

# **Spanish Ranch Fire Case Study #7**

## **Analysis Worksheet and Sequence of Events**

**PART 1**

1. SITUATION AWARENESS
  - a. When did the involved personnel obtain the basic critical information?
  - b. Who scouted the assignment?
2. HAZARD ASSESSMENT
  - a. Which indicators of problem fire behavior were present?
  - b. Which Watch Out situations were present?
  - c. What other warnings or indicators were present prior to the entrapment?
3. HAZARD CONTROLS
  - a. Where was the fireline anchor point?
  - b. Who was the established lookout?
  - c. What communication links were in place between the involved personnel and their fireline supervisor or adjoining forces?
  - d. What was the identified escape route(s)?
  - e. Where was the identified safety zone(s)?

4. DECISION POINT

- a. Were the necessary hazard controls in place for the situation?  
If not, what was lacking?
- b. Were the strategy and tactics based on expected fire behavior? If not, why?
- c. Did all involved resources have an opportunity for feedback during the decision making process? If not, why?

5. EVALUATE

- a. What individual factors existed that increased the potential for decision errors to occur?
- b. What organizational factors existed that increased the potential for decision errors to occur?

**PART 2**

**CONSIDER THE CAUSAL FACTORS IDENTIFIED IN PART 1; THEN SUMMARIZE THE SIGNIFICANT LESSONS YOU THINK THERE ARE TO BE LEARNED FROM THIS FATALITY FIRE.**

**FATALITIES AND SERIOUS  
INJURY INVESTIGATION REPORT**

**SPANISH RANCH FIRE #395**

**15-August, 1979**

**SAN LUIS OBISPO RANGER UNIT**

**CALIFORNIA DEPARTMENT OF FORESTRY**

**CENTRAL COAST REGION**

**OCT. 9, 1979**

## II. SEQUENCE OF EVENTS

### Initial Dispatch:

At 1402 hours on Wednesday, 15-August, 1979, Tim Lynn, an operator at the San Luis Obispo Ranger Unit Emergency Command Center in San Luis Obispo, received a call from the Dispatcher of the Santa Barbara County Fire Department notifying Lynn of a reported wildfire burning along State Hwy 166, west of the townsite of New Cuyama. David Driscoll, E.C.C. Chief, immediately dispatched an appropriate level of initial attack forces to what was to become the Spanish Ranch Fire.

Both the Los Padres National Forest and the Santa Barbara County Fire Department also dispatched appropriate levels of forces at approximately 1402 hours from their stations nearest the fire in accordance with existing mutual aid arrangements.

Initial attack forces responding from the three agencies consisted of one light aircraft with an Air-Coordinator, two medium air tankers, eight fire engine companies, two bulldozer units, and CDF District Ranger Lewis Killion, who would assume command as Fire Boss.

CDF's Nipomo Engine Company, consisting of Captain Edwin M. Marty, in command, and Fire Fighters Scott Cox, Ronald T. Lorant, and Steve R. Manley were delayed in their response because of mechanical difficulties with their engine (#5373). However; at 1510 hours, after they had effected repairs to their engine, Captain Marty and his Nipomo Company began their response to the Spanish Ranch Fire.

## Initial Attack

A Santa Barbara County Fire Department engine company from New Cuyama and a Los Padres National Forest engine company from Pine Canyon Guard Station arrived at the fire at approximately 1423 hours, followed within two minutes by Airco 53. These forces reported the fire to be burning with a slow to moderate rate of spread and, depending upon their perspective, a fire size ranging from ten to fifteen acres to seventy-five to one-hundred acres, the latter being the estimate from Airco 53. A three to five mile per hour northeast wind, reported by the Pine Canyon Company, was influencing fire behavior and direction of spread. However, Airco 53 reported northwesterly winds.

Some of the responding forces, approaching from the west on Hwy 166, reported cumulus directly over the fire -- most did not, however; reporting normal summer cumulus to the north and east of the fire. Neither the Air-Coordinator nor his pilot observed cumulus directly over the fire during the early stages of the fire, nor at anytime during the fire.

After "sizing up" the fire, Airco 53 suggested to the San Luis Obispo E.C.C., that additional forces be dispatched to supplement the initial response effort. The San Luis Obispo E.C.C., through its normal communication channels, requested additional resources, which included engine companies, bulldozers, hand-crews, and two air tankers.

