

**INVESTIGATIVE REPORT OF THE
EAGLE BAR FIRE
SHELTER DEPLOYMENT INCIDENT
AUGUST 25, 1988**

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I. OVERVIEW

At about 2210 hours on August 25, 1988, there was a shelter deployment of the Umatilla Regular Forest Service Type II Crew and two overhead personnel. The deployment took place below and about one-quarter mile northwest of Kinney Point on the Eagle Bar Fire, Payette National Forest in Region 4.

There were no serious physical injuries although one individual of the Umatilla Crew sustained a small burn on the calf of his leg.

Those involved in the actual shelter deployment were:

Umatilla Crew, 20 individuals
Division Supervisor, Corner Division
Strike Team Leader, F Division

Deployment of shelters ended at about 0345 hours on August 26, 1988.

The following are a list of people associated with the deployment:

Overhead

John Russell, IC
Stan Palmer, Safety Officer
John Madden, Planning Section Chief
Gene Chournard, Night Operation Section Chief

Line

Floyd Dewitt, Division Supervisor, Corner Division
Ron Barrett, Division Supervisor, G Division
Tony Casmaro, Division Supervisor, F Division
Tom Weinmann, Strike Team Leader, F Division
Rich Dahl, Strike Team Leader, G Division
Pepper Martin, Strike Team Leader, F Division

Crews

Nancy Rancken, Crew Superintendent, Umatilla Crew, assigned to F Division.
Gordon Brozzi, Crew Superintendent, Chico Max Crew, assigned to Corner Division.
Mark Twain #4, assigned to Division F.

II. ACTION TAKEN

On Friday, August 25, 1988, a Forest Service team was assembled to investigate a crew burnover and multiple shelter deployment incident that occurred on the Eagle Bar Fire in the Hells Canyon area of the Payette National Forest in Idaho. The investigative team was comprised of:

Joseph Kinsella, Fire Operations, USDA Forest Service, Regional Office, Ogden, Utah;

Lou Waikart, Timber Management, USDA Forest Service, Regional Office, Ogden, Utah;

Hank Walters, Regional Safety Officer, USDA Forest Service, Regional Office, Ogden, Utah;

John Hooper, District Ranger, McCall Ranger District, Payette National Forest, McCall Idaho.

The investigation was conducted August 26-27 and included on-site visits with the overhead team. Both burnover sites were visited by the team. The team overflew shelter deployment areas by helicopter prior to initiating the on-site investigation. The team walked to the areas and photographed sites where crews were located just prior to the shelter deployment. Division Supervisor, Tony Casmero, accompanied the team on the field inspection to relate the events leading up to the shelter deployment. Later, the team met with the Umatilla Crew both as a group and individually with those who wished to discuss the incident. Taped recordings of those interviews are on file.

III. INVESTIGATIVE REPORT

FIRE: Eagle Bar Fire

DATE OF INCIDENT: August 25, 1988

TIME OF INCIDENT: Began the evening of August 25 at 2210 hours and extended to 0345 hours on August 26.

LOCATION: Hells Canyon Seven Devils Scenic Area, Council Ranger District, Payette National Forest; at the head of Sawpit Creek, just north of Kinney Pt. in Sec. 11, T21N, R3W, Boise Meridian, at about the 7,000 foot elevation.

DATE FIRE STARTED: August 21, 1988

FIRE SIZE: Approximately 2,450 acres at time of incident.

CREW INVOLVED: Umatilla Regulars (20 persons), Division Supervisor, Corner Division, and Strike Team Leader, F Division.

TOPOGRAPHY: General - Salmon river breaks, steep, precipitous. Specific deployment area - 20 percent to 40 per cent at the head of steep canyon.

WEATHER:

Situation - The weather had been consistently dry. Daytime temperature highs were in the 80's, minimum relative humidities in the middle teens, and winds SW 5-10. Nighttime temperature lows were in the 50's, maximum relative humidities were in the mid 20's and winds less than 5 mph. The summer had been hot and dry with little precipitation in the last 60 days.

Predicted - The forecast for the night shift was for "NW ridge winds 5-8 mph, down slope, down canyon wind 1-5 mph below inversion top. Minimum temperature 55 in drainages to 63 on ridges. Maximum RH 30-40 percent in drainages but only 22-24 percent on the ridge tops."

