United States Department of Agriculture | Forest Service | R-1

Reply To: 6700 Date: October 4, 1988

Subject: Madison Gulch Fire Shelter Deployment, July 27, 1988

To: Director, Aviation and Fire Management

Enclosed is the investigation report for the fire shelter deployment that occurred on the Madison Gulch Fire on July 27, 1988. The critical nature of this deployment cannot be over stressed. It was truly a matter of luck that the situation did not result in serious injuries or more likely two fatalities. This is the second deployment in Region One within approximately one month and one of several deployments we have experienced on a Nationwide basis this year. These should be considered as a warning flag of a deteriorating fire safety program. As such, it is suggested that an indepth review of the circumstances surrounding the recent deployments be made in order to reverse this fire safety situation.

Specifically, the following concerns surfaced as a result of the investigation of the fire shelter deployment on the Madison Gulch Fire:

1) The Ronan 21 crew was made up of Job Corps enrollees from the Kicking Horse Job Corps Center. Most of the crew, including Crewman Lester Begay, had no previous fire experience. It was this situation that lead to the shelter deployment. Begay's fire inexperience caused him to panic jeopardizing not only himself but Crew Boss Bill Durgeloh as well. With all the emphasis on the explosive fire conditions this year and on fire safety an inexperienced crew should not have been assigned to a hot line situation. This situation is compounded by the fact that Division Supervisor Thomas as well as other fire overhead personnel did not know that Ronan 21 was made up of inexperienced Job Corps enrollees.

2) The Madison Gulch Fire was Durgeloh's first fire assignment as a crew boss. Even though he has had previous fire experience, his inexperience as a crew boss may have contributed to the circumstances leading up to the shelter deployment. For example, Durgeloh did not contact Division Supervisor Thomas when the fire spotted below the cat line. In addition, he did not inform Thomas of the critical nature of their situation until Thomas made a routine call to Durgeloh. Lastly, a seasoned crew boss should have been able to determine a safe escape route given the same situation. Compounding the entire situation was the fact that a strike team leader was not assigned to Ronan 20 and Ronan 21, the two crews that were working on Division C. This placed additional responsibilities and stress on Crew Boss Durgeloh and Division Supervisor Thomas.

3) The situations noted above not only describe problems associated with inexperienced personnel but are symptomatic of a much larger problem within the wildland fire fighting community. A shelter deployment represents a failure. In this case the failure is with the "system". This situation is not a failure on the part of the crew nor is it a failure on the part of Durgeloh who made the best decision he could based on his training and experience. The obvious deficiency in this situation was inexperienced personnel. However, what may not be so obvious are the circumstances that lead up to the dispatching of Ronan 21 to the Madison Gulch Fire. Budget cutbacks, the reduction in the number of well trained Category 1 crews and overhead, the unavailability of resources, etc. all played a part in this shelter deployment and the near miss it represents. The large number of shelter deployments over the last few years may, and probably are, also symptomatic of this problem.

Recommendations

1) Take steps immediately to ensure that inexperienced crews are not assigned to "hot line" situations until their experience base is sufficient to ensure that they can be used safely.

2) Track inexperienced crews as they are dispatched to ensure that they are not used or diverted to a "hot line" situation.

3) Overhead teams must be aware of the experience levels of the fire resources they are managing. This is the joint responsibility of the overhead team and the dispatching organization.

4) Fill the strike team leader position before crews are assigned to the fire line. This is especially critical with crews that have little or no experience.

5) Review the process to categorize organized crews to determine if the current two categories are adequate. A wider spread may be necessary to more accurately delineate crew experience and training.

6) The policy of reducing the available resources that are adequately trained and experienced must be reassessed in light of the safety implications that are apparent in this and other shelter deployments. A National effort needs to be initiated to review the adequacy of our existing fire resources on a servicewide basis. This is especially critical in terms of "line" resources where personnel safety is dependent on a well trained and qualified workforce. It also applies to other resources that have an indirect impact on fire safety. This means adequacy of numbers, training and qualifications.

7) All red card holders should review the video on use of fire shelters on an annual basis.

Recommendations 1-4 are "quick kill" items that can be dealt with in a relatively short period of time. Implementation of these recommendations will help to minimize the occurrence of a similar incident in the future. Recommendation 6 is an attempt to deal with what is considered to be the real problem in this situation. As the number of fire shelter deployments

increase it is just a matter of time, based on the law of averages, before a tragedy of mass proportions occurs. Now is the time to be proactive rather than reactive in response to a multiple fatality situation. We do have an opportunity to make a difference.

