacuations had begun between Cold Springs Road and Romero Canyon above East Valley Road and two more fire camps were established: at Pendola and La Cumbre Peak (where 26 men would be trapped the next day). Through the night the fire began spreading west cross San Marcos Pass below Painted Cave. At 6:00, the morning of Thursday, September 24, the officials reported that 24,200 acres more had been charred during the fire's rampage

the night before increasing the total approximate acreage involved to 26,000 acres. Sixty homes had been destroyed and an unknown number damaged. Fifteen firemen had been injured, two seriously, and a Class I Forest Service tanker burned. The 10 air tankers were being used ceaselessly, the large 204-B helicopter was added to the 3 helicopters already in use, the number of tankers was increased to 94, the number of tractors to 54, and the number of firefighters to 1,400.

The Santana winds coming from El Camino Cielo continued through the day. The Forest Service authorities described the westward moving fire as one that threw about pieces of rocks, leaves and sticks, pushed and beaten around by a 45 mile-per-hour wind. At that time, there were two distinct fires: the Coyote Road fire which had begun the afternoon of September 22, and the San Marcos Pass fire which was believed to have been set.

Between 1:00 and 2:00 Thursday afternoon, the northeast winds diminished and the southwest winds pushed the fire from Toro Saddle across Camino Cielo on the east to the ridge above Painted Cave on the west -- a distance of 24 miles. During this movement, a crew in the vicinity of Gibraltar Road north of Camino Cielo was cornered by the blaze. Twenty-seven of these men were burned, six severely. In addition, another crew was caught in Romero Saddle with seven men burned, one fatally.

Evacuation of the entire Santa Ynez drainage was ordered at 1:00 p.m. by the sheriff's office. The Red Cross cooperated by opening a center at the San Marcos High School for persons evacuated from the fire area. Later that afternoon, the flames angled toward Blue Canyon and the Santa Ynez River above the Pendola Guard Station on the northeast boundary of the fire area; then advancing down the slopes of the Santa Ynez Mountains, they threatened the entire Los Prietos area. A strategic move for saving this area was the setting of a preventive backfire running 15 miles from Oso Campgrounds to Mono Silt Dam. Another backfire was begun above Summerland about 1:00 Friday morning. The fire's advance toward Goleta Valley was halted Thursday evening by men making a stand along the Old San Marcos Pass Road line being held from the Trout Club area south to the Old San Marcos Pass Road.

The fire was now divided into three zones, each having a fire boss and full staff. Zone I extended from Toro Saddle Divide Peak along the southern periphery to Paradise Road north of San Marcos Summit; Zone II ran from Toro Saddle Divide Peak north along the northern periphery to Mono Silt Dam; Zone III from Mono Silt Dam along the northern side to Paradise Road, north of San Marcos summit. Additional fire camps were established at Los Prietos and the Polo Field with General Headquarters at Tucker's Grove.

On Friday, burning into its fourth day, the Coyote fire had quieted down along the southern coast with no wind to push it further. The situation on the west flank was equally promising. The fire line along Old San Marcos Pass Road at the eastern edge of Goleta Valley was still holding. The breezes were blowing toward the valley but presented no great threat. However, the blaze continued in the mountains behind Carpenteria Valley where fierce battles were being fought to halt the fire's spread through the steep terrain with ten air tankers and helicopters (now numbering nine). The number of fire-

fighters had been increased to 2,367 men. In the Hildreth Peak area, the fire extended beyond the Santa Ynez River in several places. Though it had not reached the Juncal Dam area at the headwaters at the Santa Ynez, the threat was serious. The hottest spot across the river was a loop of fire which was advancing through the Agua Caliente Creek area, nearing the Santa Barbara-Ventura county line. Backfires were used as a preventive measure here.

Approximately 51,000 acres of forest were now involved with the 78 homes and other structures destroyed and many others damaged. The injuries had mounted to a total of 38 with one death. The governor of California declared Santa Barbara County a disaster area.

