

INVESTIGATIVE REPORT DADDY RIDGE FIRE



Daddy Ridge Fire

NOVEMBER 10, 2001

**TENNESSEE DEPARTMENT OF AGRICULTURE
DIVISION OF FORESTRY**

Investigation Team



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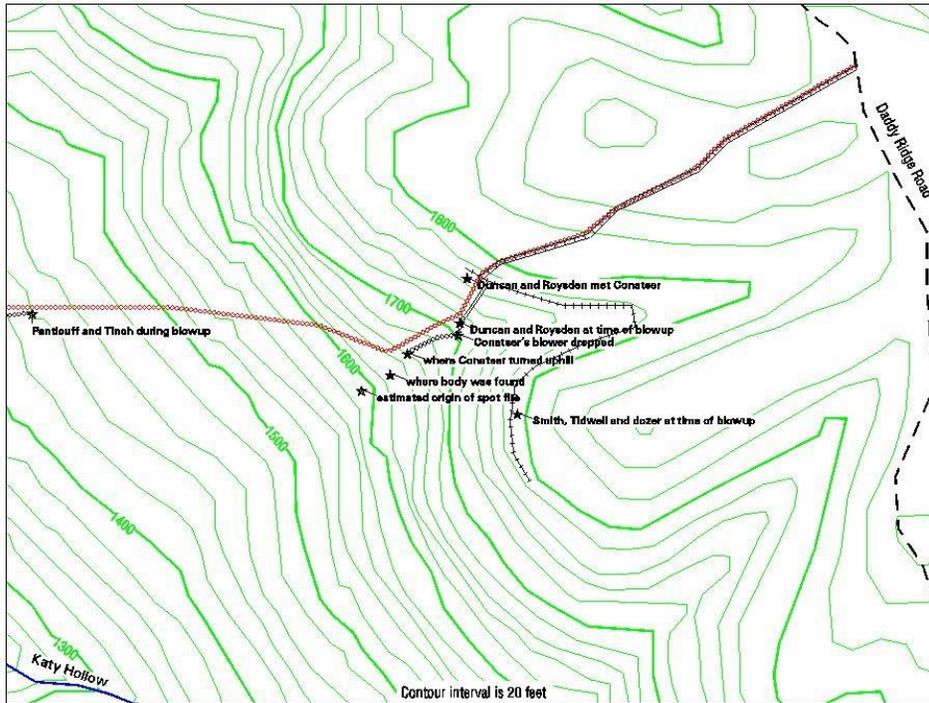


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Daddy Ridge
Fatality
Detail Map



- | | | | | | |
|-------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------|---------------------------|
|  | estimated fire edge prior to blowup |  | logging road bladed by dozer |  | rake constructed fireline |
|  | dozier constructed fireline |  | blower constructed fireline |  | stream |

SCALE 1:3000
100 0 100 200 300
FEET
Scale and distances are approximate

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**In Memory of Hairoid "Bear" Strode
November 30, 1954 – November 10, 2001**



INVESTIGATIVE REPORT DADDY RIDGE FIRE

Executive Summary

On November 10, 2001 at 6:31 p.m., Hairold "Bear" Strode, age 46, a three year Division of Forestry seasonal employee, was killed in a wildfire blowup near the head of a small, steep drainage on the Daddy Ridge Fire near Crawford, Tennessee in Overton County. Three other firefighters were able to escape into designated safety zones.

Strode was a member of a four-person hand crew constructing a fire break along the fire's right flank using two leaf blowers and two rakes. The fuel type was primarily loosely compacted hardwood leaf litter with depths varying between six inches to over two feet.

The Daddy Ridge Fire started around 3:00 pm CST on Friday, November 9th. The fire was contained about 10:00 pm CST the same day at 40 acres. After noon on Saturday, November 10th, the fire escaped the control line and by 3:15 pm CST, the head of the fire had crossed the Daddy Ridge road and the right (south) flank was backing downhill into a small drainage. The fire at this time had burned about 100 acres. Near 6:30 pm CST, a spot fire made an extremely fast run up the drainage where the victim was located causing the entrapment.

At 6:00 pm CST on Wednesday, November 15^h, the fire was declared contained at approximately 2400 acres.

Factors contributing to this incident include:

1. The incident occurred in a small, steep west-facing drainage.
2. The area was abnormally dry for the time of year.
3. The center of the drainage contained many large rocks making movement difficult.