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Madison Gulch Fire

SHELTER DEPLOYMENT
MADISON GULCH FIRE
Region One
Lolo National Forest

July 27, 1988

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Madison Gulch Fire
July 27, 1988

During the late afternoon of July 26, 1988, the Madison gulch Fire started on the south facing slope along the Petty Creek Road. The fire quickly burned uphill in a northeasterly direction. The fire burned to the top of the ridge which separates Petty Creek from the Clark Fork drainage and started burning down the north facing slope. During the next day, crews were assigned to various locations on the fire. Two organized crews, Ronan 20 and 21, were assigned to Division C on the northeast side of the fire. The division supervisor assigned was Dave Thomas. The instructions for the division were"complete and hold line, black line. Operations will approve all burnout after 1000." Ronan 21, which was made up of Job Corps enrollees from the Kicking Horse Job Corps Center, was assigned to work along a cat line which was being located in a northwesterly direction along the side hill. Between one and two o'clock in the afternoon, the fire became very intense along the northwest corner near the ridge top. The intensity increased to the point that all line building activity had to be abandoned. As the fire intensity increased, spotting started to occur east of the fire. At approximately 2:30 in the afternoon, a member of Ronan 21 noticed smoke coming up from below the cat line. He shouted a warning to the crew. A decision was made by the crew boss, Bill Durgeloh, to pull out of the area as efforts to control the slopover did not work. The crew started running backwards in the direction that they had come from. One of the crew members, Lester Begay, fell as he was running with the rest of the crew, apparently became disoriented and started running in the opposite direction. The crew boss chased Begay and stopped him on the cat line. By this time the fire had separated Durgeloh and Begay from the rest of the crew. As the fire intensity increased, the crew boss had Begay dig an area on the cat line in the event a deployment became necessary. As the situation continued to deteriorate, the crew boss didn't know whether to run or go ahead and deploy their fire shelters. At about this point in time, Division Supervisor Dave Thomas, who was at the upper end of Division C, made a routine radio call to Durgeloh to ask how things were going. Durgeloh stated that they were about to go into their shelters. Thomas asked him to repeat the message as he was surprised to hear Durgeloh's report. Durgeloh then repeated that they were about to go into their shelter. Thomas told Durgeloh that the shelter should only be deployed as a last resort and to try to get away from the area and down to the lower portion of the fire in the unburned areas. George Curtis, Operation Chief, called Thomas and told him to try and get Durgeloh and Begay out of the area and not to deploy their shelters due to heavy timber with intense torching out. This conversation was overheard by Tom Bohannon, USFS helicopter pilot. He was located at the fire heliport which was north of the fire just across the Clark Fork River. Bohannon then immediately flew the helicopter to the fire and hovered just above Durgeloh and Begay. He then established radio contact with Durgeloh and from his vantage point was able to guide both individuals from the cat line downhill (north) and under the spot fire and back to rejoin the rest of Ronan 21. During this time, one fire shelter was deployed and Begay was placed inside by Durgeloh for a period of 1 to 3 minutes.

ANALYSIS AGAINST 10 STANDARD FIRE ORDERS

After reviewing all the facts that I could come up with and looking at the site where the shelter deployment took place I have the following thoughts:

1. **Keep informed on fire weather conditions and forecasts.**

   The safety message talked to high winds, potential for spotting, and very erratic fire behavior. This information was given at morning briefing. I'm not sure they received anything other than this, or asked for any update. In addition, an advisory for severe winds was not received by Division Supervisor Thomas.

2. **Know what your fire is doing at all times.**

   I feel this order may have been violated. They may not have had enough fire behavior knowledge to recognize the potential that was building up.

3. **Base all actions on current and expected behavior of fire.**

   I think this may tie right in with order #2.

4. **Have escape routes for everyone and make them known.**

   I feel there were escape routes available but not known or used by the entire crew. I think inexperience of crew had alot to do with this.

5. **Post a lookout when there is possible danger.**

   The crew boss talked about having a lookout, but I am not sure in my own mind that his primary job was to serve as a lookout.

6. **Be alert, keep calm, think clearly, act decisively.**

   I know they did not stay calm. The crew went running in all directions. At least one chose the wrong direction.

7. **Maintain prompt communications.**

   Division Supervisor Thomas had no idea there was anything wrong (spots torching or anything else) until he made a routine call to the crew boss. It was at that time he learned that a shelter was being deployed.

8. **Give clear instructions and make sure they are understood.**

   I am not sure if this was done.

9. **Maintain control of your firefighters at all times.**

   This order was violated when things started to happen. Control of one or more of the crew members was lost. The crew boss or squad bosses should have had all the crew members in front of them when escape was being made.