Friday afternoon, September 25, the fire invaded Ventura County north and south of the Santa Ynez Mountains, fanning out of control to within 5 miles of Ojai. The fire suppression organization was then expanded from three to four zones, the fourth zone extending from the foot of San Marcos Highway north to Paradise Road. Cool, foggy weather was a welcomed event as it began moving into the fire area.

The fire made little progress on most fronts Saturday, September 26, except for a surge to Hildreth Peak. At noon, this was the only remaining hot spot, threatening the back country. To fight the blaze, a new large fire camp was set up at Petrero Seco in Ventura County and heavy air tanker operations used. The forces were increased to 11 air tankers, 14 helicopters, 49 tankers, 88 tractors and 2,837 firefighters. Crews camped at Los Prietos and Pendola worked to complete fire lines on the north, and bulldozers cut breaks along the cooling perimeter. The approximate acreage at this time was 65,000 acres, of which 45,000 acres was valuable Santa Ynez River drainage, one-sixth of the total watershed.

By Sunday, September 27, the fire spreading in the Hildreth Peak area had been stopped with the assistance of air tankers and seventeen helicopters. Secondary lines were being constructed from Mono Silt Dam to Petrero Seco to Divide Peak to Rincon Creek to Toro Creek, with many laterals. A camp in the Moni area was established in the afternoon. At 3:00 p.m. a zone-general headquarters staff meeting was held on fire action and progress at the Polo Field general headquarters with all cooperators in attendance.

On Monday, September 28, the fire spread had been virtually stopped. The activity included dropping fire-retardant chemicals at two spots between Hildreth Peak and Old Man Mountain, plus completing many miles of cold trail in difficult and inaccessible country. At 3:00 p.m., a second and final meeting between the zone and general headquarters staff was held. The fire was declared officially contained at 6:00 p.m. Wednesday, September 30, though the lines were still heavily manned at the Polo Field, Pendola, and Los Prietos camps; and higher temperatures, lower humidities, and stiffer winds increased the threat of a new major outbreak.

Tuesday, October 1, the final official figures were as follows:

1. approximate final acreage - 67,000
2. approximate "on the ground" fire perimeter - 160 miles
3. fire controlled, all lines constructed and tied in at 1800, Tuesday, October 1

4. total estimated suppression costs (through control and mop-up) - \$2,500,000
5. total estimated water-shed damage - \$13,000,000
6. total insured structural losses - \$4,500,000
7. total estimated non-insured improvement losses - \$1,500,000
8. total estimated utility and public road damages - \$1,500,000
9. total estimated rehabilitation costs in Coyote Burn - \$2,600,000
10. total number of injuries - in excess of 150, including 12 serious and one fatality
11. total number of fire camps - 8 with general headquarters - 2
12. total estimated people used on Coyote Fire including rotating replacements - 3,500 representing all 17 National Forests in the California Region and Regions 1, 3, 4, and 6
13. an excess of 600,000 gallons of fire-retardant chemicals dropped

Although the Coyote fire was officially contained by October 8, 1964, several organizations within the community were still very busy several weeks beyond that date. The Forest Service itself was kept busy putting out isolated back-country fires as late as October 14, as the Santana weather conditions (including hot winds, low humidity, and high temperatures) continued in the area. The telephone service had to repair many burned telephone lines and essential national defense and air control lines which were destroyed at La Cumbre Peak and Painted Cave, as well as handle the increase in long distance calls. The hospitals were busy with fire victims until September 29, and the Red Cross, for a time, remained on a stand-by basis to give emergency aid as needed.

The most important problem facing the community at this time, however, was the possibility of flood damage and pollution which would be caused by the winter rains eroding the burned mountain sides of the Santa Ynez watershed sending tons of mud into streams and reservoirs. As early as Saturday, September 26, a meeting was held to establish preliminary plans for stream clearance, construction of debris dams, seeding for erosion prevention, and related work -- the most important of this being the reseeding and emergency debris dams. The king-size gardening job of reseeding was begun on September 29 (before full containment of the fire) by the U.S. Forest Service with the cooperation of the California Division of Forestry, the City of Santa Barbara and the County of Santa Barbara.