With respect to the significant causal factors of the fatality, the incident review team recommends:

1. The Division utilize quick disconnect straps on backpack firefighting equipment.
2. The Division adopt a radio communication system that is less cumbersome and confusing than the existing system.

3. The Division develop a procedure to assure that operators of loud equipment have an alternative system to warn them of a potential safety concern.
4. The Division establish a network of fire weather stations to provide uninterrupted daily Fire Danger Ratings.



View from Head of the Hollow

CHRONOLOGICAL SEQUENCE OF EVENTS

November 9th

3:25 p.m.: The fire is reported by the Twinton Fire Tower. Twinton and Standing Stone State Forest crews are dispatched.

4:15 p.m.: Air 40 (Jim Dale), reports to dispatch, "It looks like it can be plowed." Size estimated to be about 10 acres.

4:15-4:30 p.m.: First crews arrive at fire and begin initial attack. Crew from Allardt Work Center dispatched to fire.

5:00 p.m.: Allardt crew arrives at fire.

10:00 p.m.: Fire was reported contained at about 40 acres. Crews return home.

November 10th

9:00 a.m.: Forestry Aide 2, Larry Hull, an 18-year employee and leader of the Twinton crew in Overton Co, along with seasonal employees Cletis Penticuff with 1 year experience and 1st season employee Harlon Tinch travel back to the fire and find it is still in containment.

1:30 p.m.: The Twinton crew returns to the Twinton fire tower thinking they had the fire adequately mopped up.

2:14 p.m.: FA2 Hull from the Twinton firetower sees smoke coming from the vicinity of Bear Knob.

2:25 p.m.: FA2 Hull determines that it is the same fire on Daddy Ridge and that it is again out of control. The Twinton crew is directed to go to the fire.

2:26 p.m.: Overton Co. Forest Technician Carl Smith, a 30-year employee, FA2 Keith Brown and seasonal employee Perry Tharp from Standing Stone State Forest are dispatched to fire.

3:00 p.m.: District Forester, Rick Merinar (who is acting as relief dispatcher at his office) dispatches the Clay Co. crew to the fire. This crew consists of Forestry Aide 2 Cornelius "Cotton" Smith a 9 year employee, FA1 Carmon "Rad" Tidwell

an employee of 37 years and seasonal employee Hairoid "Bear" Strode with 3 years experience.

3:05 p.m.: Air 40 reports the head of fire approximately 100 yards from top of Daddy Ridge.

3:15 p.m.: DF Merinar obtains coordinates of the fire from Air 40. Air 40 reports that the fire has crossed the road.

4:14 p.m.: DF Merinar dispatches additional resources from Allardt in Fentress Co. This crew consists of FA2 Don Conatser, 56, with 25 years of experience, seasonal employee Herbert "Pete" Duncan with 4 years of experience and 1st year seasonal Guy "Jeremy" Roysden, both 31 years old.

4:40 p.m.: Air 40 directs the majority of the crew enroute to the Daddy Ridge fire to go to the main ridge road. Two crewmembers begin constructing a hand line anchored to a dozer line in the bottom of Katy Hollow. They work uphill on the right (south) flank. The crew consists of two Overton Co. seasonal employees, 1 year employee Cletis "Junior" Penticuff. and 1st season employee Harlon "David" Tinch. They were building line with a leaf blower and rake.

5:00 p.m.: Overton and Clay Co. crews arrive at the ridge road. FT Smith assumes role of Incident Commander and instructs the crews to reinforce the ridge road and to control the numerous breakovers along the east side of the road.

6:00 p.m.: Fentress Co. crew arrives at fire. They begin assisting the Overton and Clay Co. crews in fire suppression along the side of the ridge road.

6:00-6:45 p.m.: IC Smith contacts DF Merinar by cell phone and objectives for fighting the fire are prioritized. It is agreed that tactics will be directed at controlling breakovers along the ridge road and work on the right flank of the fire. The operations would be curtailed at 11:00 – 11:30 p.m. so the crews could return home for sleep.

IC Smith instructs FA2 Smith and FA1 Tidwell to anchor to the ridge road and use their JD350 dozer to plow down the right (south) flank indirectly attacking the fire. They are to meet the hand line crew coming up the same flank from below. The rest of the crew continues to work at the head of the fire along the ridge road.