### Initial Attack continued:

At 1440 hours, Fire Apparatus Engineer John Schroeder of the CDF Nipomo Station arrived with his engine company of two fire fighters on engine company 5379. Schroeder and others now reported a westerly wind of approximately five to eight miles per hour, representing a reversal of wind direction to what the "first-in" forces reported.

Schroeder assumed command of the fire and continued the strategy and tactics of the "first-in" forces -- namely relying upon State Hwy 166 for an anchor on the south and working both flanks with a direct attack, from which he would attempt a pincers action upon the head of the fire. Schroeder assigned incoming initial attack forces, upon their arrival at the fire, to this objective. He was supported to this end by air tanker activity.

### Extended Attack:

While enroute to the fire, Killion observed a cumulus cloud, appearing to him to be located directly over the fire, with the smoke column of the fire "stuck in the bottom of the cloud". At the time of the observation, Killion eastbound of State Hwy 166, estimated that he was four miles west of the fire.

At 1503 hours, when Killion arrived at the fire, he found the fire to have burned approximately three hundred acres. The fuels were woodland-grass on the lower slopes, and buckwheat-sage brush, with scattered yucca upon the upper, steeper slopes.



## Extended Attack continued:

Initial attack forces had previously reported five to ten mile per hour winds, varying erratically from northeast to southwest, causing a general north to northeast direction of spread. Killion observed, upon his arrival, "calm to zero" winds. Within fifteen to thirty minutes after his arrival, Killion established his command post along Carrizo Canyon Road at the base of a ridge leading to hill 2465 on Sycamore Ridge.

It was readily apparent to Killion that, despite sound strategy and tactics of the first-in forces, the initial attack had failed. Killion relieved Schroeder of command of the fire and personally assumed Fire Boss responsibilities. Killion queried the San Luis Obispo E.C.C. as to the nature and number of forces committed to the fire. After a few minutes reflection, his situation appraisal lead him to extend the attack by the commitment of additional forces:

### A. The Plan:

#### 1. Change of Tactics:

The benign appearance of the fire, along with no appreciable wind observed during the decision making process, caused Killion to change from a direct to indirect attack upon the fire by constructing a bulldozer line one-quarter to one-half mile in advance of the fire, across the fire's head or north flank.

#### 2. Line Location:

Killion consulted with Tim Turner, Airco 53, as to possible

locations for a bulldozer line across the northern flank or head of the fire. It was suggested by Turner and determined by Killion that the north flank bulldozer line would be located upon the ridge, starting at the Carrizo Canyon Road in Section 25, Township 12N, Range 30W, SBB&M and terminating on hill 2465 in Section 36, Township 32S, Range 18E, MDB&M on Sycamore Ridge.

(The grade up the ridge measured an average 35%, and was approximately three-quarters of a mile in length.)

It was determined by Killion that the line to be constructed to the top of hill 2465 would be fired from the top down to the command post where indirect line construction had been initiated. The option for maintaining the indirect line as merely a safety or secondary line was also kept open by Killion. If such were the case, he would resume a direct attack upon the head of the fire with arriving incoming forces.

Air tanker effort was devoted to the north and west flanks of the fire to assist the direct or parallel attack upon the west flank and to "keep the fire knocked down" across the north flank. This would enable them to "get a dozer line on the ridge from east to west without too much problem".

### 3. Communication Loop:

The elements of the plan and its objectives were explained to Ted Mathiesen, Pine Canyon, Los Padres National Forest, Fire Prevention Technician, who was among the first-in

## Extended Attack continued:

forces, Keith E. Simmons, Santa Barbara County Fire Department Battalion Chief, who had arrived at the fire scene at approximately the same time as Killion, and with Robert A. Righetti, District Fire Management Officer, Los Padres National Forest, who had arrived at the command post after Killion had committed forces to the indirect attack. None offered dissenting opinions to Killion. Mathiesen had second thoughts; however, mentioning to Righetti, his superior, that he thought people were sent too far out in advance of the fire with no backup protection. The flashy fuel, consisting of grass and sage, and the steepness of the slope leading to Sycamore Ridge bothered Mathiesen. Righetti did not agree; because of the lack of wind and the mild behavior of the fire. Neither Mathiesen nor Righetti mentioned Mathiesen's second thoughts to Killion.