The night overhead and crews interpreted this to mean "more of the same" and "the fire will act as it has the last few nights."

A cold front had moved through the area about noon the day before but had little effect on the fire. Late in the day, the Fire Weather Forecaster recognized another cold front developing. He prepared a revised forecast but did not distribute it because he again expected little effect on the weather. About 2200 hours, cold, dry winds with velocities over 20 mph and with rapidly changing direction swept over the fire area. The winds lasted for several hours.

Actual - Weather was about the same as actually predicted except for an unexplained "micro-burst" which resulted in a sudden increase of wind with a 360 degree shift in direction, and accompanying decrease in relative humidity. This caused immediate crowning and a shower of hot embers several

hundred yards in front of the fire. These embers traveled further because of winds and quickly resulted in more crowning due to dry fuels and accumulations of fuel under fir trees. There was a reported decrease in temperature as the front passed through.

FUELS:

Both dead and live fuel moistures were very dry due to the extended drouth. The fire line had been constructed with a tractor downhill from the Sheep Rock Road toward Grassy Ridge. The first few hundred yards of the line were through heavy fir timber and then along the edge between small meadows and aspen patches against the fir edge. Ground fuels were moderately heavy with ladder fuels common under the fir trees, but the aspen and meadows had been grazed by sheep with much of the ground fuel removed. The meadows had been burning only where preheated by adjacent timber patches. The large grass meadow on Grassy Ridge was about one mile from the start of the fireline at the road. The fire was to the north with a continuous fir stand separating the fire line and the fire.

FIRE BEHAVIOR:

Predicted - Divisions A-G: Active burning into the night with uphill runs from hot rolling material. Torching will loft hot embers and, if near ridgetop, carry embers to the SE. Active burning will decrease around 0200 hours.

Special concerns: Rapid runs upslope from slopovers, burnout of unburned islands will loft firebrands, slopovers into Deep Creek.

Divisions E-F: Moderate (lower slopes), High Fire Behavior (upper slopes) into evening. Upper slopes will have more activity into evening becoming calmer around 0200 hours.

Actual - The fire behavior that was witnessed by the night shift before passage of the cold front was as expected by them. There would be torching of trees or groups of trees with short distance spotting and then an interval until the next torch. The fire would move slowly, and mostly on the ground.

As the cold front passed, the fire behavior changed dramatically. Witnesses reported high winds with erratic direction. Multiple trees would torch and showers of sparks would rain from the sky. The same clumps of trees would torch several times. The wind and direction the sparks drifted shifted from the north to the west to the south to the east; there was a 360 degree change. It was only a few minutes from the time the sparks landed until the ground fuels were burning under the trees and the trees would start to flame. The fire traveled rapidly in a south-easterly direction toward the fire line.

CONTROL STRATEGY:

The crews were working the line to prepare for a burnout which would tie the front of the fire between the ridge on the east side of the fire (Haley Ridge-Kinney Point) with Grassy Ridge. The large meadows on Grassy Ridge were

the anchor to the south side of the fire on the Snake River, with the anchor to the north side of the fire on the Snake being Haley Ridge. There were a couple of slopovers over Haley Ridge into Deep Creek, but they were not expected to affect this fireline and they did not. The line was well located and was on one of the flatter ridges to be found in the Hells Canyon area. It was the best place to front the fire for several miles and the weather forecast was favorable. The overhead team had assessed the risk, and realizing it was higher than they would have liked, still determined that it was less than the risk of any timely alternative.

SAFETY:

The shift plan cautioned crews to post lookouts and be on guard for very active burning well into the evening. It also cautioned them to review the Fire Behavior Forecast. Additional safety concerns were driving, keeping up body fluids, and obtaining adequate rest. Firefighter safety is listed as the first Incident Objective.

IV. NARRATIVE

The Eagle Bar Fire started on August 21, 1988 in the bottom of Hells Canyon next to the Snake River. In typical river breaks fashion, it blew and snorted its way up the east side to nearly the ridge top by the evening of August 25.

