



The main Sadler fire approached the backfiring operation.

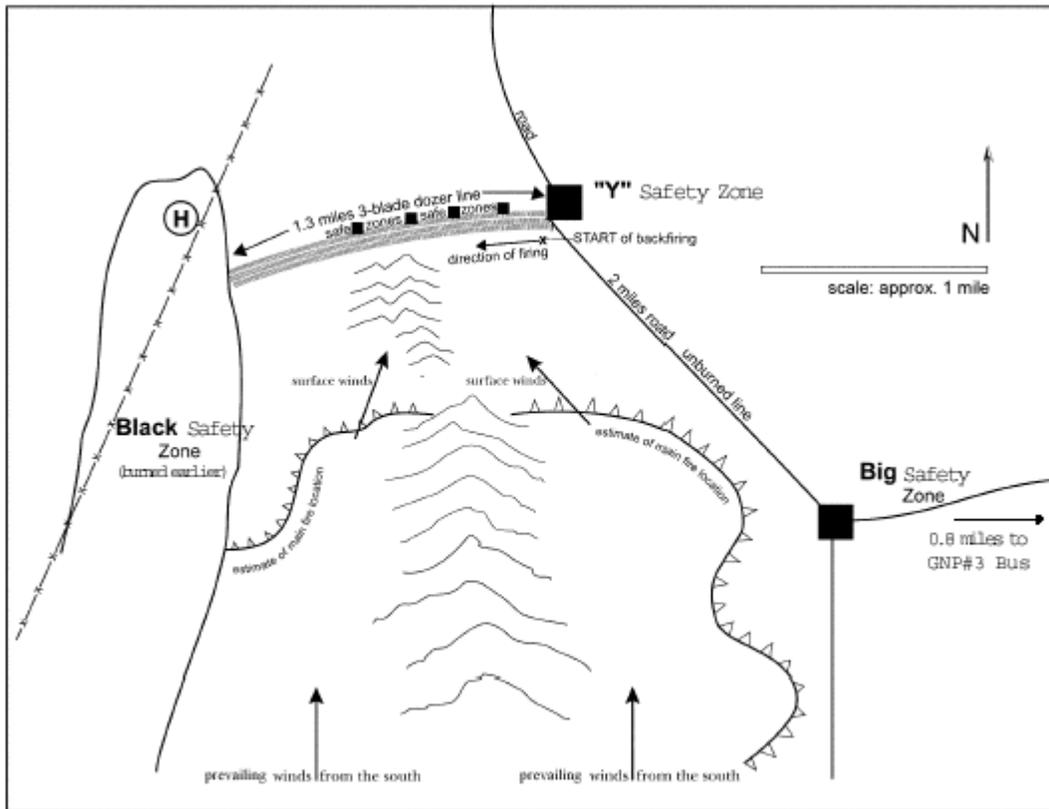


Figure 1. August 9, 1999 at around 3:00 p.m. the backfiring operation begins.

The Sadler Fire Entrapment-- Will the Madness Ever End?

By Bill Gabbert

It has happened again. Firefighters were entrapped while trying to backfire at the head of a large fire that was exhibiting *extreme fire behavior*.

The Crew

On August 9, 1999, six people from a National Park Service 21-person Type 2 hand crew were entrapped while attempting a frontal assault at the head of the 170,000 acre Sadler fire on Bureau of Land Management property (BLM) near Elko, Nevada.

It was their second full day on the fire. The crew was called Golden Gate 3 (GGP3) because they were organized at the Golden Gate National Recreation Area near San Francisco, but represented at least six different national park units in California. The Crew Boss was Tim Horton, who had transferred to the National Park Service 3 months earlier from the U.S. Forest Service. He brought with him extensive fire experience he gained with the USFS and the BLM, having worked on engines, Hotshots, and Helitack.

The crew, minus two people who went into town to get a crewperson's boots repaired, left the spike camp at 0800. Their rented bus broke down for the second time on the fire, 0.8 miles (1.3 Km) short of the "Big" safety zone (see map). They walked the rest of the way to the safety zone and assembled there with other resources waiting for an assignment, including engines, dozers, the Smokey Bear Hotshots, and the Dalton Hotshots.