The plans of reseeding began with the south coast area continuing to the Santa Ynez watershed. It included the construction of 60 miles of 500 foot wide fire breaks extending from San Marcos Pass to Divide Peak, past Carpenteria along the foot of the mountains behind residential areas and along Camino Cielo at the major ridges. These fire breaks were seeded by means of specially constructed drills, or helicopters in those areas inaccessible to the drills. The other areas were reseeded with a rye, blando-brome grass seed mixture by means of three airplanes and two helicopters. Additional help came from the Mission Canyon Association which donated enough seed for "saturation seeding" (16 pounds of seed per acre) and two citizen's groups.

One of these groups gathered donations for poppy seeds to be spread over the mountain sides along with grass seed, and the other formed a committee -- "Trees for Santa Barbara" -- in order to make trees and other plantings available to fire-ruined areas. The completion of the entire 67,000 acre Coyote burn was announced by the Forest Service on October 16 -- three days ahead of schedule. For control of flooding and water pollution, seven debris basins and four debris dams were built.

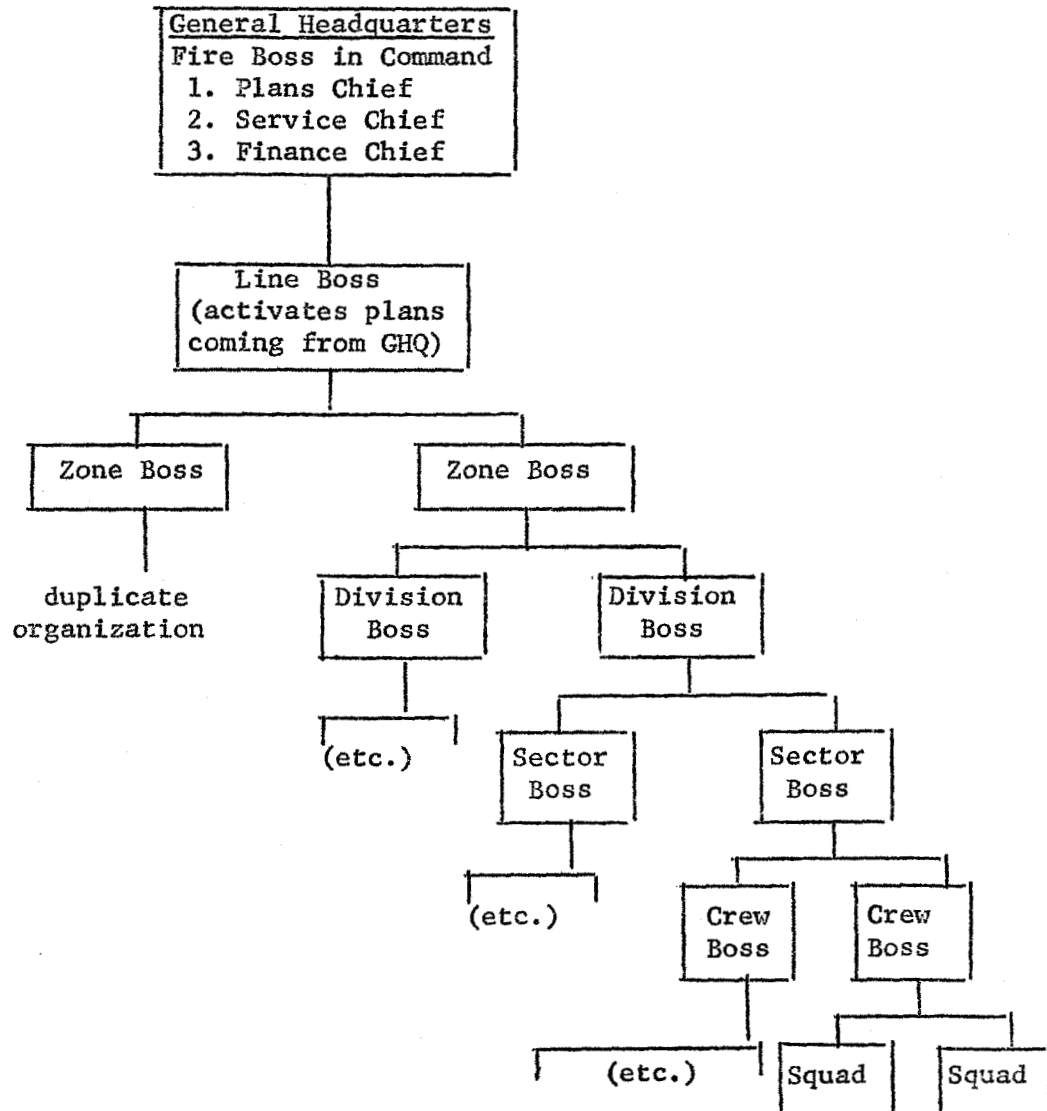
The Actions of the Forest Service

Forest regions are essential as game reserves, watersheds, recreational facilities, and the like. It is the duty of the Forest Service to protect these valuable areas from any possible destruction. Fire control is a primary function in this protective activity, particularly in California where the dangers of a hot, dry atmosphere and the ever-increasing expansion of private dwellings into the forested area are present. For this activity, the Forest Service of Santa Barbara, California, has developed a county-wide disaster plan which provides for coordinating the several agencies which might be involved in forest fire suppression. Included in the plan are the sheriff's office, Red Cross, county sanitation, and other governmental and private organizations plus the five area fire suppression agencies. Each fire agency has a definitely assigned territory of responsibility. However, these territories are so situated that almost any fire in one zone immediately threatens another. When a fire does spread into two or more territories, a Central Board of Strategy is established to assign territorial responsibilities and to coordinate the efforts of the various fire agencies plus any other agency which may be involved. Generally, the Forest Service takes care of the wild land portion of the fire to keep it out of the watershed while the other agencies protect private dwellings and improvements.

The emergency fire fighting structure within the Forest Service itself is a chain of command system which may easily be expanded from a fire boss -- one crew type organization for small fires, to a fire boss with general headquarters coordinating several zones, divisions and sectors for very complex fires. Figure 1 is a simplified diagram of this most complex type fire organization.