FA1 Tidwell calls IC Smith by radio requesting a hand crew. Due to steep terrain the dozer cannot proceed further down the flank. FA2 Conatser with a leaf blower, and seasonal employees Strode with a leaf blower and Duncan and

Roysden with rakes, are sent down the line to the point where the dozer has stopped plowing.

FA2 Smith and FA1 Tidwell back the dozer and go around to the opposite (south) side of the drain cleaning out a logging road as a backup firebreak on the way.

The hand crew begins indirect attack by constructing a firebreak down the drain utilizing the two leaf blowers and two council rakes. FA1 Tidwell is observing the fire and crew activities from the ridge on the south side of the drain. He radios IC Smith informing him the fire is backing very slowly down the north side of the drain, that the line work is proceeding well and within 100 yards they should meet the crew coming up from below.

Firefighter Strode is following closely behind FA2 Conatser and they have constructed line two-thirds of the way down the drain. Duncan and Roysden are about 100 feet behind them up the drain. Neither this crew nor the Overton Co. crew working toward them was backfiring or burning-out.

FA2 Conatser, leading the crew, sees a "glow" below him in the middle of the drainage. A moment later, seeing the fire coming up the drain, he turns and taps Strode on the shoulder, points down at the fire, and points up the drain indicating the way out, exclaiming "We need to get out of here!" FA2 Conatser runs up the drain a distance of about 75 feet. He stops briefly to remove the leaf blower and runs again this time into the burned area to his left. It was at this point he received a minor burn on the left side of his face.

During this time FA1 Tidwell is overheard on the radio saying, "Get out of there!" Duncan and Roysden who were watching near the edge of the fire at the head of the hollow, witnessing many of the events, stepped a few feet uphill into the burned area on the north side of the drain. FA2 Conatser met them there a few minutes later.

While these events occur, firefighter Strode is observed standing in the drain a short distance above the location where he and FA2 Conatser were together. Strode appears to be trying to remove his backpack leaf blower. The fire's intensity builds rapidly and reaches him before he can remove the blower. He jumps across the leading edge of the fire and proceeds down the drain. No other activities are seen as smoke and flames obscure visibility for a short time.

Radio transmissions are heard from FA1 Tidwell indicating there was concern about the location of the crew and possibly an entrapment and fatality.

FA2 Smith and FA1 Tidwell leave the dozer in a safe location on the ridge point on the south side of the drain and go downhill into the drain to find the hand

crew. Strode's body is found a few minutes later approximately 75' down the drain from where he was last seen.

6:45 p.m.: DF Merinar radios to IC Smith: "I think I know what I just heard. Get off the radios, locate your people, move everybody to a safe location. Help is on the way!" The crew is instructed to remain where they are until it is safe for the rescue team to reach them. (Note: Due to the fire's spread, the rescue team must wait 3 – 3 1/2 hours before the crew could be reached).

DF Merinar immediately implements the Division's Critical Incident Response Plan. DF Merinar dispatches Agricultural Crime Unit Investigator Don Moody and Fire Prevention Forester Jim Dale, local sheriff department personnel, ambulance and local coroner are all called to respond to the scene

7:00 p.m.: DF Merinar notifies Assistant State Forester Jeter, who contacts Acting State Forester Buck and Fire Chief Kirksey.

10:00 p.m.- 12:30 a.m.: FPF Dale notifies DF Merinar that the rescue team is proceeding to the site where the victims are located.

The team reaches the accident site and confirms to dispatch that the remaining members of the crew are accounted for.

12:30 a.m.: The Overton County coroner declares Hairold Strode to be dead. FA2 Conatser is treated at the scene by paramedics for his minor facial burn.