### B. Forces Committed to North Flank:

Richard R. Corning, CDF Heavy Fire Equipment Operator, arrived at the fire with his transport and bulldozer at 1453 hours. He unloaded his bulldozer from his transport at a location about five hundred yards south of Killion's command post on Carrizo Canyon Road, and immediately cleared an area of flammable vegetation so as to provide a fireproof parking place for his transport and then parked the transport within the cleared area. He then proceeded to construct fire line from the transport parking area westerly across

the bed of Carrizo Creek for a distance of approximately one hundred yards, turned northerly and constructed a fire line directly along the fire for about four hundred yards. From this point he started indirect line construction for about one hundred yards, where he met Fire Boss Killion at the command post.

Killion and Corning discussed the possibility of constructing an indirect fire line up the ridge to hill 2465. The wind was "quiet" and the fire appeared calm to Corning and Killion. Both men concluded that the assignment was safe, allowing Corning to begin fire line construction with his bulldozer at about 1530 hours.

At 1550 hours, Captain Marty and his Nipomo-based engine company arrived at the fire command post and reported to Killion for an assignment. Marty's assignment was to lead his three men, equipped with hand tools, two back pumps and fuzzees, to the top of hill 2465 via Corning's bulldozer line. Marty's crew was to provide protection for Corning and to backfire only in the event that it became necessary for everyone's safety. Marty and his Fire Fighters were able to begin their assignment within five minutes of their arrival at the command post.

Arriving at the command post at the same time as Captain Marty, James H. McPharlin, CDF State Forest Ranger I, reported to Killion for a fire line assignment. Killion instructed McPharlin to proceed up Corning's dozer line to one of the

## Extended Attack continued:

high points on the ridge in order to obtain a better view of the fire and to keep the Fire Boss informed of fire conditions.

Before proceeding with his assignment, McPharlin changed into his Nomex clothing. He considered taking his "fire tent" with him, but after appraising the fire situation in relation to the dozer line being constructed, determined that he would not need the shelter. McPharlin, a credentialed instructor in intermediate fire behavior, felt "perfectly comfortable" with his normal safety gear. He observed that the fuel "wasn't heavy, there was no immediate fire threat, and the wind did not feel unusual", so much so, that he paid "very little attention to the wind". He offered no dissent to Killion with respect to the assignment. Captain Marty and his crew were seven hundred yards up the dozer line ahead of McPharlin.

At approximately 1610 hours, John K. Faezelle, Lead Bulldozer Operator, Santa Barbara County Fire Department, arrived at the fire command post and received orders from Killion through Keith Simmons, Santa Barbara County Fire Department Battalion Chief. Faezelle's instructions were to widen, by one blade width, the dozer line being constructed by Corning. These instructions were amended within minutes because of an increase in fire intensity to proceed at once to Corning's location and to assist him.

## The Accident:

In the bottoms of the steep ravines to the south and to the foot of hill 2465, the fire burned through the unattended fire retardant lines which had been established by the air tankers. Within seconds, after burning through the retardant lines, a finger of fire raced up the chimney of a ravine and penetrated the uppermost south face of the peak, extending to the crest. Unpredictable, surfacing westerly twenty-five to thirty mile per hour winds aloft over the fire, acted upon the finger of fire and, together with the complex topography, impacted upon the finger; creating a new firehead, driven northerly and easterly by the winds.

As the finger of the fire crested hill 2465, Turner called Corning and informed him that he should probably start back down the hill. During that conversation, Killion inquired as to whether or not that part of the dozer line that had already been constructed could be salvaged. Turner replied that he didn't think so, unless it could be fired out immediately. Immediately after this exchange, Turner advised Corning that he definitely could not beat the fire to the top of the hill and to head back down the line. Corning requested air support from Turner. Turner responded that he had no air tankers over the fire.

Within two or three minutes of the above events at approximately 1615 hours, the entire northern flank erupted into a high intensity fire, driving through the light-flashy fuels toward the ridge where Corning and Captain Marty and his crew were located.