Once a forest fire spreads or "blows up" beyond the size that initial attack crews can handle, the situation must be promptly analyzed, the probabilities of spread determined, and manpower and equipment needs evaluated. Organization and activation must be sufficient and efficient, providing for a rapid buildup of men and material. For this reason, the chain of command in Figure 1 is used in all Forest Service regions and each Forest Service employee carries a red card designating his capability for specific fire, overhead, or technical jobs. This enables men and equipment to be sent from one region to another with the assurance that each man will be fully and immediately integrated into the fire suppression structure. The chain of command is followed rigorously and may be changed only by the Safety Officer.

Figure 1: Forest Service Fire Organization



No major alteration in the suppression plan formulated at the general headquarters may be made without the approval of the Fire Boss.

Further organizational efficiency is assured by the dispatching procedures used. Any order for men or equipment is placed through the district dispatcher, who decides which crews and equipment may be most easily moved to the area requested. It is the dispatcher who orders, replaces, supplements, or sends home all equipment. In addition, the Forest Service has a U.S. Weather Bureau mobile unit and a team of experts on fire behavior available to it.

Yet, even with these resources available to the Forest Service, a wild land forest fire is difficult to master. "With a strong wind behind it and a highly flammable fuel type, it may overtake a speeding truck, and it can change direction without warning. Flames may reach heights of 60--100 feet, leap over a line of fire-fighters and start new fires behind them." This description provided by Herbert Kaufman in his work The Forest Ranger aptly describes the activity of the 1964 Coyote fire of Santa Barbara, California.

The fire began at 2:00 in the afternoon of Tuesday, September 22, at Mountain Drive and Coyote Road. It was reported to the Montecito Fire Agency which, in turn, immediately reported it to the area fire fighting unit. The area unit was at the fire site within minutes. Forest Service officials went to the fire as they spotted it themselves or were alerted by the district dispatcher.

The first Forest Service men to arrive on the scene were two assistant fire control officers of the Santa Barbara district. They immediately conferred with one another deciding that one should organize efforts at the bottom of the fire and the other at the top where a two-man coastal test control unit manned with an orchard sprayer was attempting to keep the fire from entering into the Hide Track residential area. The initial attack crew from the Mountain Drive station moved into this area as well, to aid the test control unit in the building of a line along the northeast flank towards the head of the fire. Another line was begun on the western end in an attempt to connect the two lines, thus encircling the fire area.