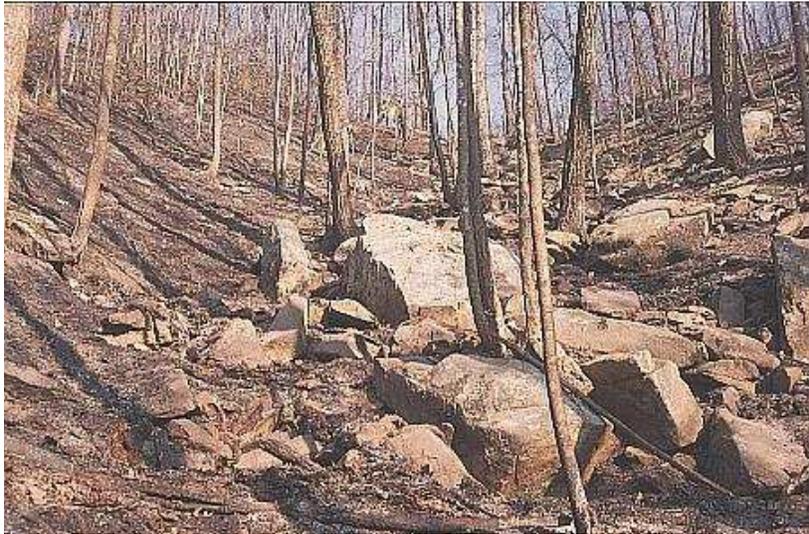
1:00 a.m.: Hairold Strode's body is carried out and transported to the local hospital.

2:00 – 3:00 a.m.: The firefighters from the Daddy Ridge Fire meet at the Area Office in Livingston. A debriefing is conducted by DF Merinar, ACU Investigator Moody and FC Kirksey.

ENVIRONMENTAL FACTORS, WEATHER, AND FIRE BEHAVIOR

FIRE BEHAVIOR AND FIRE POTENTIAL

The fire behavior fuel model for the area is Fuel Model 9, which can be described as loose hardwood litter under stands of oak, hickory, maple and other hardwood species of the East. Only scattered conifers were in the area of the incident. Although a FM 9 would be the normal fuel type, the fuel bed on the fire had little to no rain on it since leaf fall, which allowed it burn with rates of spread similar to a FM 9 but with flame lengths of a Fuel Model 2 (medium grass). As the fire moved up the slopes, rates of spread observed were similar to a Fuel Model 9 but where the incident occurred, the rate of spread was similar to FM2 as it created a draft up the chimney type drain. Several witnesses explained the fire behavior at the time of the blowup to be a rolling fire that totally engulfed the drainage within a matter of seconds.



View up the hollow from the fatality site.

Before the blowup those observing the fire burning into the drain described it as very slowly backing down the north side of the drain. Flame length was not over 1 foot. Scorch patterns and witnesses indicate the fire was burning from near the point the dozer line ended, downhill on an angle to within 15 feet of the middle of the drain near where the entrapment occurred. The line of fire then curved to the north and down into Katy Hollow.

Scorch patterns and witnesses indicate a spot fire started in the center of the drain near the base of the steepest part. When first seen by the hand crew the spot fire was about 4 feet wide. A moment later the fire began an intense run up the drain. It is likely that rolling debris from the north side slope fell into the

drain below the fire fighters causing the spot fire. Due to terrain features the ignition and initial spread of the spot fire could not be seen by either the dozer crew, on the south side of the drain, or the two hand crewmembers on the upper north side of the drain.

At the time the blowup occurred most of the north side of the drain had been burned, but none of the steeper south side. It is estimated that a length of 200 feet of the steep ravine was engulfed in about 45 seconds. Scorch indicates flame height to generally have been 3 to 10 feet, and flame lengths 10 to 25 feet. Witnesses described the flames as "laying down low" and spreading very rapidly on the steeper south side of the drain and the fire in the center of the drain as "rolling". The typical loud "freight train" roar of the fire was also heard. One of the witnesses in the drain described how it became difficult to breathe just before the blowup.

ENVIRONMENTAL FACTORS

1. The entrapment occurred in a narrow, short, steep, west-facing drainage located at the head of a large northwest-facing hollow.
2. The area was abnormally dry for the time of year.
3. Low fuel moisture content, slope and flashy light fuels were the main contributors to fire spread. Winds were very calm.
4. The drainage bottom is full of large rocks and has several 3 to 5 foot ledges making movement difficult.
5. About 300 feet of the drainage slope is quite steep and there are dramatic breaks in slope at the top and bottom where it becomes relatively flat.
6. Width of the drainage reduces to about 10 feet with the slope on the south side being in excess of 76% and over 65% on the north side. Where the entrapment occurred the south side slope is nearly vertical.
7. The drainage elevation drops approximately 45 feet per 100 feet within the 300 foot distance the hand crew was located.
8. The steep drop at the end of the ridge point hid the spot fire from observers on the south side of the drain.
9. Darkness had fallen over an hour before the hand crew began building line, although some of the crew had seen the terrain in daylight the previous day.
10. Visibility in the drainage was good as the smoke was rising upslope over the burn.

