

PETER G. MORROS, *Director*
Department of Conservation
and Natural Resources

ROY W. TRENOWETH
State Forester Firewarden

BOB MILLER
Governor



1/31/97 *Shag*
OTIS N. TURNER
Assistant State Forester
Administration-Fire Management

PATRICK M. MURPHY
Assistant State Forester
Resources-Conservation Camps

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
NEVADA DIVISION OF FORESTRY

123 W. Nye Lane, Suite 142
Carson City, Nevada 89710-0818
Phone (702) 687-4350 • Fax 687-4244

January 16, 1997

To All Interested Parties:

Enclosed is a copy of the report on the investigation of the burnover of cameraman Mike Conway which occurred on June 23, 1996, during the Autumn Hills fire.

The investigative team has explored all aspects of this unfortunate accident with the full cooperation of all of the principal participants including the victim. If you have any questions concerning the investigation report, please contact Steve Frady, Chief of Prevention and Enforcement at (702) 687-4350.

Sincerely,

Roy W. Trenoweth
Roy W. Trenoweth
State Forester

A Report To The State Forester



On The Burnover Of Cameraman Mike Conway During the Autumn Hills Fire June 23, 1996

Submitted By The Incident Review Team

Steve Frady, Chief
Prevention & Enforcement
Nevada Division of Forestry

Greg Schimke
Resource Officer
U.S.F.S.-Tahoe National Forest

Steve Silva
Senior Law Enforcement Specialist
Nevada Division of State Parks

PETER G. MORROS, Director
Department of Conservation
and Natural Resources

ROY W. TRENOWETH
State Forester Firewarden

BOB MILLER
Governor



OTIS N. TURNER
Assistant State Forester
Administration-Fire Management

PATRICK M. MURPHY
Assistant State Forester
Resources-Conservation Camps

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
NEVADA DIVISION OF FORESTRY

123 W. Nye Lane, Suite 142
Carson City, Nevada 89710-0818
Phone (702) 687-4350 • Fax 687-4244

November 4, 1996

Roy W Trenoweth, State Forester-Firewarden
Nevada Division of Forestry
123 West Nye Lane, Suite 142
Carson City, NV 89710

Dear Mr. Trenoweth,

On June 25, 1996, an incident review team was assigned to review the burnover of cameraman Mike Conway which occurred on the afternoon of June 23, 1996, during the Autumn Hills Fire.

Attached is the report on the findings of the incident review including applicable appendices. The incident review team believes this report to be true and accurate.

Autumn Hills Burnover Incident Review Team

A handwritten signature in cursive script, reading "Steven R. Frady".

Steven R. Frady, Chief
Prevention and Enforcement
Nevada Division of Forester

A handwritten signature in cursive script, reading "Greg Schimke".

Greg Schimke, Resources Officer
USDA Forest Service
Tahoe National Forest
Nevada City Ranger District

A handwritten signature in cursive script, reading "Steven B. Silva".

Steven B. Silva
Senior Law Enforcement Specialist
Nevada Division of State Parks

Report Accepted

A handwritten signature in cursive script, reading "Roy W. Trenoweth".

Roy W. Trenoweth
State Forester-Firewarden
Nevada Division of Forestry

Contents

Acknowledgement.....	1
Burn Victim's Role.....	2
Incident Review Methodology.....	3
Incident Review Team Profiles.....	3
Nevada 'OSHA' Requirements.....	4
Causal Factors.....	5
Incident Overview.....	5
The Burnover.....	6
Maps.....	11-13
Personal Protective Clothing and Equipment.....	16
Factors.....	17
Appendices.....	26-53

Acknowledgment.

The incident review team would like to thank all of those involved in the burnover at the Autumn Hills Fire on June 23, 1996, for their voluntary and very willing participation in this review process through written statements, taped interviews and follow-up sessions. The incident review team would also like to thank the staff at the USDA Forest Service Technology and Development Center at Missoula, Montana, for their analysis of burnover video tape and the safety clothing worn during the burnover.

The incident review team would especially like to thank burnover victim Mike Conway for his assistance in the review process and for immediately recognizing the educational value of the review in preventing similar incidents. He released the video when asked by members of the fire service to share it as a learning experience. To Conway's credit, he has made copies of the dramatic burnover video available at his own expense to various fire departments for use in training programs. He also requested those news and other organizations which purchased copies of the video to make direct payment, as a donation, to the Lake Valley Fire Protection District.

As he put it, ". . .I have tried to make lemonade out of this situation rather than have a bunch of lemons in my bushel basket. The Lord was watching me and I thoroughly believe that I was supposed to tell this story and, I was supposed to be there with the camera to maybe help (save) some lives."

Although he has laughingly offered to be the "poster child" for fireline safety, Conway understands the seriousness of his experience. ". . .I have not made light of this whole situation. I totally understand. I've had two life-threatening situations that I've been in and, I have walked away from both of them . . .I don't feel this was a macho thing. . .I don't think there was anything I did that was brave. I don't think there was anything I did that was stupid . . .I'm sure there's something will come out of this that will probably make the news people more aware that they need to show up not in a suit and tie, or whatever, and really take things serious . . ."



K-MTN cable television owner and cameraman Mike Conway suffered first and second degree burns to his face and hands during a burnover while filming the Autumn Hills fire from the open bed of this pickup.

Burn Victim's Role.

On the afternoon of June 23, 1996, Mike Conway suffered first and second degree burns after being caught in a burnover during the first few hours of the Autumn Hills Fire.

Conway is the owner of K-MTN, a cable access television station which serves both the California and Nevada sides of the Lake Tahoe Basin, and Wilderness Productions, a video production company. He characterizes his companies as a "mom and pop" operation, with no other regular employees. His companies are based on the California side of the south shore of Lake Tahoe. K-MTN programming does not include regular news segments, and Conway does not consider himself a member of the "news media." However, he has filmed emergency incidents such as structure fires, downed aircraft and wildland fires on his own and at the specific request of news media organizations. By his own count he has done more than 400 stories and serviced 26 television stations in California. He has also filmed post-fire footage on contract with the U.S. Forest Service, and other footage for the U.S. Marshals Service, highway patrol and other law enforcement agencies. Members of the fire service involved in the burnover have also said they do not consider Conway a member of the "news media," but recognize him as a professional cameraman and owner of a cable television company, who has produced a number of fire prevention and general safety messages from the footage he has taken. In asking for a ride to the fire from a sheriff's roadblock he stated his purpose in going to the fire was "to document the fire and to do what I could media wise." Conway was identified in newspaper accounts of the burnover as "a television cameraman, and "Mike Conway, K-MTN Television cameraman." However, in a post-incident interview Conway noted, "I was trying to do something for my community. . .I didn't go down there to shoot this as a news piece, because it didn't get released until 5 p.m., the next day " Conway's video of the burnover was released when he was urged by members of the fire service to release it to a San Francisco Bay Area television reporter.