10. Fight fire aggressively but provide for safety first.

The suppression action may have been more concerned about homes below the fire than safety first.

It should be realized that the above analysis are my thoughts based on an investigation conducted on the fire after the fact. The area of the fire shelter deployment had been burned out prior to my investigation. I feel escape routes were available but not utilized. I think the crew as very inexperienced, and I am not sure about the crew boss's experience. He did not have a red card. Lester, who deployed the fire shelter, had no actual hands on fire shelter training and only 16 hours of basic fire training. This was Lester's first fire assignment and he did tell me that he panicked when things got hot.

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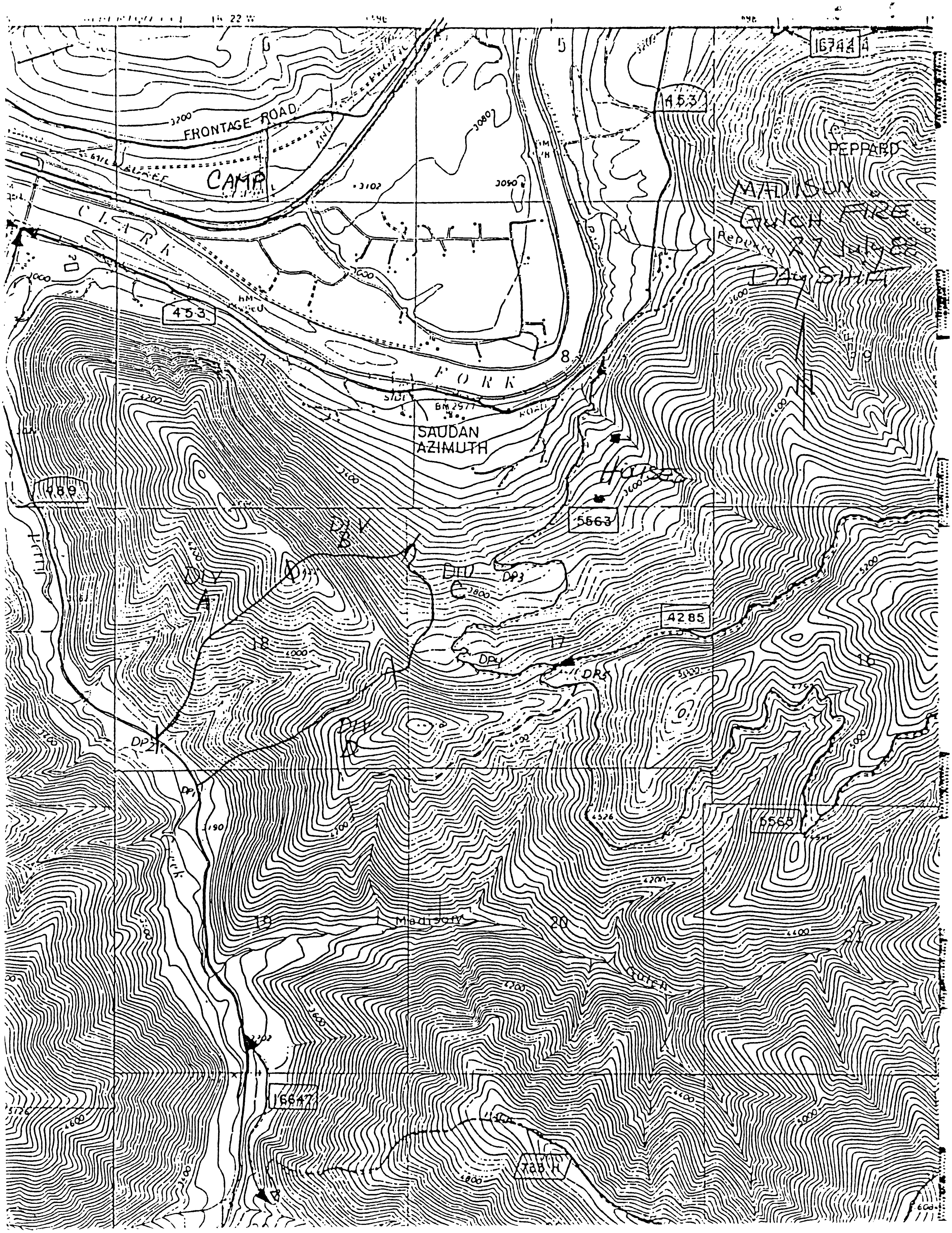
MADISON GULCH FIRE
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DAY SHIFT
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