WEATHER

Prior to the incident, the Cookeville District (as the entire state of Tennessee) was experiencing drought conditions as a strong high pressure system had become established for several weeks. Weather readings for the 10-day period leading up to the incident indicates that humidities and fuel moistures were extremely low. Temperatures were unseasonably warm. As a result, the district was beginning to experience erratic fire behavior.

Due to the stability created by the high pressure system winds remained relatively calm as there were no winds associated with frontal passages.

The district had been actively fighting fires since October 15th, the official beginning of the fall fire season in Tennessee. At the time of the incident, the district was actively involved in fighting 2 other fires. Rainfall through October and until November 10th was only 0.5 inches, which occurred on October 23, 2001.

No weather observations were taken on the incident. Manual observations from the Standing Stone Lookout Tower located 20 miles northwest of the fire were taken at 1:00 p.m. Temperature was 61° F, humidity was 41% and the wind was west at 4 mph. 10 hour fuel moisture was 8%, 1 hour fuel moisture at 6%, and fine fuel moisture was 16%.

Predicted weather for the afternoon from the Nashville National Weather Service Office was: temperature 63° - 67° F, relative humidity 33%, winds north at 3 mph shifting to the west at 7 mph in the afternoon.

ORGANIZATION/CONTROL MECHANISMS

An **Incident Commander (IC)** was established immediately on the Daddy Ridge Fire. This position was filled by the Forest Technician in Overton County. The IC was on the north end of the fire when the entrapment occurred. The hand crew also had a designated crew leader. Span of control for the IC and crew was within recommended standards.

Division of Forestry crews had radios in their vehicles and on the fireline. All witness statements and radio logs indicate continuous radio contact between the

IC and hand crew and FA1 Tidwell. Crew status was checked regularly by radio and visually up to the point the blowup occurred.

The two witnesses on the north side of the drain were able to observe most of the movement of the two crewmembers with leaf blowers. They did not see the spot fire begin.

DADDY RIDGE FIRE NARRATIVE

The fire was initially reported from the Twinton fire tower crew at 1525 on 11/9/01. Crews were dispatched from Twinton and Standing Stone State Forest, arriving at 1625. When Forest Technician Carl Smith arrived he discovered a small cabin had burned and was still smoldering, and approximately 10 acres of woods burning. The fire was going up the south side of Daddy Ridge. Dozers and hand crews built a line around the fire stopping it at approximately 40 acres at 2120.

The Twinton crew returned to mop up the fire at approximately 0900 on 11/10/01. The crew returned to their Work Center at 1330 thinking the fire was adequately mopped up. At 1430 a smoke was detected from the Twinton tower in the area of the Daddy Ridge fire. Air 40 was dispatched to check the smoke. Upon arrival Air 40 discovered a breakover on both flanks of the fire with two new heads going toward the top of Daddy Ridge. All available personnel from Overton and Clay Counties and a 3-person crew from Fentress Co. were dispatched to the fire.

When the crews arrived the fire had crossed the ridge road on Daddy Ridge. Attempts were made with the Standing Stone dozer to contain the fire at the ridge top before it reached terrain too steep to plow. Meanwhile the Clay Co. dozer attempted to cut off the right flank to prevent the fire from spreading farther out the mountain to the east. The three Fentress County crew members and Hairold Strode began building handline down the mountain from the point on the right flank where it became too steep to plow. The hand crew was building line down a steep side draw with the fire on their right burning slowly with low intensity. A rolling ember ignited a fire below the crew. The fire raced up the draw forcing the crew to make a desperate run for the black. One crewmember, Hairold Strode, was burned over and killed. All fire fighting efforts were suspended until fresh crews could be brought in the following morning.

The fire was scouted early the next morning by replacement overhead while crews were arriving. A logging road from a gap in Sisco Mountain was found that could be cleaned out by dozer to stop the fire from burning any farther out Sisco Mountain. While dozers were doing this and the crews backfiring along the ridge road on top of Daddy Ridge more scouting was being done on the far north side of the fire. Local residents described an old road in Gam Hollow on the north side of Daddy Ridge, but no passage up the hollow was found for the dozers.