Therefore, the question arises:

What was Mike Conway's role at the fire, and his purpose in being there?

Conway is not a member of a fire department and was not a part of the incident command system in the fire suppression effort. He made an independent decision to respond to the fire from his South Lake Tahoe, California home in order to film a fire in the wildland/urban interface area of Nevada's Carson Valley.

Conway's cable television station, K-MTN, is a mass communications outlet. The 1996 edition of "The Associated Press Stylebook And Libel Manual" (Sixth Trade Edition), provides a view of the term "media" that also helps define Conway's role at the fire: "**media** In the sense of mass communications, such as magazines, newspapers, the news services, radio and television, the word is plural."

Lake Valley Fire Protection District Assistant Chief Brian Shaefer, who assisted Conway in getting to the fire, said in his post-incident interview, ". . .I think the issues here obviously are the press has a right to be there."

Although most of those involved in the burnover who know Conway, and Conway himself, do not consider him a member of the regular or "mainstream news media," his presence at the fire must be considered in the context of his activities as owner/operator of his cable television station, K-MTN, a mass communications outlet. His past relationships and activities with television news operations must also be considered. At the very least, Conway can be considered a "freelance" photographer.

Incident Review Methodology.

“Investigating Wildland Fire Entrapments” (5100-F&AM, August 1995, 9551-2845-MTDC) was used as a general guide in review of this incident. Written statements were obtained from witnesses and principals in this incident. Taped interviews were also conducted with selected witnesses and the principals in this incident. Transcripts of those taped interviews will remain with the official case file at the Nevada Division of Forestry State Headquarters in Carson City, Nevada, along with other documentation pertaining to this incident gathered during the review process. Post-fire photographs of Paul Tyler’s pickup truck and of Mike Conway were obtained, as were copies of the video taped by Conway prior to, through and following the burnover. Official documents were also obtained from various agencies.

The burnover of cameraman Mike Conway presented somewhat of a unique situation. Most post-incident burnover-entrapment reviews have involved members of the fire service who were engaged in activities as part of the fire suppression effort. Much of the criteria used in reviewing and evaluating those incidents has been directly related to firefighting activities, i.e., the 10 Standard Firefighting Orders. In order to properly review Conway’s burnover, some of the criteria has been modified slightly to relate to the general activities of news personnel gathering information and filming wildland fire emergencies.

Incident Review Team Profiles.

Steve Frady is Chief of Prevention and Enforcement for the Nevada Division of Forestry. He has 23 years experience in structure and wildland fire suppression including service in both career and volunteer departments and the Nevada State Fire Marshal Division. His fire service training and experience include fire cause and origin and fatal fire investigations. He also served as a criminal investigator with the Nevada Division of Investigation and has personal injury and wrongful death investigative experience in the private sector. He spent eight years with Carson City’s daily newspaper, the Nevada Appeal, as a reporter and later as the editor. He is “red card” qualified as an Incident Information Officer II.

Greg Schimke is a Resource Officer for the Nevada City Ranger District of the Tahoe National Forest. He has 24 years of career experience in the fire service in both federal and state agencies. His experience and training include fire cause and origin investigations, vehicle accident and tort claim investigations, and advance fire behavior in addition to other training. He is “red card” qualified as a Division Group Supervisor.

Steve Silva is the Senior Law Enforcement Specialist for the Nevada State Parks Division. He has 20 years of experience in law enforcement including wildland and structure suppression experience in the National Park Service, for Santa Clara County, California and in Nevada. His experience and training includes accident investigations, background and internal affairs investigations. He is an instructor at the Nevada Law Enforcement Academy and supervises training for the law enforcement section of the Nevada State Parks Division. He is “red card” qualified as a Security Manager.

Nevada 'OSHA' Requirements.

Nevada Revised Statute 618.375 mirrors federal requirements, and is enforced by the Nevada Division of Industrial Relations, Occupational Safety and Health Enforcement Section.

NRS 618.375 places responsibility for safety of personnel, safety equipment and training on the employer.

NRS 618.375 Duties of Employers. Every employer shall:

1. Furnish employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.
2. Furnish and use such safety devices and safeguards, and adopt and use such practices, means, methods, operations and processes as are reasonably adequate to render such employment and places of employment safe and comply with all orders issued by the division.
3. Post prominently in the working place all posters and information provided by the division informing employees of their rights and obligations pursuant to this chapter.
4. Assign at least one person to be in charge of occupational safety and health.
5. Do every other thing reasonably necessary to protect the lives, safety and health of employees.

NRS 618.383 Establishment of safety program required; training for temporary employees; exemption.

1. Except as otherwise provided in subsection 7, an employer shall establish a written safety program and carry out the requirements of the program within 90 days after it is established.

2. The written safety program must include:

(a) The establishment of a training program for employees concerning safety in the workplace, particularly in those areas where there have been recurring injuries.

(b) If an employer has more than 25 employees, the establishment of a safety committee. The safety committee must include representatives of employees. If the employees are represented by a labor organization, the representatives of employees must be selected by the employees and not appointed by the employer.

3. A representative of employees while engaging in the business of a safety committee, including attendance at meetings, authorized inspections or any other activity of the committee, must be paid by his employer as if that employee were engaged in his usual work activities.

4. The administrator of the division shall adopt regulations establishing the minimum requirements for a written safety program.

5. The administrator of the division shall develop and provide each employer with a written guide for establishing a written safety program.

6. An employer who contracts with a temporary employment service shall provide specialized training concerning safety for the employees of the service before they begin work at each site or as soon as possible thereafter.

7. An employer who has 10 or fewer employees is exempted from the provisions of this section unless the employer has been identified pursuant to NRS 616B206 as having excessive losses.

The number of employees in Conway's company, as noted in NRS 618.383.7, precludes enforcement action by the Occupational Safety and Health Enforcement Section of the Nevada Division of Industrial Relations. The fact that Conway's company is based/located in California has no bearing

on Nevada enforcement action. The state has jurisdiction on employees of companies from other states while they are working in Nevada. Had Conway been filming this incident for a larger organization, enforcement action by the Occupation Safety and Health Enforcement Section of the Nevada Division of Industrial Relations would be appropriate.

Causal Factors.