Russell's Class I team was assigned to the fire and most realized they had a tough fire on their hands with some serious safety concerns. The team is quite knowledgeable about this type of fire and hoped to tie off the flanks and pinch off the head of the fire as it topped out, and before it slopped over into Deep Creek.

The Umatilla Regulars, led by crew superintendent, Nancy Rancken, had followed the fire up the north flank in Division A. On Wednesday night, the crew had been split by some erratic fire and were rather apprehensive about going into the head of the fire at Division F on the August 25, evening shift. The crew went on line about 2030 hours and were dropped off at Kinney Point, the corner of Division F. This was a part of the fire they had not been on previously.

After a good safety session, which included a check of the shelters, the crew started down the cat line west toward Grassy Ridge. Knowing they were at the head of the fire made them even more aware of the need for safety, so they were on the watch for escape routes and safe areas. They passed through some small openings along the uphill side of the line and felt the openings might be used for safe areas if shelters were used. The crew set to work in this area reinforcing the tractor line and awaiting further instruction from the overhead.

Gene Chouinard, the Night Operations Chief, was in charge of Floyd DeWitt, Division Supervisor of Corner Division, Tony Casmero, the Division Supervisor of F Division, and Ron Barnett, Division Supervisor of G Division. Floyd was originally assigned to Division B, but after expressing some safety concerns to Gene, they created a new "Corner Division" below Kinney Point which was sandwiched between Divisions F and G. Gene had flown the fire with Floyd at 1700 hours but it didn't look the same once he got on the ground. There was a new tractor line below Kinney Point which was above the road rather than below, as shown on the shift map. Floyd started walking out the line toward Division F to make certain of the situation so Gene drove north toward Rocky Point to a large bare ridge where he could view the flare-ups which were occurring down in Sawpit Creek.

Floyd DeWitt, Division Supervisor of the newly created Corner Division, was also concerned about the flare ups down in Sawpit Creek. He had been in the same area the previous night and had to pull the crews out because of the flareups. On this night, he walked the line out to Division F to meet with Tony Casmero and discuss the situation. Along the way, he met the Umatilla Crew and Tom Weiman, Strike Team Leader under Casmero. Floyd suggested that the crew could remove the slash from the inside of the dozer line to reinforce the line. He then continued out toward Grassy Ridge. Floyd met with Tony at 2000 hours and discussed the tractor line and Division boundaries.

Radio chatter picked up concerning the flareups below. Gordo Brozzie, Chico Max Crew Superintendent, informed DeWitt that they were moving the crew out of Corner Division so Floyd started back up the hill to see what was going on. About this time, Tony moved the Mark Twain Crew out to Grassy Ridge to avoid a possible up condition. He also called Tom Weiman and suggested that he make a decision about moving the Umatilla Crew out because the flare ups were becoming active.

As DeWitt moved up the trail back toward Corner Division, Tom Weiman and Nancy Rancken made the decision to move the Umatilla Crew off the line and west down the trail to Grassy Ridge. Just as they got the Umatilla Crew lined out and moving down the trail, they met DeWitt coming back up the line. Floyd appeared to be in a state of anxiety and bent on getting back to Corner Division to meet up with the Chico Max Crew. He told the Umatilla Crew that they couldn't get to Grassy Ridge because the fire was getting too hot. He then moved past them and started on up the trail. Some of the Umatilla Crew wanted to go with him. However, Nancy and Tom had heard over the radio that the fire had already burned past the line on the Corner Division. They believed that Floyd would not stand a chance of getting through to the Chico Max Crew.

As DeWitt moved up the trail, someone in the crew (Nancy?) called out and said "Mister, stay with us." Under the ensuing stress, several crew members felt that they should follow DeWitt up the trail because of his fire experience; others wanted to continue down the trail to the safety of Grassy Ridge. Nancy and Tom were concerned that, if they allowed the crew to separate, disaster would follow in the wake of a panic situation. They elected to stand firm and Nancy convinced DeWitt to stay with them and deploy shelters in the small clearing. They had sufficient time to select the best spot and review the shelter deployment technique.

Floyd remembers that they deployed the shelters at 2210 hours on August 25. Those in the shelters were: 2 Umatilla Regular Crew (Type II), Crew Superintendent Nancy Rancken, Strike Team Leader Tom Weiman, and Division Supervisor Floyd DeWitt.