The fire began to bump the bluff line behind the small community of Crawford before a line could be constructed on the north side of Daddy Ridge where the fire was still moving rapidly. Dozer line construction quickly began behind the houses and the line was backfired to protect the homes and other structures. By dark the line was complete to a safe distance to the north so that crews ended their workday.

On the morning of the 12th line construction and backfiring resumed between the bluff line and the homes. This process had to move quickly as the fire approached the line faster than anticipated. The fire on the far north end had crossed Gam Hollow and spread up the south side of Bear Knob. The decision was made to use a wide gravel road on the top of Bear Knob as the firebreak. From there a dozer line was run down an old coal mine road to Shiloh Road. The single residence on Bear Knob was protected with a dozer line while the structures on Daddy Ridge were being closely monitored. At the end of the day the fire was encircled by fire lines, fields and roads but not entirely burned out to those fuel breaks.

The fire was monitored on the 13th as burnout operations continued. On the 14th more burning out and mop up was done from Bear Knob down to the foot of the mountain. The fire was monitored from the air on the 15th. On the 16th more mop up was planned but the hand crew did not arrive in time to execute the plan. The next day, the 17th this mop up was done with the help of Florida Division of Forestry dozers and a 20 person federal crew. By the 18th the fire was quiet enough to be patrolled and mopped up by the Twinton crew. The last day of ground crews was the 19th when a Division Dozer Team from District 5 concluded the mop up. The fire continued to be monitored from the air for several more days.

CONCLUSION

The incident review team concludes the entrapment and fatality on the Daddy Ridge Fire resulted from the interaction of light flashy fuels, steep and rocky terrain, and an undetected ignition below the crew. This resulted in a rapidly spreading, high intensity fire that engulfed one firefighter before he was able to access the existing safety zone, the adjacent burned-over area.



The Investigation Team visits the site of where the dozer line was constructed

COMMENDATIONS

- The Incident Commander on the fire moved to the intersection of Daddy Ridge road and Lily Lane after the blowup and kept additional people from entering a potential deadly situation.
- The fire crew working along Daddy Ridge recognized the need to create a larger safety zone around the dozer transport and an engine after the blowup that assured the safety of both of these vehicles.
- The District Forester exemplified concern for the welfare of the fire crew before, during and after the fatality.

RECOMMENDATIONS

The following recommendation addresses the direct causal factors of the fire entrapment.

It is the team's recommendation that the Tennessee Department of Agriculture, Division of Forestry incorporate the downhill fire line checklist as part of their standard operating procedures. A copy of this checklist is included as Appendix B.

With respect to the significant causal factors of the fatality, the incident review team recommends:

1. The Division utilize quick disconnect straps on backpack firefighting equipment.
2. The Division adopt a radio communication system that is less cumbersome and confusing than the existing system.
3. The Division develop a policy to assure that operators of loud equipment have an alternative system to warn them of a potential safety concern.
4. The Division establish a network of fire weather stations to provide uninterrupted daily Fire Danger Ratings.

Findings

**S: Significantly Contributed
Not Contribute**

I: Influenced

D: Did

	<u>1. Fuels</u>
I	Fuel Model 9 (Hardwood Litter)
S	Heavy layer of leaf litter
S	Light Flashy Fuels
	<u>2. Weather</u>
I	Relative humidity was measured to be 41 percent @ 1300 hours
I	Wind Speed from the West at 4 mph
I	Class 3 day (of 5).
	<u>3. Environmental Factors:</u>
S	The terrain was steep and mountainous.
S	Slope along the drain was 76 percent on the south side, and 65 percent on the north side and 45 percent up the middle.
S	The west facing narrow drain was very rocky with large boulders.
D	The drainage did not offer a suitable fire shelter deployment site.
D	Time of day when fatality occurred.
I	No recent fire activity in area. Evidence of brush and heavy leaf litter.
D	Smoke in the area.
	<u>4. Incident Management:</u>
D	The fire resulted from a break over the day before.