- 1. Inadequate personal protective clothing and equipment**
- 2. Inadequate training**
- 3. 10 of the “18 Situations That Shout Watch Out” were compromised or appropriate/timely action was not taken**
- 4. 10 of “12 Wildfire Safety Guidelines For News Media” were compromised or appropriate/time action was not taken**
- 5. Mechanical failure of USDA Forest Service pickup**
- 6. Weather Conditions**
- 7. Fuel Conditions**
- 8. Decision to get into open pickup bed rather than cab**
- 9. Communications**
- 10. Leadership**

Incident Overview.

Name of Incident: Autumn Hills Fire

Date of Incident: June 23, 1996

Time of Incident: 1419 PST

Legal Description of Location: T23 & 12N, R 19E, 7.5 minute quad, Minden, NV

The Autumn Hills Fire began on Sunday afternoon, June 23, 1996, in a wildland-urban interface subdivision located within the Sierra Forest Fire Protection District of the Nevada Division of Forestry in Douglas County. Cause of the fire was determined to have been the result of two 14-year-old males setting gasoline-soaked desert lizards on fire. One of the blazing lizards ran through surrounding vegetation setting it on fire. The fire consumed 3,800 acres, destroyed four homes and numerous

outbuildings. An estimated 3,000 persons were evacuated from the area during the fire.

Alarm notification was made through the Sierra Front Interagency Dispatch Center at 1419 hours. Nevada Division of Forestry Battalion Chief Mike Rector assumed command upon arrival and established an incident command post at the intersection of Foothill Road and Kingsbury Grade, northeast of the area of origin of the fire.

The fire was burning primarily in cheatgrass, bitterbrush and sagebrush with an average height of 3-4 feet. The fire was driven by erratic winds and moved northwesterly through the subdivision to the north, and into neighboring timbered lands within the Toiyabe National Forest on the west, as well as to the south and west of the subdivision.

Dan Holbrook, Fire Management Officer for the Nevada Division of Forestry requested road closures while enroute to the fire on Foothill Road. This was due to the amount of non-emergency vehicle traffic congesting the area and at times, dense smoke obscuring visibility. The Douglas County Sheriff's Department reported Foothill Road closed at 1437 hours, and Kingsbury Grade closed at 1529 hours. At 1446 hours, Rector ordered three additional air tankers and the Sierra Front Interagency Incident Management Team (Type II).

At 1609 hours, Rector ordered a Type I Incident Management Team. Truckee Meadows Fire Protection District Firefighter Joe Nishikida responded to the fire from the Reno area as incident information officer assigned to the Sierra Front Incident Management Team. At approximately 1745 hours, Nishikida arrived at Douglas County High School to which the incident command post had been transferred. He immediately began interaction with news media personnel at the incident command post, but did not get to the fireline until the next day.

The Sierra Front IMT assumed command of the fire at 2135 hours with Howard Carlson, fire management officer for the Nevada City Ranger District of the Tahoe National Forest, as incident commander. The Rocky Mountain Incident Management Team arrived over the course of the afternoon of June 24, 1996. Delegation of authority was executed at 0600 June 25, 1996, at which time the Rocky Mountain Incident Management Team assumed command from the Sierra Front Incident Management Team.

The Burnover.

Assistant Chief Brian Shaefer of the Lake Valley Fire Protection District was dispatched to the fire at approximately 1513 hours on Sunday, June 23, 1996. He was assigned as strike team leader to take a Lake Tahoe Basin Type 3 strike team to the fire as an "immediate need" strike team. After dropping off equipment from a training exercise earlier in the day, Shaefer left his district in the unincorporated area on the California side of Lake Tahoe driving his agency pickup truck.

Mike Conway was working alone in his studio at home when he monitored dispatch assignments for Tahoe Basin strike teams on a pager provided by the Lake Valley Fire Protection District. Conway was not under contract for news coverage for a news organization or government agency, but decided on his own to respond in order to document the fire. Conway responded in his pickup truck from his home at Tahoe Paradise, California, approximately 12-miles to the top of Daggitt Pass in Nevada, where Douglas County Sheriff's Department deputies had closed Kingsbury Grade to non-emergency vehicle traffic.

Conway parked his pickup in the area of the roadblock and walked over to speak with sheriff's deputies. He was dressed in yellow Nomex wildland fire shirt and pants. He was carrying a large broadcast video camera similar to those carried by television news personnel. Although Conway had a helmet and gloves, they were left on the bumper of his pickup truck. Conway did not possess a fire shelter, and did not have a shelter or water with him.

When Brian Shaefer arrived at the roadblock, Conway approached him and requested a ride to the fire. Shaefer noted he was wearing yellow Nomex clothing, and asked his purpose in going to the fire. Conway stated he was going to document the fire and do what he could “media wise.” Shaefer agreed to transport Conway to the fire. However, he denied a similar request to an individual who identified himself as a U.S. Forest Service employee because he was not wearing protective clothing and instead was dressed in shorts and t-shirt.

As they drove to the fire on Kingsbury Grade, Conway took notes from the radio traffic. Conway and Shaefer briefly discussed the wind conditions as they traveled. Shaefer requested his dispatch advise responding engine crews to be dressed in full protective equipment upon arrival and be ready to fight fire. Approximately half-way to the fire, Conway discovered he did not have his gloves and helmet which he had left on the bumper of his pickup truck at the top of Daggitt Pass. Conway stated Shaefer had a pair of gloves in the vehicle which were available to him but he did not utilize those (In his interview, Shaefer did not recall these gloves). He said he asked Shaefer for a spare helmet, but none was available.

Just prior to arrival, Shaefer told Conway that he would have to find someone with a vehicle since he would be busy and would not be able to take Conway with him. Shaefer advised Conway to stay on the roadway, stay safe, not wander too far, and make sure he could get out of the area quickly.

Already on scene were Paul Tyler, Fire Prevention Technician with the Lake Tahoe Basin Management Unit of the U.S. Forest Service, and Don Stangle, Deputy Chief of the East Fork Fire and Paramedic Districts.

Stangle was in Carson City on day off when the fire started. He noticed the smoke and called East Fork Fire Protection District duty officer Assistant Chief Dave Drew who requested Stangle return to district and assist with the fire. Upon arrival at the fire Stangle met with Mike Dondero, Fire Management Officer for the Carson Ranger District, Toiyabe National Forest. Stangle told Dondero he wanted to check on the residence of a relative, which was in the area of the fire on Kingsbury Grade, just north of the intersection of Foothill Road and Kingsbury Grade. Dondero requested Stangle be strike team leader for structure protection in that area. Stangle provided a ride to Nevada Appeal News Editor Kurt Hildebrand and proceeded north on Kingsbury Road arriving at the scene approximately 15-20 minutes prior to the burnover. Hildebrand was wearing a Nomex wildland fire shirt, but had no other personal protective clothing or equipment. Hildebrand remained inside the cab of Stangle’s pickup prior to and during the burnover.