## The Accident continued:

Corning had time to construct a safety island four blades wide, park his bulldozer, lower the two fire resistant side curtains on the bulldozer, and wrap himself within a fire resistant blanket, before the flames enveloped him and his machine. Within a minute or two, Captain Marty and his crew, located approximately five hundred yards down the ridge to the east, were subjected to extreme heat as the fire raced toward them. Marty called Killion to inform him that he would not be able to reach Corning before he would have to start firing his line. Killion told him to go ahead if it was necessary. A few moments later, Marty called McPharlin to tell him that the fire had crossed the dozer line. Marty attempted backfiring operations in order to provide a safety island for himself and crew. Spot fires erupted to the north of the dozer line, which together with the onrushing flames from the south, overwhelmed them within a firestorm of smoke and flame.

Captain Marty and Fire Fighters Lorant and Manley elected to maintain their position upon the ridge, and all three died instantly as smoke and flames overwhelmed them. Death to all three is attributed hemorrhagic pulmonary edema and third degree total body surface burns, due to inhalation of hot gases and burns received.

Surviving Fire Fighter Cox ran easterly down the ridge and escaped with grave injuries (second and third degree burns over sixty percent of his body).

## Rescue and Transport of Fire Fighter Cox:

At approximately 1620 hours, Feazelle saw a badly burned man emerge from the smoke to the west and up the dozer line approximately twenty-five yards distant from his position. Feazelle notified the command post of his observation and proceeded immediately to render aid to the burned man. He loaded Cox onto his bulldozer and proceeded toward the command post, but immediately experienced difficulty in simultaneously operating the bulldozer and keeping Cox upon the machine. However, he was able to transport Cox to a location upon the ridge, which was a suitable helicopter landing spot. Feazelle stopped his machine and waited for assistance which, he was told, was to arrive shortly.

Joseph Poole, California Department of Forestry Cuesta Conservation Camp Crew Supervisor and his Crew #4 of Inmate Fire Fighters arrived within minutes and treated Cox by liberally dousing him with water and placing him in a "Santa Clara Burn Bag".

At approximately 1630 hours, a Santa Barbara County Rescue Unit, with Kenneth Frank, M.D. in attendance, was dispatched to the fire scene to render aid to survivors. (Frank is a U.S. Public Health Physician who had been working in a clinic located in the New Cuyama townsite. He has subsequently left the area. The investigation team was unsuccessful in determining his whereabouts.) At approximately 1700 hours, Frank and the rescue unit arrived at the fire scene and began stabilizing Cox.



## Rescue and Transport of Fire Fighter Cox continued:

At approximately 1756 hours, U.S.F.S. helicopter #30 arrived. After Frank had stabilized Cox, he was loaded onto the helicopter, which transported both Cox and attending physician Frank to the Goleta Air Attack Base near Santa Barbara. They arrived at approximately 1748 hours and were met by Ventura County Sheriff's Office helicopter C#5 with Joane G. Baumer, M.D., on board. Baumer, with Frank, immediately revived Cox, who was lapsing into unconsciousness. Cox was then transported by helicopter C#5 to the emergency room of the Goleta Valley Hospital for an intravenous procedure of some twenty to thirty minute duration. Thereafter; with Baumer in attendance, Cox was transported in helicopter C#5 to the Sherman Oaks Burn Center, arriving at approximately 2030 hours.

During the entire stabilization and transportation procedure, A. Jack Grossman, M.D. of the Sherman Oaks Burn Center was in continual contact with the Dispatch Center of the Los Padres National Forest at Goleta, who in turn relayed Grossman's instructions and advice to the rescue crew and attending physicians.