There were four separate fire runs in the deployment area over the next 3 hours. At 1130 hours, DeWitt's radio went dead, but he relayed through Nancy to Gene Chouinard that everything was going well. The crews seemed to maintain high morale throughout the ordeal although one person, Jimmy Turner, sustained minor burns on the calf of his leg. The violent wind accompanying the fire kept flapping the shelters up, and the shelters inched downhill each time a person moved. One person deployed his shelter within 20 feet of a large fir. The fir was surrounded by smaller ladder fuels and obviously burned quite hot. This may have been the location where the injury occurred. The Base Fire Camp and Payette Dispatch were able to monitor radio messages from the entrapped crew. At 2400 hours, the crew was able to peer out from under the shelters but continued to have a lot of smoke and fire around so they remained in place.

In the meantime, another shelter deployment was unfolding over in Division G. Gene Chouinard drove his Jeep north along the work road toward Sheep Rock

trying to locate a vantage point to view the fire behavior. He stopped at several points and talked to Division Supervisor; Ron Barnett, a tractor boss, and some crew members. While he was talking to the tractor boss, they started getting a shower of sparks. He noted the Mendocino and Toiyabe Crews pulling back off the line to get back to safe areas. Gene called Ron Barnett on the radio and told him to get the crews out because of the increased winds and blowing sparks.

Once the crews and the tractor got lined out to the safe area, Gene proceeded north on the road to Sheep Rock. He did not perceive the situation as being threatening. He found a vantage point about 2200 hours and noted that the fire was not only spotting but starting to run. He then recognized that the situation was deteriorating in Division G. Division F still appeared safe but radio chatter indicated some people were popping shelters. Gene turned around to drive back south along the road to Division F to see what was happening in that division. Fire overran the road in front of him. He was forced to vacate the Jeep and seek safety in a large opening along the ridge just to the east of the road.

The whole Sawpit Creek basin seemed to him to come alive with fire. It was at this time that he noted the fire making a run toward Division F. There was a tremendous shower of sparks falling on Gene who had by now met up with Ron Barrett, Gordon Brozzie, Paul Stoudermire, and Rich Dahl. They took out their shelters, deployed them as umbrellas to fend off the shower of sparks. Even though the Jeep was in a precarious position, the men never considered themselves to be in a life threatening situation. The Jeep was not harmed.

The situation at 2300 hours was as follows: 20 person Umatilla Crew, Nancy Rancken, Tom Weiman, and Floyd DeWitt were holed up in shelters in a clearing in Division F. Gene Chouinard, and four others were using shelters to protect themselves from falling sparks in Division G. Tony Casmero, Mark Peppermark with the Mark Twain Crew were shivering in the cold wind on Grassy Ridge trying to figure out if all were safe in the shelters. All of the other crews were in safe areas.

Judging from radio traffic, it was assumed that morale was high and fear very low. The sheltered crews occasionally came out of the shelters when things cooled off following a run, only to be driven back inside by another rush of heat. Finally, at 0345 hours, August 26, the Umatilla Crew felt the situation was safe and moved down to Grassy Ridge to join Tony Casmero and the Mark Twain Crew.

The Umatilla and Mark Twain Crews were evacuated at daylight and helicoptered back to the main camp. Both crews and the involved overhead were told that they would be sent to McCall immediately so that the investigation team could interview them away from "fire camp" conditions. They were also informed that there would be a trauma expert available to them if they wanted to take advantage of the service. All involved personnel were also told that they could return to fire duty if they wanted. They were informed that if they did not want to return they would be released and there would be no reflection on their ratings.

The Umatilla Crew decided, before they left the base camp on August 26, that they would rather not return to the fire. Their release was processed effective on the completion of the McCall interviews. A trauma expert, Mr. Dennis Hall, counselled the crews in McCall and also talked briefly with the investigative team. After the counselling was completed, the trauma expert advised that it might be preferable to release the crews to return to their homes. The degree of trauma resulting from the incident seemed to exceed what the Incident Command Team and the investigators anticipated.