Tyler responded to the fire on initial attack. Upon arrival at the fire he reported to Earl Griffith, law enforcement officer for the Toiyabe National Forest, to offer his assistance in the origin and cause investigation. He was not utilized by Griffith, so reported to Dondero, who directed Tyler to assist Stangle with structure protection operations along Kingsbury Grade.

Upon arrival, Shaefer met with Tyler and Stangle on the Kingsbury Grade roadway. Conway may have been present or nearby at this time, but did not participate in the conversation, and began filming fire suppression operations and nearby fire activity. Stangle, Tyler and Shaefer agreed upon a firing operation to assist in protecting structures on the west side of Kingsbury Grade. Specific discussion on escape routes and safety zones did not take place at this time. A spot fire, approximately 1,000 feet to the east of and downslope from Kingsbury Grade, was observed by all three. Size of the spot fire was estimated to be 1-1 1/2 acres at this time and it was observed that the fire was “burning into itself.” Stangle stated he communicated observation of the spot fire with fire crews in the area and with Operations, and that he requested additional air tanker support at the time. Agreement was reached on a second firing operation to eliminate fuel between the spot fire east of and downslope from Kingsbury Grade and the roadway. Due to the rapid sequence of events, this firing operation was not implemented.

Eric Reymus, engine foreman on Western Nevada Agency-Bureau of Indian Affairs engine

2147, conferred with Stangle and Tyler then began assisting with the firing operation in the area of the structures on the west side of Kingsbury Grade. Strike team engines from Lake Valley Fire Protection District began to arrive individually and were given assignments by Shaefer for protection of structures in the area. Main fire activity on the west side of Kingsbury Grade was observed to be generally burning downhill in an east-northeast direction.

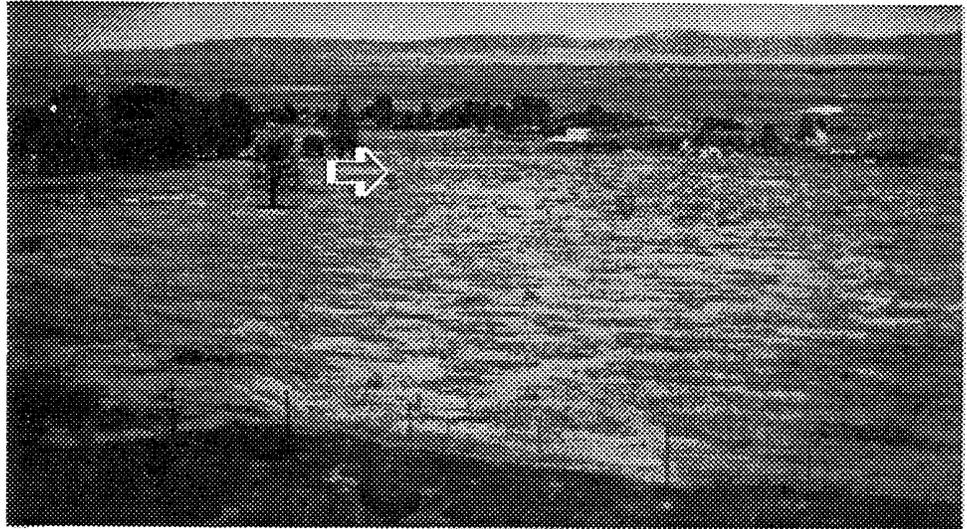
Conway continued to film the fire from locations on the Kingsbury Grade roadway. At some point, Tyler pointed out fire whirls and other fire behavior to Conway. It may have been at this time, according to Tyler, that Conway stated something to the effect that he might need a ride with Tyler if the situation required a pull out. Conway stated that with one exception, he stayed within approximately 25-foot of a vehicle at all times, and that he remained on the roadway at all times. At one point prior to the burnover, he used the hood of Tyler's pickup truck to steady his camera during filming. Conway observed the truck was running at that time. He said he believed the headlights were on due to an amber glow he could see, and that the overhead warning lights were in operation. Tyler stated his truck was parked with a grill-mounted red light and overhead lights on, but that the headlights and four-way flashers were not on at the time. Review of the video filmed by Conway just prior to the burnover indicates Tyler's four-way flashers were not in operation. The headlights were on, and in an alternating flash mode, and the overhead warning lights were in operation. These lights all appear to be operating in a normal manner at 10:22 (video timer), at 12:29, and at 12:52. At 15:30 and 15:35, the overhead emergency lights are shown rotating very slowly in comparison to other emergency vehicles in the area. There is no evidence of the headlights being on or flashing at 15:39 and 15:41, but the overhead warning lights are still rotating extremely slow. At 15:52 the flame front approaches the pickup truck, with the start of the burnover at approximately 16:02. This seems to indicate a heavy electrical load on the truck's system and may have been the cause of, or a major contributor to, the truck stalling.

Tyler's truck was parked (*see site diagram*) in a slightly angled position on the fogline on the northbound lane on the east side of Kingsbury Grade. The truck was headed north, with the right front fender of the truck closest to the curbed edge of the roadway, approximately 2-3 feet from the curb. A U.S. Forest Service engine from Markleeville was parked in the center of the northbound lane, headed north. BIA Engine 2147 was parked just east of and off (to the right of the fogline) the northbound lane of Kingsbury Grade, headed north, at the head of a dirt road which runs northeasterly from Kingsbury Grade. Stangle's pickup truck was parked in the northbound lane, slightly over the centerline, headed south, and adjacent to Tyler's pickup truck. Shaefer was mobile in his pickup truck at this time checking on crews assigned to structure protection.

Reymus had just walked to the west side of Kingsbury Grade to continue firing operations. He stated he observed a very slight calm just before wind direction and velocity changed. He said the spot fires to the east and below Kingsbury Grade had joined to form a line of fire moving upslope, which is shown on the video filmed by Conway. Reymus said the fire increased in intensity and in the 10-15 seconds it took to walk back to the east side of the road where BIA Engine 2147 was parked, fire spread changed from approximately 20-feet per minute, to approximately 20-feet per second. This corresponds with estimates made by both Shaefer and Tyler.