Strategy and Tactics

Tom Shepard was the Division Supervisor for that section of fireline. If the name sounds familiar, it may be because he was the Superintendent of the Prineville Hotshots in 1994 on the infamous South Canyon fire in Colorado.

The fire was moving to the north through sage and grass, pushed by southwest to southeast winds at 12-16 MPH (19-26 KPH). A previously burned area called the "Black" safety zone contained the west flank of the fire. The Incident Action Plan stated that the tactics for every Division that day "will be announced at briefing". And, neither Shepard nor Horton was given copies of the written plan. On the east side, Dan Huter, the Branch Director, planned to use a road running south from the Big safety zone as a line. However, the fire had not reached that location, leaving a great deal of unburned fuel between the road and the fire.

On the northeast side was a 2-mile (3.2 Km) long road, and on the north a 1.3 mile (2.0 Km) dozer line; both with unburned fuel between them and the main fire. Huter's plan

was for the two Hotshot crews, with the GGP3 crew as support, to burn out from the Big safety zone northwest along the road to the indirect dozer line, then continue to the west along the dozer line to the burned area called the Black safety zone.

Shepard briefed the people in the safety zone about the strategy that had been developed by Huter. The two Hotshot crews were “reluctant”, according to the official report, to initiate this plan until the road south of the Big safety zone had been secured. The Superintendents of the two crews then scouted the area south of the safety zone and returned to Shepard’s location. When he asked them to burn the dozer line across the head of the fire, they both refused to accept the assignment until the line south of the Big safety zone had been burned out. Accompanied by an unassigned Division Supervisor, Mike Head, the two crews began a burnout south of the Big safety zone.

Horton told Huter that his crew had “lots of burning experience” and that they could burn the dozer line if safety zones were constructed. It turned out later that this description of their experience was inflated. The crew was driven up the road to the “Y” safety zone, then hiked along the dozer line past the four safety zones to the Black safety zone. Due to shifting wind directions, Huter and Shepard decided to burn from the Y safety zone back towards the west.

The Backfire

Because Horton was not confident about the experience and fitness of some of the crewmembers, he left most of them in the Black safety zone, and took only three people with him to begin the backfire at the Y safety zone. The backfire initially went well, with the fire backing quickly off the dozer line with two-foot (0.6 m) flames in the grass and six-foot (1.8 m) flames in the sage. The backfire spread so quickly that in order to stay ahead they had to move at a fast walk and occasionally a trot, while the engine was very busy behind the firing team suppressing spot fires and slopovers. Eventually, the engine captain requested over the radio that the firing stop due to the spot fires, but there was no response.

When the firing team was about halfway completed with the backfire, another engine dropped off the two crewmembers that had gone into town to get a pair of boots repaired, bringing the total on the team to six. This engine left the area after dropping off the two people.

During the ignition of the backfire the main fire was not clearly visible to anyone involved with the operation. When the main fire front came over the hill as a “river of fire” toward the dozer line and the firing team, Huter, the Branch Director, tried to notify the team on the radio with no success, perhaps due to excessive radio traffic being jammed onto the tactical frequency.

The main fire rapidly approached the backfire and the dozer line. A fire whirl went across the line causing numerous spot fires. The engine assigned to the firing operation

was cut off from the firing team and took refuge in one of the dozer-constructed safety zones while the fire burned around them.

“Go, go, go, run!”

The team stopped for a moment to watch the fire whirl cross the line. Horton yelled, “Let’s go, go, go!” encouraging them to continue firing. After lighting another 90 feet (27 m) they saw a wall of fire approaching and Horton yelled, “Go, go, go, run!”

All six people started running toward the west, but dense smoke soon made it impossible for them to see each other and they became separated. The heat was intense. One person ran along the dozer line directly to a safety zone. The other five were driven into the unburned green area due to the heat and the fact that they could not see the safety zone through the dense smoke. Three of them removed their fire shelters from the cases. Two of these removed the shelters from the vinyl bags, but only one actually deployed the shelter.