V. FINDINGS:

A. (WEATHER) THE WEATHER WAS NOT AS PREDICTED.

There was apparently a "micro burst" of wind which created unusual burning activity. This extremely abrupt and unpredicted change of weather triggered the burning activity which brought about the shelter deployments. Whether the wind was caused by wind shear or just by the chimney effect of the increased burning in Sawpit Creek is unknown. However, Corner Division was located in the thermal belt where fire activity would seem to be greatest during the night so that increased fire activity might have been anticipated. Also, several persons (Tony Casmero, Gene Chouirnard, Rich Dahl, and Pepper Martin) noted the changed condition of increased torching and small runs. These persons took action to get crews to safety but the Umatilla Crew got mixed signals. Casmero felt the flareups were just normal fire activity given the fuels, topography, and the preheating effects. He subsequently became concerned over the reburn activity when he knew the Umatilla Crew was trapped.

B. (CONFUSION) THERE WAS AN UNUSUAL AMOUNT OF CONFUSION OVER SHIFT ASSIGNMENTS.

Shift assignments were changed just prior to beginning work on the line. Crew work locations were changed after arriving on the line and crew bosses were unable to orient themselves properly because of a newly constructed tractor line.

1. The shift plan for Division B was changed just prior to the 1700 hour briefing. This has no bearing on the shelter deployment but does indicate that changes in planning may have been a normal method of operation.

2. The shift map did not fit the tractor line on the ground. The map showed the tractor line below the road but in actuality, the line was constructed above the road and the slash side-cast into the fire rather than to the outside of the line. There was no tractor boss with the tractor and operator.

3. Flag lines seemed to be all over the place.

4. The shift plan was changed again out on the line. The night Operations Section Chief and the Division Supervisors couldn't figure out the map on the ground so they created a new "Corner Division" to have a safer operation around the rocky Kinney Point section.

5. When the shift map seemed not to fit the condition on the ground, the Division Supervisor tried to salvage the work shift with a hastily contrived plan which was not adequately communicated to all crew leaders.

C. (KNOWLEDGE OF THE AREA) THE NIGHT OPERATIONS CHIEF AND THE UMATILLA CREW SUPERINTENDENT WERE NOT KNOWLEDGEABLE ABOUT THE WORK AREA.

Neither Casmaro nor Rancken had worked in the Corner Division before and were having a difficult time sizing up the situation because of the inaccurate map and lack of familiarity with terrain.

The Strike Team Leader and Crew Leader were not familiar with the terrain. The Crew had not seen the area in daylight conditions.

D. (INADEQUATE SCOUTING) THERE WAS A LACK OF ADEQUATE COMMUNICATION BETWEEN RECONNAISSANCE AND CREWS.

Strike Team Leader Dahl noted the build-up in fire activity in Sawpit Creek from his vantage point in Division G but was unable to contact crews due to radio problems. The Line Scout for the Umatilla Crew noted there was some unusual fire activity but was at a poor vantage point to determine just what was taking place, therefore he was reluctant to give an all out warning to vacate the line.

Line Scouts had not seen the area in daylight either and were unable to provide quality information to the work crews.

E. (INADEQUATE SAFE AREA) THE SAFETY AREA SELECTED BY THE STRIKE TEAM LEADER OR BY THE CREW SUPERINTENDENT WAS NOT ADEQUATE TO PROVIDE A SAFE ZONE UNLESS FIRE SHELTERS WERE DEPLOYED.

Either, because of the lack of familiarity with the terrain, or because of inexperience with possible fire behavior, the crew leader selected a marginal safe area which could have had catastrophic results. The crew noted the small meadow on the way down to the work area and seem to have agreed that the area would be an acceptable safe zone if fire shelters were deployed. However, the slope gradient, adjacent large fuels, and accompanying winds combined to make the small meadow an "oven." Although the crew waited for nearly 45 minutes to deploy the shelters, excellent safe areas were available within several hundred yards in two separate areas which would have made shelter deployment unnecessary.

F. (INEXPERIENCE) INEXPERIENCE ON THE PART OF THE DIVISION SUPERVISOR DISRUPTED THE UMATILLA CREW TO THE POINT WHERE CONTINUED MOVEMENT TOWARD A PRIMARY SAFETY ZONE (GRASSY RIDGE) WAS NO LONGER POSSIBLE.