Reymus said he recognized the situation as a blowup and directed BIA Engine 2147 to evacuate. Conway stated he felt all firefighters in the area were aware of his presence and had seen him filming. This may have been true for some personnel in the area. However, Reymus, who was involved in firing operations on the west side of the highway, and had walked back and forth across the highway at least twice, said he was unaware Conway was in the area and did not observe him as BIA Engine 2147 moved past Tyler's pickup north on Kingsbury Grade to a safety zone. Stangle evacuated the area by driving his pickup truck backwards (north) up Kingsbury Grade. He was unaware of Conway's presence until he noticed him in the open bed of Tyler's pickup as he backed up. Shaefer was in his pickup just north

A spot fire was observed burning approximately 1,000 feet to the east of and down-slope from Kingsbury Grade prior to the burnover. At the time it was observed, the fire was reportedly "burning into itself." This and other spot fires in the area reacted to a change in wind activity, slope and vegetation burning uphill and over Kingsbury Grade.

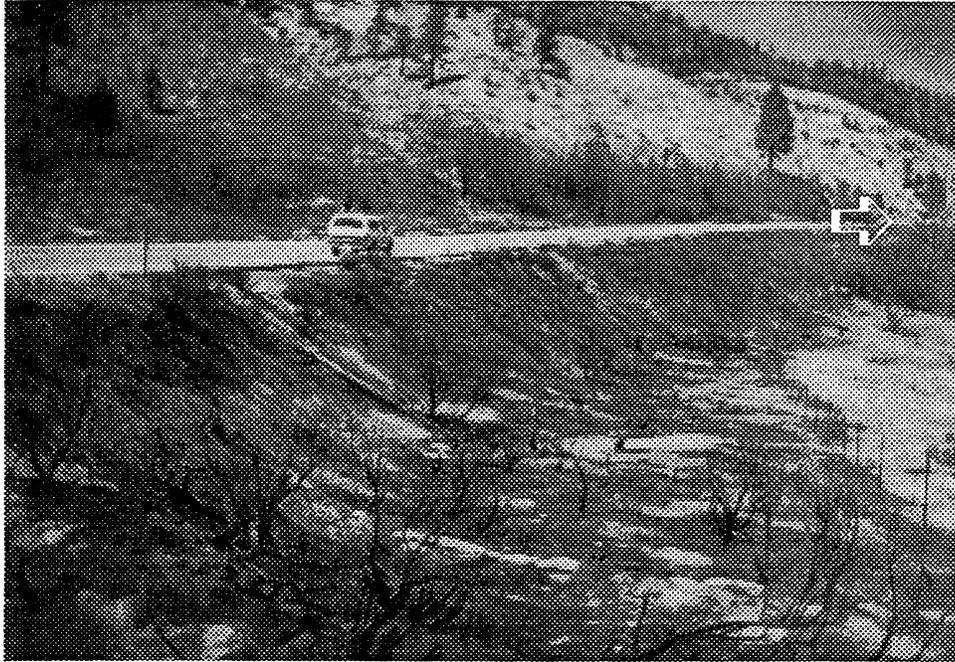


of Tyler's position at the time of the flare-up, and evacuated northbound on Kingsbury Grade. He did not pass Tyler's pickup and did not see Conway. Shaefer said at the time he felt Conway was relatively safe on the highway and that Conway had a vehicle in which to evacuate the area, probably Tyler's.

Tyler stated that while he was observing fire behavior and changes that were occurring, he was primarily focused on the firing operation and personnel involved in that operation on the west side of Kingsbury Grade. Tyler went to his pickup truck when BIA Engine 2147 and other vehicles in the area began to evacuate. He stated he was unsure if Conway had gotten a ride out of the area with Shaefer. He did not notice Conway until Tyler had entered the pickup truck and looked up, making eye contact with Conway as he approached from in front of the pickup truck. Tyler said at that point, he realized Conway would be going with him. Tyler said he watched Conway approach from the front of the truck and move down the driver's side of the truck. Tyler turned around to see where Conway had gone and was surprised to find Conway had jumped into the open bed of his pickup. Tyler attempted to accelerate to move the truck out of the area once Conway was in the bed of the truck, but the pickup engine had died. Tyler attempted to start the engine, but there was no response. He said he then released the emergency brake in an attempt to roll the truck out of the area, but was able to roll only a few feet to almost the center of the lane. BIA Engine 2147 and other engines in the area had left, and Stangle was already moving past Tyler. Tyler stated he pulled his fire shelter out of its cover and attempted to exit the cab of the pickup to pull Conway inside the truck. His efforts were hampered by extreme winds and he was only able to open his door by forcing it using his back against the seat and his leg on the door.