D	The main objective was to hold the fire at the ridge top,
S	Using the drain to locate control lines on the flanks.
D	Instructions were clearly understood by all members of the crew.
D	Informal safety briefings from IC to crews before beginning work on incident.
D	The crew had adequate communications with each other (eight of 12 crew members had portable radios).
D	Leaf blower operators were unable to hear radio communications.
D	The supervisory span of control was adequate (one to three).
D	Everyone knew who their supervisors were and who was in charge.
D	The crew respected and worked well with their supervisor.
D	All of the members of the crew were adequately trained. All members had completed the S-130 (Firefighter Training) and S-190 (Introduction to Fire Behavior) Fire Suppression Courses.
D	The victim was a seasonal employee with three years' experience.
D	No performance problems had been documented.
D	Fitness Standards are not required for Division of Forestry Crews.
D	Work/rest guidelines were observed
D	All members in supervisory positions had 20 + years' experience.
	5. Equipment
D	The crew had sufficient equipment to suppress the fire.
D	All equipment was functioning properly.
D	The leaf blowers were fueled with gasoline that likely caught fire during the entrapment.
D	The victim was wearing full personal protective equipment (PPE) except for goggles and fire shelter.

D	The majority of the crew were wearing personal protective equipment (PPE). The PPE was used properly and for its intended purpose.
I	None of the crew were carrying fire shelters (there were shelters on the fire plow). (Time for deployment of shelters was insufficient to be a viable alternative.)
D	The victim's nomex shirt and pants became thoroughly charred.

APPENDIX A

WATCH OUT SITUATIONS

1. Fire not scouted and sized up.
2. In Country Not Seen in Daylight.
3. Safety Zones and Escape Routes Not Identified.
4. Unfamiliar with Weather and Local Factors Influencing Fire Behavior.
5. Uninformed on Strategy, Tactics and Hazards.
6. Instructions and Assignments Not Clear.
7. No Communication Link with Crew Members/Supervisor.
8. Constructing fire line Without Safe Anchor Point.
- *9. Building fire line downhill with fire below.**
10. Attempting a Frontal Assault on the Fire.
- *11. Unburned Fuel Between You and the Fire.**
12. Cannot See Main Fire, Not in Contact with Anyone Who Can.
- *13. On A Hillside Where Rolling Material Can Ignite Fuel Below.**
14. Weather is Hotter and Getting Drier.
- *15. Wind Increases and/or Changes Direction.**
16. Getting Frequent Spot Fires Across Line.
- *17. Terrain and Fuels Make Escape to Safety Zones Difficult.**
18. Taking a Nap Near the Fire line.

*Designates those that apply to this incident.

STANDARD FIRE ORDERS**

Fight fire aggressively but provide for *safety first*.
Initiate all action based on *current* and *expected* fire behavior.
Recognize current weather conditions and obtain forecast.
Ensure instructions and *given* and *understood*.

Obtain *current information* on fire status.
Remain in *communication* with crewmembers, supervisor and adjoining forces.
Determine *safety zones* and *escape routes*.
Establish *lookouts* in hazardous situations.
Retain control at all times.
Stay *alert*, keep *calm*, think *clearly*, act *decisively*.

**None contributed.

Common Denominators of Tragedies on Fires*

- 1. Occurred on relatively small fires or isolated sections of larger ones.***
- 2. Happened during flare-ups in deceptively light fuels.***
- 3. Happened when fires ran uphill in chimneys, gullies, and steep slopes.***
- 4. Occurred from unexpected blowups of “innocent” appearing fires.***
- 5. Some suppression tools, such as helicopters or air tankers, can adversely affect fire behavior. The blasts of air from low flying helicopters and air tankers have been known to cause flare-ups.**

*Designates those that apply to this incident.

APPENDIX B

Downhill Checklist

Downhill fire line construction is hazardous in steep terrain, fast-burning fuels, or rapidly changing weather. Downhill fireline construction should not be attempted unless there is no tactical alternative. When building downhill fireline, the following is required:

1. Crew supervisor(s) and fireline overhead will discuss assignments prior to committing crew(s). Responsible overhead individual will stay with job until completed (TFLD or ICT4 qualified or better).
2. Decisions will be made after proposed fireline has been scouted by supervisor(s) of involved crew(s).
3. L.C.E.S. will be coordinated for all personnel involved.
 - Crew supervisor(s) is in direct contact with lookout who can see the fire.
 - Communication is established between all crews.
 - Rapid access to safety zone(s) in case fire crosses below crew(s).
4. Direct attack will be used whenever possible, if not possible, the fireline should be completed between anchor points before being fired out.
5. Fireline will not lie in or adjacent to chute or chimney.
6. Starting point will be anchored for crew(s) building down from the top.
7. Bottom of the fire will be monitored: if the potential exist for the fire to spread, action will be taken to secure the fire edge.