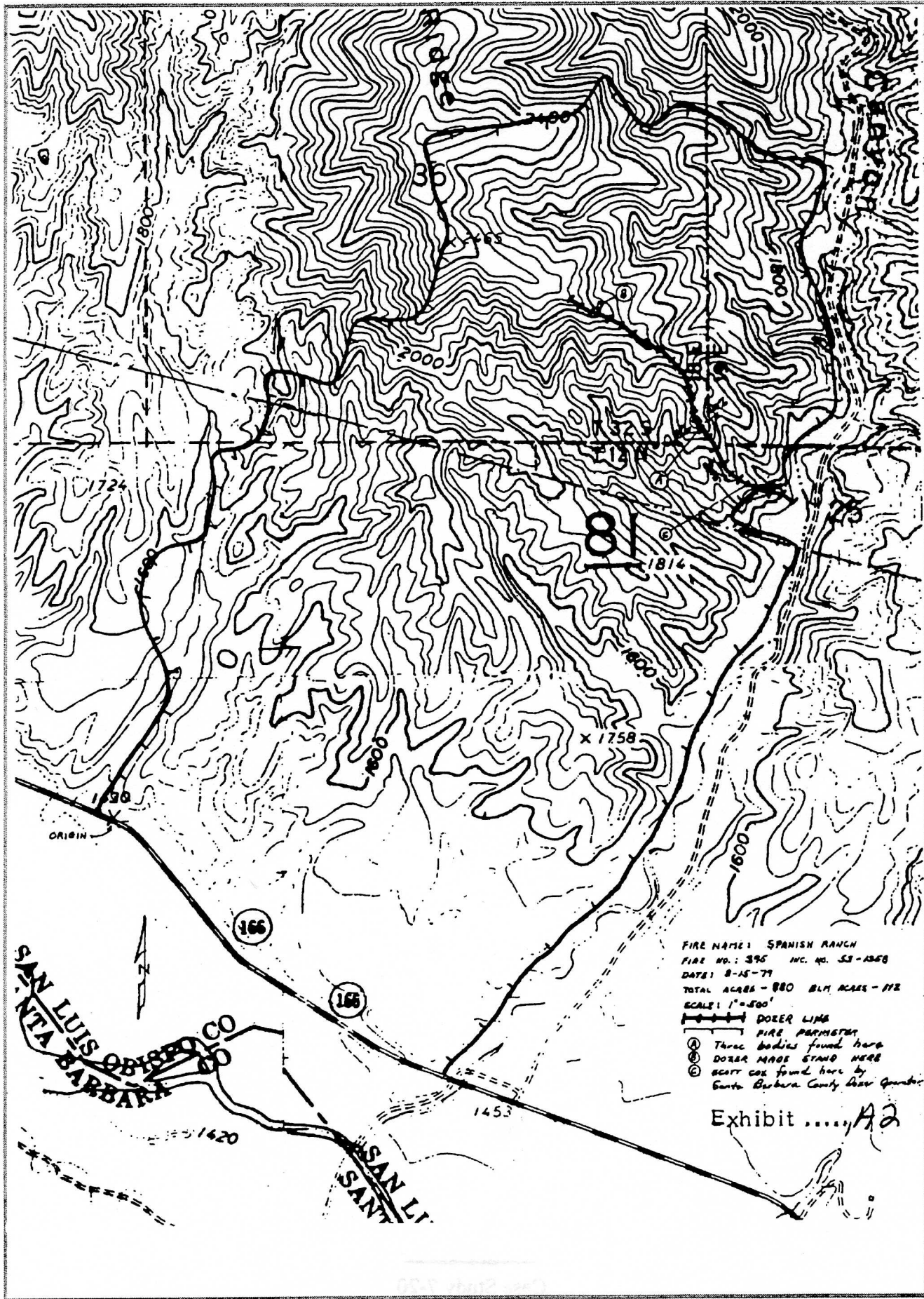
## Discovery and Transport of Deceased:

At approximately 1620 hours, two to five minutes after the flames had passed over him, Corning emerged from under his protective blanket and engaged his machine in forward drive position and proceeded down the ridge in an easterly direction to the command post. During this time he heard a "distress

## Discovery and Transport of Deceased continued:

call" on the radio ordering air traffic cleared and that there were burn victims. Corning had traveled approximately 500 yards from his safety island when he noticed three bodies lying upon the bulldozer line in front of him. He immediately notified Killion of the tragedy.

At approximately 1654 hours, Sgt. Edward A. Carrol, Watch Commander of the San Luis Obispo County Sheriff's Office, upon hearing of the three fatalities, determined to dispatch Mike Sheridan, Investigator and Deputy Coroner, to the scene. Sheridan arrived at the fire scene at approximately 1837 hours and was directed to the accident location by Killion. Sheridan photographed the deceased, made arrangements for the helicopter transport of the bodies to an area near State Hwy 166, and had them transported to the Sunset Funeral Chapel in Grover City, where the bodies arrived at approximately 2120 hours.



Case Study 7-19

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# Case Study 7-20