The 15 GNP3 crewmembers that were left in the Black safety area heard a radio call for help from one of the crewmembers that had run into the green. Concerned, they moved deeper into the safety zone.

Shifting winds momentarily caused the smoke to clear and the five crewmembers in the green all moved into a safety zone.

Injuries

Two people on the firing team had second degree burns on their faces and necks and some were coughing severely. Horton borrowed Huter’s vehicle and drove himself and the other five crewpersons west to a helispot where the two people with burns were flown to the Incident Command Post for initial treatment, and then transported by ambulance to a hospital where they were treated for the burns and smoke inhalation. The other 19 crewmembers eventually joined them there and the other 4 members of the firing team were treated for smoke inhalation. Three people were admitted to the hospital and remained there overnight before being released the next day. They were expected to fully recover.

Equipment

Usually it is desirable in the United States for the U.S. Forest Service’s Missoula Technology Development Center to evaluate how fire tools and personal protective equipment functioned during an ultimate test, such as a burnover. However, they were not called for this incident.

There was at least one equipment failure associated with a fire shelter. While attempting to deploy it, one of the crewmembers had difficulty pulling the red tab to open the vinyl

packaging. She eventually tore open the vinyl, and finally removed the shelter. This is not the first report of this problem. In fact some firefighters, when they are issued a new fire shelter, pull the tab and open the vinyl bag, then store it that way in the case. However, the shelter will wear out more quickly if this is done. This procedure is not recommended by the MTDC.

All of the entrapped firefighters had Nomex neck and face protectors, or shrouds, rolled up or stored in their hard hats. None of them unrolled or deployed them. If they had, most of the burns probably would have been prevented. In our annual firefighter refresher training, this should be part of the fire shelter training.

Mistakes, Concerns, And Contributing Factors

- When the safety team arrived that was asked to look into the incident, they were asked to review a “smoke inhalation” incident. After they visited the Incident Command Post and the fireline, they learned from field personnel that it was a much more serious accident, and according to BLM policy, the investigation was upgraded to a Serious Accident Investigation with a different team leader.
- One flank of the fire was not secured while the indirect line at the head of the fire was being backfired.
- Four people (later joined by two more) and one engine were the only resources attempting to backfire and hold 1.3 miles (2.1 Km) of indirect line at the head of the fire. Tim Horton, the Crew Boss, did not feel confident about using the entire crew because of the inexperience and lack of fitness of some crewmembers. Earlier, however, Horton had over-represented the experience levels of the crew, saying the crew had “lots of burning experience”.
- Horton became too involved in the actual ignition of the backfire to monitor radio traffic, weather, and fire behavior.
- The radio frequencies were overloaded and jammed.
- The Incident Action Plan (IAP) prepared by the Planning Section Chief and approved by the Incident Commander was extremely inadequate. The only instructions on the Division Assignment Lists were “Will be announced at briefing”. The Type 2 Incident Management Team that transitioned to the Type 1 team issued a complete IAP the previous day.
- Strategy and tactics had to be determined by the Branch Directors.
- The predictions for extreme fire behavior and red flag conditions, which proved to be true, should have led the Incident Management Team to direct that a flanking strategy be used, rather than a frontal assault.
- The Branch Director involved was not fully qualified for that position.
- Lookouts were not clearly posted and no one involved in the firing operation could directly see the main fire until just before the entrapment.
- Unassigned resources that were found at the main camp were automatically sent out to the fireline, some without having received a briefing or an assignment, and apparently with little regard for how they would fit into the organization. This was the Incident Management Team’s standard policy for their first operational period on a fire.