Air tankers as well had begun dropping fire retardant in the area. The air unit reported; "We put our planes into the air the minute we get a fire call.... As soon as we find anything about this fire at all, we assume that it could be the worst." The planes used by the Forest Service are the beginning of each year to remain on 24-hour standby for fire suppression work. The planes operate in cooperation with the ground forces by means of a lead plane which flies over the area at all times. He is in contact with the boss of the ground crew who tells him where the "drops" should be made. If the drop is possible, the lead plane then directs the other planes into the designated area.

During the activity, the Fire Control Officer (F.C.O.) from the Santa Barbara District and another from the supervisor's office arrived at Coyote Road, and upon conferring with one another, decided that the best strategy would be to concentrate the effort at the front (northern edge) of the fire where a fuel break had been prepared. The Santa Barbara F.C.O. went to the area (where the assistant F.C.O. had already been organizing)

and took command of the operation. It is usual procedure for the highest ranking Forest Service official at the scene to take charge of the situation until the next higher ranking official arrives; the former, then, naturally assuming his normal position.

The F.C.O. had some difficulty in bringing men up the area because of confusion arising when the fire spread to near-by dwellings, side-tracking the Forest Service men from their objective of keeping the fire out of the watershed area. Protection of private dwellings is the responsibility of the city and county agencies. One official remarked about the situation: "Our boys aren't used to this type of thing and... if this fire had occurred some place where ... wasn't anyone but us involved ... we might possibly have picked this thing up, but there were the city, the county, houses afire.... This is not the usual run of fire for us, so some of our newer people got sidetracked from the real objective which is to stop that fire as soon as you can."

Despite the F.C.O.'s efforts to construct the fire line the situation became more complex as the fire spotted several yards to the north, behind the firemen. With this complication, the initial attack stage ended, and a large fire organization was formed. Several Forest Service officials reported that this transition was easily accomplished. "The organization immediately switches from initial attack to full scale fire organization; it just progresses this way ... We just slip into it." Each man knew what his qualified position was and he automatically assumed this responsibility.

Meanwhile, the F.C.O. from the supervisor's office, who had assumed the position of fire boss, went to Westmont College requesting that its campus be used as a fire camp site. The camp was set up, radio communications were in readiness, and a heliport was established on the Westmont athletic field and in operation by 4:00 p.m. The helicopters, like the bomber planes, make "drops" of water and fire retardant, but their greatest importance is in reconnaissance and rescue work.

A plan of attack was decided upon by the fire boss in consultation with his assistant and the coordinator of all aircraft activity, the Santa Barbara F.C.O., and the Santa Barbara District Ranger who was acting as liaison officer between the various fire agencies involved. Fortunately, the area in which the fire occurred had been previously chosen as a potential fire area and a tentative plan had been arranged, which included possible positionings for dozers and large tankers -- equipment which is not easily manageable in the mountain terrain. The activated plan followed much the same pattern as the initial attack plan. The fire lines were to be constructed along wither flank with an additional tractor line moving from Sycamore Road down to the top of the fire in order to encircle the area.

The fire had begun adjacent to the City of Santa Barbara and within the Montecito and Forest Service districts, thus necessitating a joint meeting between these agencies. The fire boss called the meeting for 5:00 p.m. to discuss the probabilities of the situation and the areas of responsibility. It was reaffirmed that the Forest Service would take the area threatening the watershed, which included all the fire area above Mountain Drive, and the city and county agencies would be responsible for protection of structures, or that area along and below Mountain Drive. Weather conditions were dis-

cussed at length because the fire boss expected a dry northwestern wind to begin blowing toward the city as it had the night before. If this situation materialized, it would necessitate evacuation of endangered residential areas, and a rapid relocation of forces.

At this time, the situation was considered to be adequately in hand. The fire was not advancing, there was little wind, and crews were actively building fire lines on either flank in an effort to "pinch this thing off." More crews were working toward the same objective above and below the area. Hopes were high that this fire could be controlled.