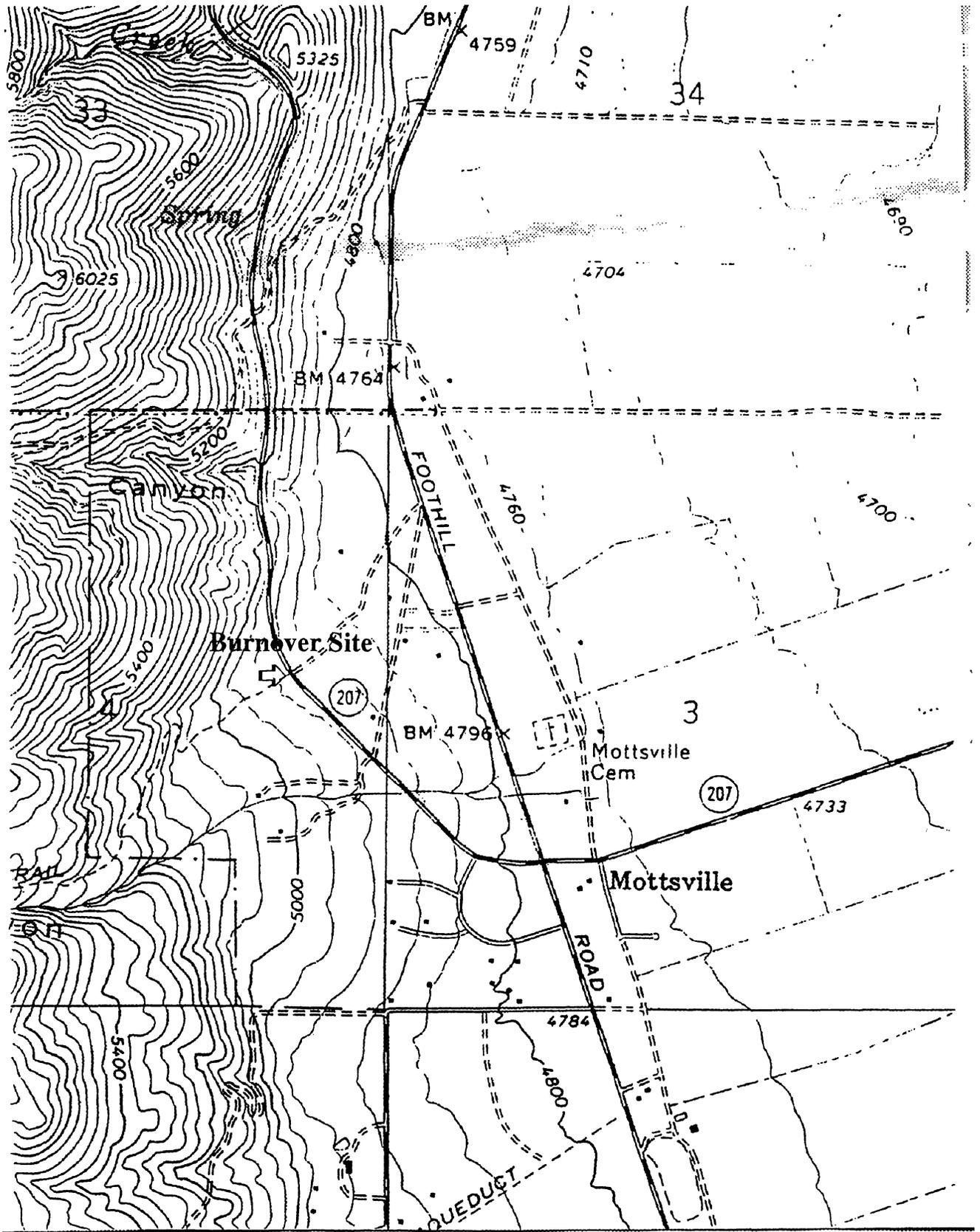
Conway stated he had an opportunity to get on or in one of the two engines that were at the scene, but elected to get in Tyler's vehicle. Conway said he got into the open bed of Tyler's pickup for two reasons: He wanted to film the "exit shot" of the fire as the truck moved away; and, he said he was concerned about the passenger side of the truck being parked too close to the curbed edge of the road and thought he might fall off the road, down and into the fire below the road. Conway stated he could not understand why the truck was not moving as the intensity of the heat rapidly increased. When he realized he was trapped, he rolled over on his stomach, crossing his arms, and pressed his face to the floor of the pickup and close to a small space between the right side of the bed of the pickup and the side of a cross-bed tool box. This was the side of the vehicle exposed to the flames.

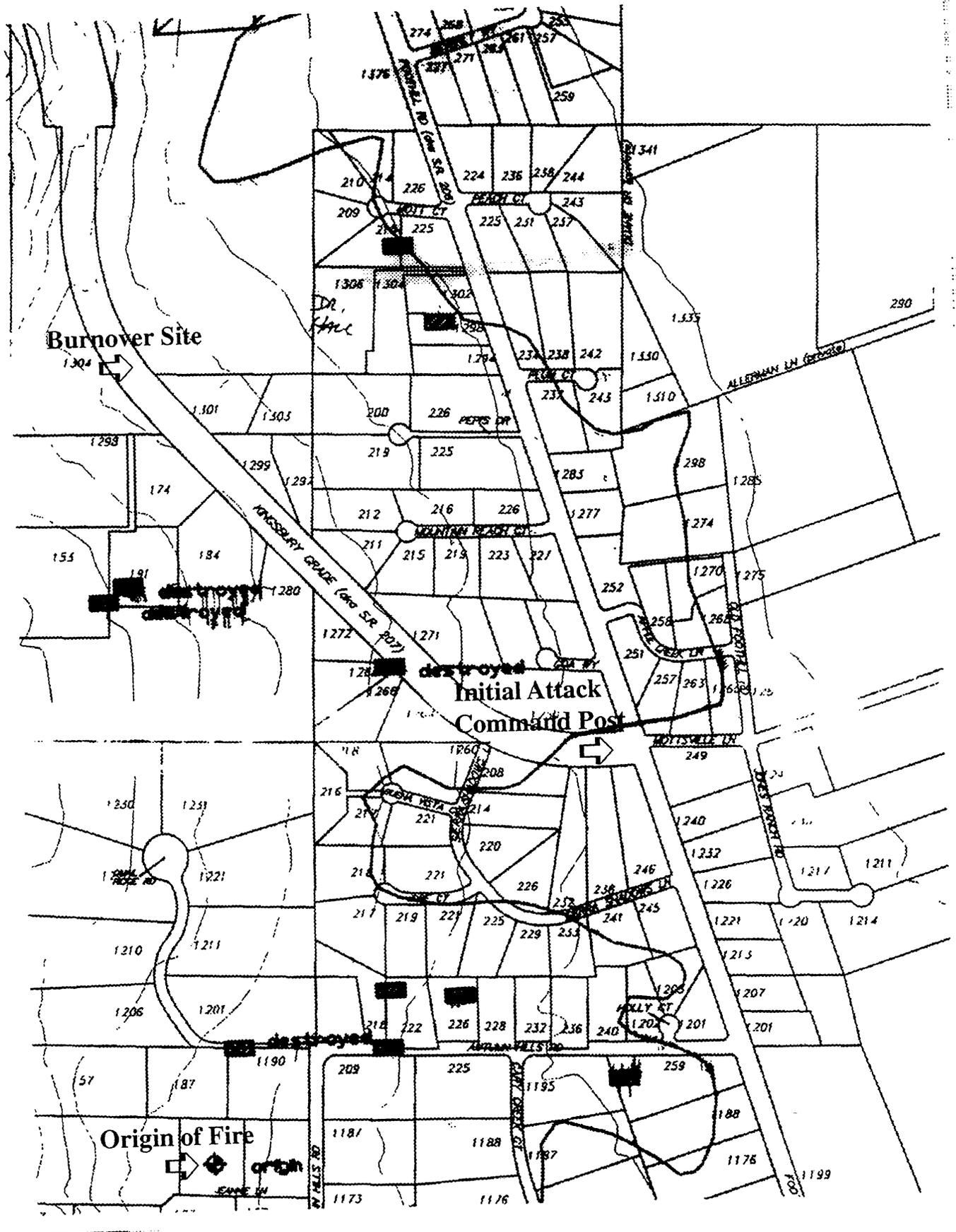
Conway estimated flame height at the time of the burnover to be approximately 25-30 feet. Conway stated he knew to protect his lungs so he attempted to hold his breath during the burnover. He also stated during this time he was kicking his feet in an effort to kick embers off his clothing. His camera remained on and filmed the burnover. Review of the video by personnel at the U.S. Forest Service



Paul Tyler's pickup truck was parked approximately where the white vehicle is parked, headed north on Kingsbury Grade. The arrow in the northbound view, above, indicates the first safe zone to which most engines and command vehicles went when the blowup occurred. The arrow in the southbound view of Kingsbury Grade, below indicates the approximate location of Western Nevada Agency-Bureau of Indian Affairs engine 2147. From the area where the spot fire was first observed, the slope gently rises from approximately 10 percent to 20 percent at the base of the road way where it dramatically increases to approximately 40-45 percent. The fire reacted to wind, slope and vegetation with fire spread changing from approximately 20-feet per minute to 20-feet per second.