- This contributed to the overwhelming workload for Shepard, the Division Supervisor. In the Incident Command System, a supervisor should oversee three to seven subordinates. Shepard was expected to supervise 22 to 26 individuals.
- The firing team moved so quickly that they did not bring enough black, or burned area, with them as they progressed along the line.
- Dan Huter, the Branch Director, “displayed minimal concern for the firing squad’s well being. Immediately after the entrapment he had them provide for their own medical care and transportation to the helispot while he saw to the completion of the firing.”
- The Safety Officer “did not instigate an effective inquiry into the entrapment, overlooked the extent of the injuries, and downplayed the incident in his report and to the investigation team.”
- A relatively inexperienced crew was given a very difficult and complex assignment.
- One and one half miles (2.4 Km) beyond the indirect dozer line that got burned over was an area of sparse fuels. When the fire reached this area, it virtually burned itself out.
- According to the report, “There was considerable pressure from local ranchers and elected officials to do more to limit the acreage burned on the Sadler Fire; this was a contributing factor to the strong sense of urgency on the line the day of the entrapment.” Without this pressure, would the IMTeam have decided to let the fire burn into the sparse fuels and sacrifice acres, rather than endangering firefighters?
- After the burnover, the Incident Commander, Planning Section Chief, and the two Operations Section Chiefs refused Division Supervisor Shepard’s request to stay with the crew the following day to assist with the critical incident stress debriefing, telling him to report to the fireline the day after the incident.
- The investigation team determined that all of the 10 Firefighting Orders and 13 of the 18 Watch Out Situations were compromised.

Accountability

After the preliminary investigation report was prepared, Ed Storey’s Type 1 Incident Management Team was placed into an inactive status. When the final report was complete, the IMTeam was disbanded. This may be the first time that a national IMTeam was disbanded as a result of performance. In addition, five members had their fire qualification for their position on the IMTeam suspended until they could be recertified. The positions involved included the Incident Commander, the Planning Section Chief, the Safety Officer, and two Operations Section Chiefs.

Have We Learned Anything?

Most of the concerns raised by this entrapment are not unique. Wildland firefighters have been making the same mistakes over and over since we started keeping records of them. Mistakes which led to injuries and fatalities have resulted in the numerous rules and guidelines we have. But what can you do to prevent Pure Bone-Headedness? Or worse, smart people making bad decisions? How do we keep our brothers and sisters from

becoming victims? Following the rules and guidelines is a start. But how do we get people to do this?

What we have been doing is not working, so we need to try something else. And it is going to have to happen from the ground up. Every firefighter—EVERY FIREFIGHTER—must assume responsibility for their OWN SAFETY! If they don't, it's possible that no one else will. And if no one does, well, we have seen what can happen. On the Sadler fire, there was a national level IMTeam, supposedly the best of the best. There was a Safety Officer for the fire, as well as a Safety Officer assigned to the Division involved in the turnover.

If you as a firefighter or Incident Commander or anything in between, see an unsafe act developing or about to occur, NOTIFY someone. If the situation is not resolved, you have the right to refuse the assignment. This is not only your right, but it is your responsibility.

We can preach and cajole, but this and one other approach are about all that will actually improve our safety record.

The Other Approach: Accountability

Disbanding the IMTeam and de-certifying some of the members is a radical (but positive) action, at least when contrasted with what we have been doing in the past. This is something the Geographic Area Coordination Group did right. Slaps on the wrist, if used at all, are not effective. You can be sure that the other IMTeams are going to have the concepts of Disbanding and De-Certifying in the backs of their minds on the next few incidents. And that is a Good Thing.

People that irresponsibly cause injuries or put lives at risk need to be prevented from doing it a second time. Is One Strike and You're Out too severe? We all make mistakes, but some have more impact than others do. Some people learn from them; others don't. The trick is to prevent the first one. And, if that does not work, what do we do to prevent the second one? De-certify their fire qualifications, send them to remedial training, transfer them to a non-fire job, or terminate them?

What should an Incident Commander and an IMTeam think about first? Even before how many acres of government-subsidized grazing may be temporarily affected? The safety of our brothers and sisters. That should be Rule Number 1. FORGET THE DAMN ACRES. REMEMBER THE FIREFIGHTERS.

Where to Find the Investigation Report

The complete investigation report can be found on the Internet at:
http://wildfirelessons.net/documents/1999_sadler_report.pdf