However, the northwest wind did begin to blow at approximately 7:30 p.m. By 9:00 p.m., it had whipped the flames into considerable activity. The crews on top the fire were not endangered, and therefore, were able to do some effective line building in this area from the Teahouse to Gibraltar Road where they remained to regroup their forces. In the northeast section, however, the fire became very active. It outflanked the line builders, causing the entire effort in this section to be lost. At about 10:00 p.m., an attempt was made to control this section by backfiring along Gibraltar Road; this effort failed under the adverse wind conditions. These forces then moved to the ridge west of Gibraltar Road. That night, the fire remained below Cold Springs Canyon, causing no major difficulties on the eastern side, but moved southwest as far as the residential area near Sycamore Road.

During the early morning hours of Wednesday, September 23, the forces along Gibraltar Road were successful in their effort to contain the fire by building a line along Rattlesnake Creek, the first drainage west of Gibraltar Road. Throughout the day, the Forest Service continued work on the upslope side of the fire, constructing a line around the upper regions of the 1,800 acre blaze. They were successful in holding the north line from Cold Springs Creek west into Rattlesnake Canyon and down Gibraltar Road, then connecting with the fire agencies handling the Mountain Drive area. This line was completed by 6:00 p.m., Wednesday.

As the western side of the fire was being brought under control Wednesday morning, the formerly quiet eastern side was brought to life when the wind changed its direction by 180 degrees. The fire began an unchecked run out of Cold Springs Canyon towards Montecito Creek, burning over the northern line which had been constructed the night before. The fire boss reported that sufficient manpower and equipment were in the area, but because of the heat of the fire and adverse terrain, they were not able to hold the line.

Sometime before noon on Wednesday, the fire boss and his assistant went to Camino Cielo in order to survey the fire activity as a whole and determine effective control points. It was apparent that the fire was going to approach and cross the Camino Cielo near Cold Springs Saddle unless preparations were made to halt its advance. Tractors, tankers, and manpower were ordered to the Cold Springs Saddle area, but the fire was over 200 acres in size and most of the resources already committed. Only five tractors and one hand crew plus air tankers were available. These few forces worked frantically to construct a line and to fire the area, taking advantage of a characteristic of all wildland forest fires. A wildland fire moves in long narrow strips which may move to the top of a ridge, sometimes stopping there

and receding. This occurred two or three times, giving the crews an opportunity to clear some of the area, but on the third or fourth "run" the wind blew the fire across the Cold Springs Saddle into the Santa Ynez drainage area toward Forbush Flat and the Santa Ynez River. By 1:00 p.m., 300 to 500 acres of this extremely important drainage area was in flames.

Just prior to the fire's crossing the assistant fire control officer from the Santa Maria district arrived at the special request of the fire boss. The fire boss gave him the responsibility of coordinating the activity of the ground forces, which were now beginning to arrive, in cooperation with his assistant who was, again, to coordinate the air attack. Approximately 3:00 p.m., after this operation was under way, the fire boss returned to the Westmont Fire Camp to begin making plans for the night. The major concerns were (1) forming a plan of action which would enable a line to be formed around the entire fire in one shift, and (2) the possibility that the wind would again shift 180 degrees in direction as had occurred the previous night. After discussing the problems with his plans chief and ordering what additional forces he felt were needed, the fire boss called for another joint meeting of the various fire agencies at 6:30 p.m. The purpose of the meeting was to coordinate their plans, reaffirm areas of responsibility, and discuss the possibility of problems with the wind. Preparations were made with this in mind, based on the experience that this wind runs in a cycle of three or four days even though the weather forecast mobile unit and the team of fire behavior experts predicted only a 10 percent chance of its occurrence.

Less than an hour later, experience proved itself to be right. About 7:30 p.m. the winds began blowing through Westmont College. "This began the big push Wednesday night and literally picked up the fire we had controlled from Cold Springs around the northwest side and back to Mountain Drive." One fire official described the situation in these terms: "We were mentally ready for it; we had placed orders to have material and people and equipment there, but whether we actually visualized the extent of the blow on Wednesday night, I question.... It blew that fire all over the mountain." By morning, the fire had spread north from Gibraltar Road to San Marcos Pass; to the east 4 miles and to the west 10 miles. The equipment was plentiful (there were 200 tankers working around the fire), but not nearly enough to meet the need.