↑
N
Not to Scale

SPOT FIRE

↑
Lake Tahoe

CCFD Engine

LVFPD Engine

Shaefer's Pickup

Stangle's Pickup

Tyler's Pickup

BIA Engine 2147

1304

← Felton Residence

FIRING OPERATIONS

FIRING OPERATIONS

KINGSBURY GRADE

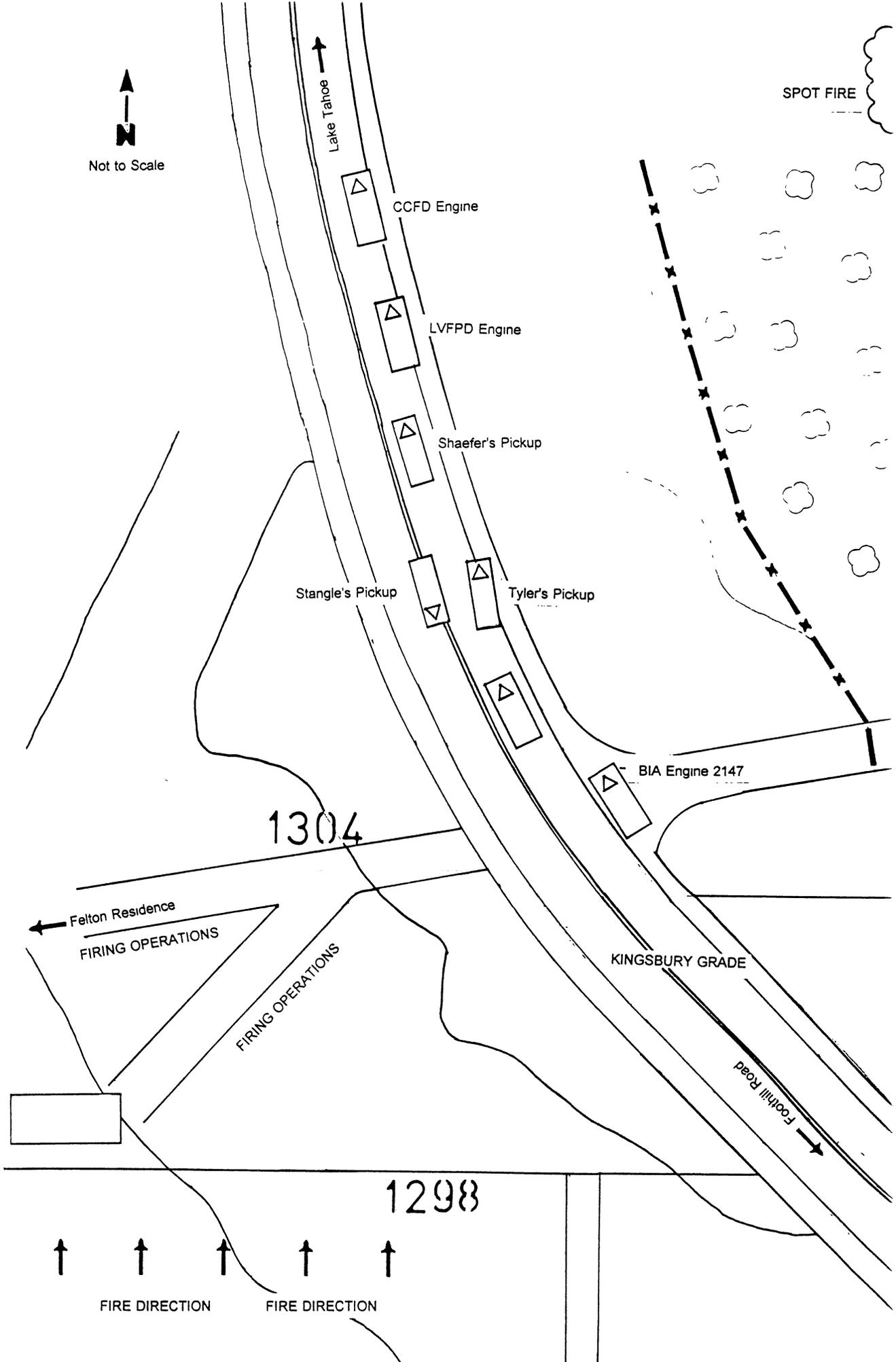
↑
Foothill Road

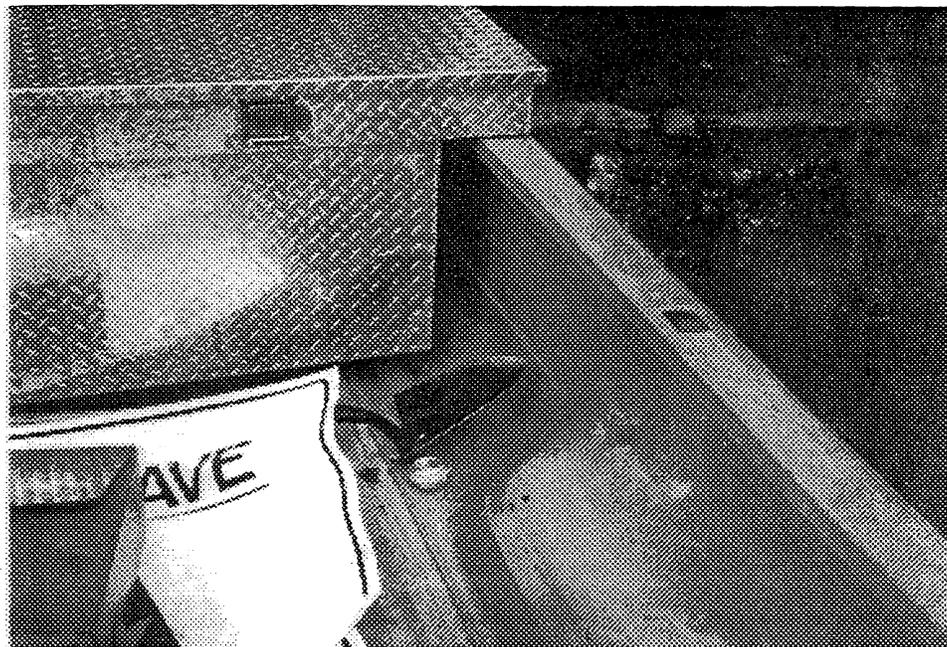
1298

↑ ↑ ↑ ↑ ↑

FIRE DIRECTION

FIRE DIRECTION





K-MTN owner and cameraman Mike Conway got into the open bed of the pickup driven by Paul Tyler in order to film the "exit shot" of the fire, anticipating the vehicle to rapidly move out of the area. However, the truck had stalled. When Tyler was unable to restart the truck, he attempted to roll the truck away from the fire, moving only about 10 feet. When the fire advanced on the truck, Conway placed his face in the recess near the shovel, above. According to the U.S. Forest Service Technology and Development Center at Missoula, Montana, The audio track indicated he started to scream within seconds and did not hold his breath the 30-40 seconds reported in the newspaper account. "Keeping his head low to the truck bed, not holding his breath, saved Mr. Conway from inhaling hot gasses."

Technology and Development Center at Missoula, Montana, concluded, "The video tape showed Mr. Conway spent about 18 seconds in the bed of the truck during the burnover before getting into the cab of the pickup truck. The audio track indicated he started to scream within seconds and did not hold his breath the 30-40 seconds reported in the newspaper account. Keeping his head low to the truck bed, not holding his breath, saved Mr. Conway from inhaling hot gasses."

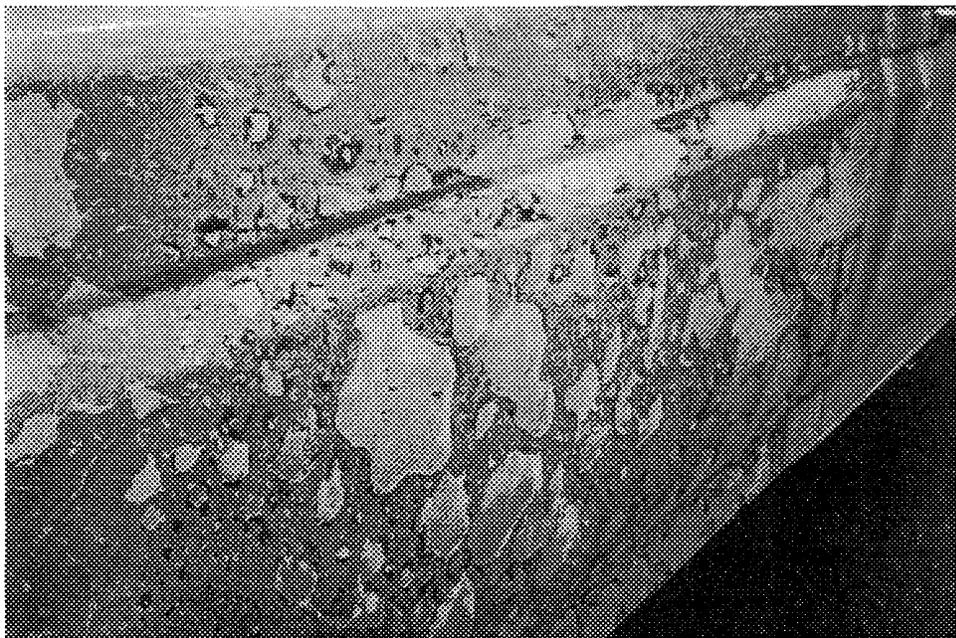
As the flame front passed, Tyler's truck was momentarily obscured from view of the other units by smoke and flame. At this point Tyler finally managed to get his door open and began to exit the cab of the truck. At the same time, Conway jumped out of the bed of the pickup, placing his hand on the driver's side bed rail, landing on the ground on his buttocks. His camera remained in the bed of the pickup. He got into the cab of the pickup truck with Tyler. Active fire continued to burn in the area and a spot fire had started on the west side of Kingsbury Grade, so Tyler was surprised when Conway suddenly left the cab of the pickup and returned seconds later with his broadcast camera, which continued to record.