There are indications that the Division Supervisor, Dewitt, may not have had adequate field experience in Salmon River breaks-type fires to have the comfort level for the assignment. Others viewing the same flareup situation felt that it was normal fire activity and a reasonable assignment for that type terrain.

G. (CONTROL) EXCELLENT CREW CONTROL ON THE PART OF NANCY RANCKEN.

Human factors affected the crew and caused near panic. The Strike Team Leader and Crew Superintendent agreed to pull off the line because of the fire flareup. They got the crew lined out and started toward Grassy Ridge but were stopped by the distraught Division Supervisor coming up the trail from Grassy Ridge. He told them they couldn't get out that way. The crew felt they couldn't go back the other way. The resulting panic nearly divided the crew, so the overhead felt that it would be safer to deploy shelters in the small meadow rather than to risk losing crew members who refused to continue to Grassy Ridge. Nancy was able to maintain control of the crew as well as other overhead and thereby avert disaster.

H. (TACTICS) ORIGINAL SHIFT PLAN TACTICS WERE ACCEPTABLE.

The investigation team found no fault with the strategy of the original shift plan. Tactics outlined are normal for Salmon River breaks-type fires. A possible flaw might be the difficulty of pinching off the head of the fire in heavy timber in the middle of a thermal belt.

I. THE SECOND SHELTER DEPLOYMENT WHICH OCCURRED DURING THIS INCIDENT WAS NOT LIFE THREATENING.

J. TRAUMA EXPERIENCED BY THE ENTRAPPED CREWS FAR EXCEEDED THE LEVELS NORMALLY ANTICIPATED BY MANAGEMENT.

K. THE ORIGINAL PLANNED ESCAPE TO THE GRASSY RIDGE AREA WAS A GOOD DECISION HAD IT BEEN CARRIED THROUGH.

L. THE CREWS WHO WERE IN THE SHELTER DEPLOYMENT WERE HIGHLY CRITICAL OF MANAGEMENT IN REGARD TO:

1. Judgment and experience of Operations Section on the August 25, night shift.

2. Handling of the crews after the evacuation to base camp. The crews felt they were abandoned and not transported to town in a timely manner. Some felt that the notification to home units following the entrapment was very poorly handled.

M. AT LEAST FIVE OF THE TEN STANDARD FIRE FIGHTING ORDERS, AND EIGHT OF THE EIGHTEEN "WATCH OUT SITUATIONS" WERE IGNORED BY OPERATIONS/CREWS IN THIS INCIDENT.

N. SEVERAL SHELTERS WERE CRACKED OR WORN WITH OPENINGS IN THE FABRIC. ALL WERE EFFECTIVE IN PROTECTING OCCUPANTS.

VI. RECOMMENDATIONS:

A. (WEATHER)

Establish a "Red Alert" system to be used by weather forecasters and fire behavior officers to contact personnel on the line to inform them of possible changes taking place in weather or fire behavior. Consider placing an experienced behavior officer on a vantage point during burnout or difficult conditions, rather than relying on scouts who may not have the background to assess the fire activity.

B. (CONFUSION)

1. Place additional emphasis to Overhead Teams on the need for quality shift plans which can be implemented on the ground. Timely feedback from the line minimizes change needed.

2. Emphasize the need for tractor bosses on the ground with the tractor and operator. Tractors are high cost items. If they are not doing the job where or as needed, ineffective fireline construction is the result.

3. Emphasize the importance of accurate reconnaissance and scouting on the ground. If flag lines are changed, then old ribbons must be pulled to avoid confusion.

4. See Recommendation A. We need to develop accurate viable shift plans which are understandable by everyone. Last minute or major adjustments to shift plans usually result in confusion and considerable wasted efforts on the part of the crews. The best shift changes still occur out on the line where supervisors can discuss problems on the ground and point out problem areas. There has been a continued drift away from this "passing the baton" on the fire line. "On the ground" hand off of Divisions is critical at night or if either party is unfamiliar with the area. Much of the confusion during this shift change would have been averted if Division Supervisors had the opportunity to meet out on the line and discuss the map, the boundaries, the strategy, and the problems. As it was, they were "two ships passing in the night" who did not have a good flow of information. This is a common practice in our operations which needs to be changed.