Once again it became necessary to increase the complexity of the fire suppression organization. About midnight on Wednesday, the fire was divided into zones. Los Padres Forest Supervisor assumed the role of fire boss. He appointed the former fire boss as zone boss of Zone I which included everything on the south side of Camino Cielo Ridge. The second zone, which included everything north of Camino Cielo, was put under the direction of an F.C.O. from the San Bernardino National Forest. Fire camps were established at La Cumbre Peak and Pendola Guard Station.

During the night, Forest Service crews worked unsuccessfully in the back country. The fire made sporadic lunges into the dry, heavy underbrush, forcing the crews to abandon their work of firing and building fire breaks until the fire had again receded. There was a shortage of manpower here, as well, as more and more crews were being committed to the coast side of the fire which was moving into residential areas above Santa Barbara and Montecito.

By 4:00 a.m. Thursday, the fire had gone northwest as far as San Marcos Pass highway. The fire boss and the Zone I boss decided that in order to keep the blaze above Goleta Valley, a backfire would have to be begun along the Old San Marcos Pass Road. Backfiring was begun along a ridge closer to the highway as soon as sufficient fire fighting and Forest Service units had arrived. Though the wind was affecting the effort adversely, control was gained left of the highway. The next step was to continue backfiring along Old San Marcos Pass Road up toward San Marcos Summit. But the plan was not immediately activated due to the involvement of the Painted Caves residential area on the top of the mountain. If this plan was to be followed, this community would be included in the backfire area. But it was determined that a backfire along the Old San Marcos Pass Road would be the last opportunity to stop the fire on the west end for several miles. At 8:30 a.m., the Zone I boss ordered the backfire to be begun along Old San Marcos Pass Road.

On the eastern side of Zone I (Toro Creek), 175 men were constructing a line by hand since the terrain was extremely steep and rocky, making it impossible to use tractors. The line was to extend from a ridge to the top of Camino Cielo immediately west of Toro Creek with the intention to fire this area, thus establishing a control line on the east flank before the main fire had reached that far. At that time (10:00 a.m.) the fire was less than half a mile away from the Toro Creek area. Another line was being built along the Camino Cielo Ridge by two tractors with the aid of three hand crews. They were to fire this area and stay ahead of the main fire in an attempt to keep the fire from crossing the ridge into the Santa Ynez drainage.

About 1:00 p.m., a call for aid was issued by the Santa Barbara F.O.O. from La Cumbre Peak in Zone II where 26 men had been trapped while attempting to build a line in that area. The call was monitored by the Zone I boss who immediately sent helicopters and requested La Cumbre fire camp to send ground rescue forces and air tankers to the area. At the same time, the wind, which had been predicted to blow towards the coast all day Thursday, had begun to change. In less than 30 minutes, the wind had changed 180 degrees in direction causing the eastern flank of the fire to become very active. The fire once again began moving north into the Santa Ynez drainage. Air tankers were immediately reallocated to this area. The situation, however, remained difficult because of the steep terrain and the dense smoke. The boss of this sector reported that the fire crossed his line in several places and was burning deep into the drainage area. He considered his entire line lost, and was, at this time, concerned only with regrouping his forces (which were stationed from Romero Saddle to Toro Saddle) into a safe area. One crew, however, became trapped in Romero Saddle, 1.5 miles from where the forces were regrouping. Since they had no radio, the sector boss was not aware of their situation until some time later. One of these men was fatally burned.

On the western side, the back fire had been completed along San Marcos Road up to Painted Cave Road. The operation had been halted here in the case that the wind change would affect the plan. Several homes in the Painted Caves residential section were already afire. At 2:30 p.m., the line boss, with the approval of the Zone I boss and the fire boss, decided to send his fire hand crews and tankers into the area to save what they could. By 6:00 p.m. Thursday, the west flank was contained to the top of Camino Cielo.

The situation on the east side of the fire, however, was not quite as fortunate. About 3:00 p.m., the fire "rolled down off" the Camino Cielo Ridge threatening the cabin area in Los Prietos. The assistant F.C.O. from the supervisor's office, who had just arrived from the Painted Caves area, took over operations in this zone as the equipment and manpower, which had been ordered, began to arrive.

A back fire was begun along the road near the cabin area to keep the fire from crossing the canyon, but a whirlwind developed behind the fire-fighters, pulling the fire across the road and into the cabins. The team gained control of this run, saving the houses, then spent the rest of the afternoon constructing a line behind the houses, backfiring the area and setting up a fire camp at Los Prietos. The backfiring was completed at 11:00 p.m. The fire was, then, controlled to the Canyon but continued burning further east. The amount of manpower under the F.C.O.'s control was still increasing, enabling him to activate a line from Los Prietos to Painted Caves and another from Los Prietos to Pendola Guard Station. These were completed early Friday morning.

Thursday evening, September 24, the fire edge on the coastal side of the mountains extended from Toro Canyon to Painted Caves, a distance of 24 miles. On the north side of the mountains, the fire had extended in several places across the Santa Ynez River and was moving toward Hildreth Peak. That night, however, there was no wind change and, therefore, the forces were able to do effective work in controlling the fire's expansion.

By Friday morning, it was possible to put men on the fire's edge in the vicinity of Tamosa Lookout in Los Prietos. These crews and the supportive air craft were able to control this area. The F.C.O. stated that he "felt fairly confident then. As far as the Los Prietos area was concerned, it was pretty safe." Other crews of this division began extending their line east towards the portion of the fire which had crossed the Santa Ynez River near a boys' camp.

Friday, September 25, the fire continued burning on its northern edge beyond the Santa Ynez River, increasing the burned area to 65,000 acres. No strong winds occurred during the day, enabling the fire teams to gain control of the majority of the fire area. The size of the fire suppression organization could be lessened somewhat, and the position of fire boss was again assigned to the fire control officer under the forest supervisor.

The crucial point in the fire on Saturday, September 26, was the section which had burned beyond Hildreth Peak. Men and equipment began arriving in this area Friday evening to begin establishing a huge fire camp at Petrero Seco. Saturday morning, the Supervisor's Assistant F.C.O. and the F.C.O. from the Santa Barbara district arrived at the camp to assume, respectively, the positions of zone boss and line boss. The zone boss surveyed the area by helicopter, and upon conferring with the line boss, decided that the crucial area was the canyon behind (north) Hildreth Peak. Manpower was flown to this position to construct fire break lines. By Sunday morning, September 27, control had been gained in this zone. Secondary lines were being constructed along the line: Mono Silt Dam, Petrero Seco, Divide Peak, Rincon Creek, Toro Creek. These lines remained heavily manned until the first week of October. Full containment of the fire was officially accomplished on October 14, 1964.

In addition to their fire suppression activities, the Forest Service conducted a detailed investigation in order to determine the cause of the fire, to establish its point of origin, and to verify suspected arson activity during the fire. The primary investigation team consisted of a district Forest Service official and the prevention officer from the area in which the fire originated; in this case the Mission Canyon area. As the fire became larger and more complicated, the zone and regional investigators were requested to offer their services. Additional investigation teams were formed in connection with other agencies to investigate the accidents which occurred at Romero Saddle and La Cumbre Peak, and any private complaints voiced against Forest Service activity during the fire suppression activity.

September 29, a plan was activated to reseed the 67,000 acre Coyote burn. The plan began with the reseeding of the south coast area continuing on to the Santa Ynez watershed, and included the construction of 60 miles of 500 feet wide fire breaks extending from San Marcos Pass to Divide Peak past Carpinteria along the foot of the mountains behind residential areas and along Camino Cielo at the major ridges. The fire breaks were seeded with a rye, blando brome grass seed mixture by means of specially constructed drills, or, in those areas inaccessible to the drills, by airplanes and helicopters. The reseeding plan was completed on October 16, 1964.