5. There seems to have been a gap in information flow between Operations and Plans in fire camp. The crews and line overhead were not able to sort out this confusion without changing the shift plan. The Night Operations Chief had never seen the area on the ground but elected to change the shift plan without even seeing the line. Operations should be more closely tied in with Plans and have ownership in the shift plan.

C. (KNOWLEDGE OF THE AREA)

Reaffirm the importance of having OPERATIONS personnel familiar with the area over which they are in charge.

D. (INADEQUATE SCOUTING)

Shift plans maps should ideally show "safe area" and recommended escape routes.

E. (INADEQUATE SAFE AREA)

Reaffirm to our crews that the only safety zones to be considered as "SAFE ZONES" are those which do not require the use of shelters for protection.

F. (INEXPERIENCE)

The ICS system is quite specific as to training requirements for qualification in assignments. It specifies that on ground experience is required to qualify for a position. A person can have considerable amount of fire experience in a single fuel model, and be well qualified to handle an assignment in that type. The same person may have little or no experience in a different fuel type, yet be qualified under ICS to handle an assignment. We suggest that a person need experience in multiple fuels types (i.e., timber, sage grass, chaparral, hardwoods, etc.) as well as in different topographic types before being approved for Type I team status.

Suggest to Overhead Team that the most experienced crews be placed in areas of greatest potential danger. Less experienced crews should not be placed at the head of a fire. Place additional emphasis on fire behavior training to include prescribed burns such as slash burning and broadcast burns. Many crews have limited hot line experience and are unable to accurately assess fire behavior.

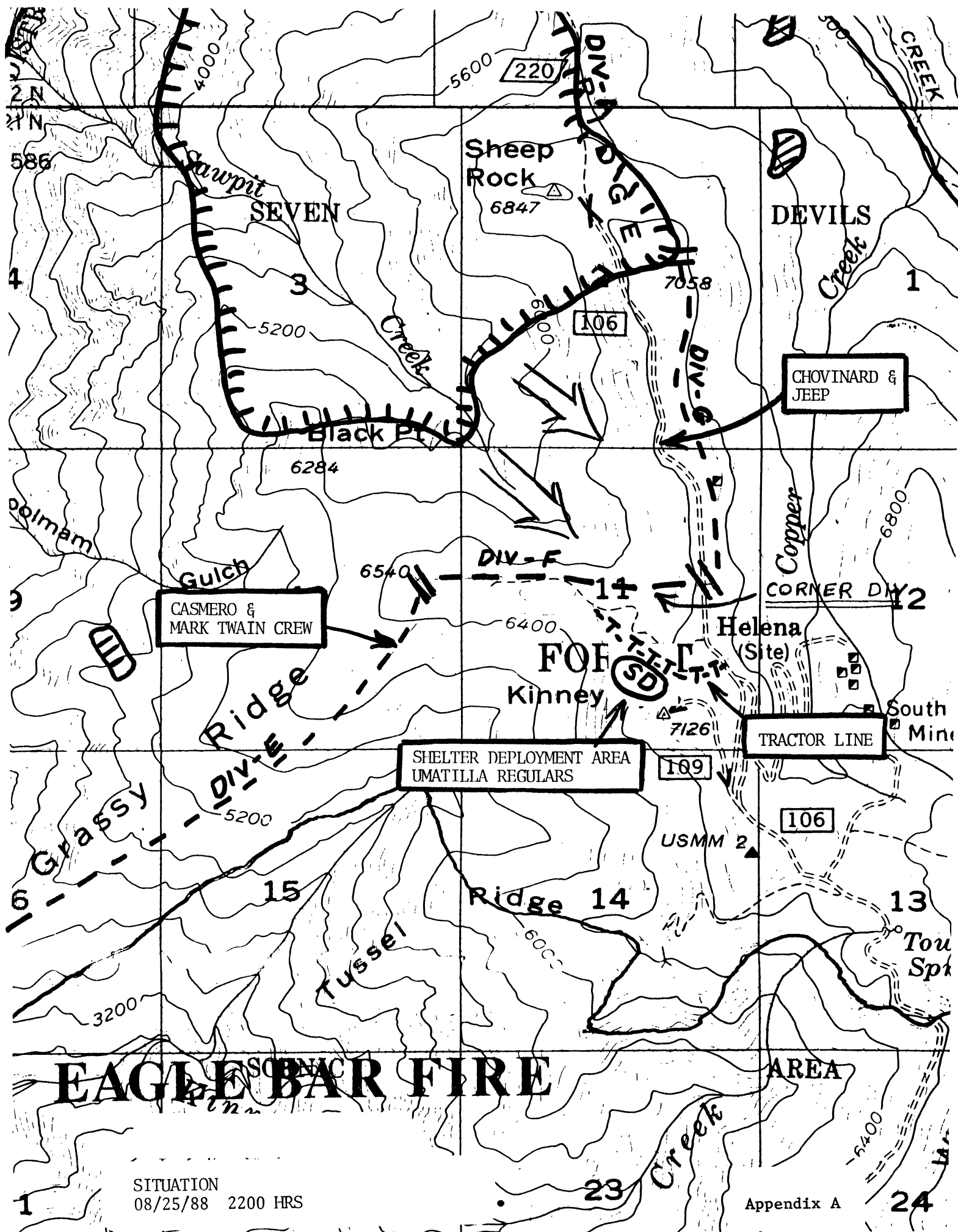
H. (SAFETY)

We need to impress to our overhead and crews the validity and importance of the 10 "STANDARD ORDERS" and the 18 "WATCH OUT SITUATIONS". These need to be ingrained in all who work with fire line operations to the point where overhead and crews own the attitude of awareness to the problem. We need to continue to place emphasis on basics in firefighting. The problem continues to surface in the Strike Team Leader/Division Supervisor area. We need to have adequate on-the-ground experience as well as text book training. There seems to be no good substitute for line experience as well as experience in sizing up fire behavior.

I. (MANAGEMENT)

Recognize that shelter deployment is critical and that, not only must we seek professional assistance for trauma counselling, but also be more attentive to the small things immediately following the incident.

APPENDIX



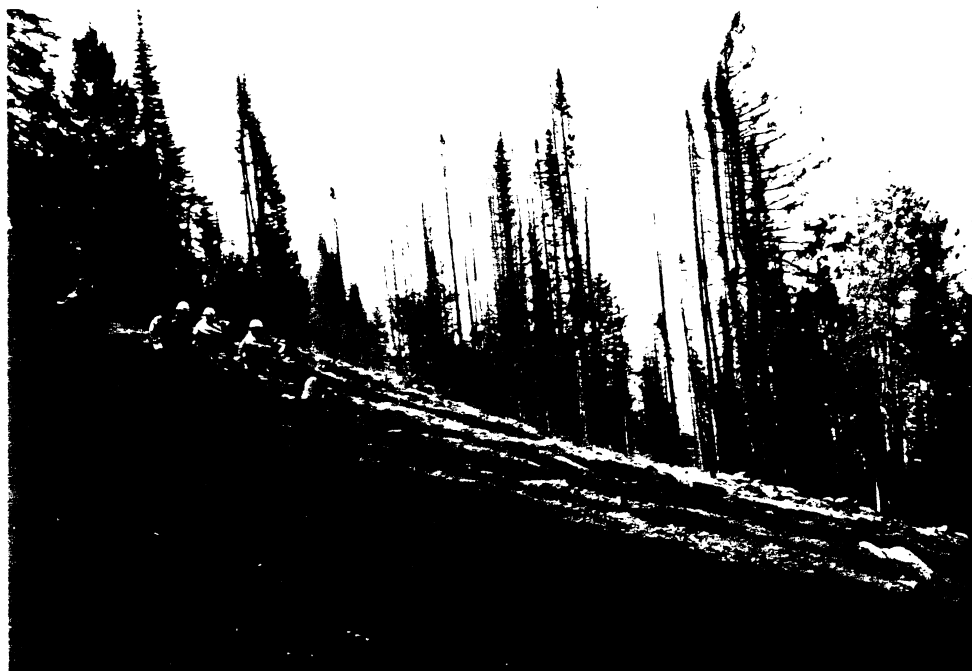
SHELTER DEPLOYMENT SITE



LOOKING DOWNHILL



LOOKING UPHILL



LOOKING WEST



LOOKING EAST



LOOKING NORTHEAST