Conway suffered obvious burns to his face and hands, and his hair was smoldering as he sat in the truck. Tyler poured water from a canteen on Conway in an attempt to cool the burns and made several attempts to utilize his radio to obtain emergency medical assistance but without response.

Ronan Thornhill, statewide Conservation Camp Coordinator for the Nevada Division of Forestry, working as safety officer, was in the area at the time of the burnover. He evacuated the area just prior to the burnover by backing his pickup north on Kingsbury Grade away from Tyler's truck. He observed the burnover and noted Tyler's pickup had not moved out with the other vehicles. Following the burnover, he drove to where he last saw Tyler's pickup truck. He stated he was approached by both Tyler and Conway as he arrived. Thornhill transported Conway a short distance to a East Fork Fire and Paramedic District unit where he was evaluated by Paramedic Bill Romanowitz as having second degree



The 1994 Ford 4X4 pickup driven by Paul Tyler of the U.S. Forest Service-Lake Tahoe Basin Management Unit, suffered heat and flame damage to the passenger side, and some heat damage to the front and lightbar during the burnover. Video filmed by K-MTN owner and cameraman Mike Conway shows emergency lights and headlight flashers all working minutes prior to the burnover. However, shortly before the blowup, video shows emergency overhead lights rotating very slowly, with no evidence of the headlights being on or flashing. This seems to indicate a heavy electrical load on the truck's systems and may have been the cause of, or a major contributor to, the truck stalling. Conway stated he had an opportunity to get on or in one of the two engines that were at the scene, but elected to get into the open bed of Tyler's pickup for two reasons: to film the "exit shot," and because he said the passenger side of the truck was parked too close to the edge of the roadway and he feared falling off the road and into the approaching fire. Conway's video indicates Tyler's truck was parked at a slight angle, with the right front parked closest to the edge, approximately 2-3 feet from the curb.



burns. Conway was transported to the Carson Valley Health Center in Gardnerville, where he was treated for his burns and released later that evening.

Thornhill returned to the scene of the burnover, and using the pickup he was driving, pushed Tyler's truck out of the roadway at Tyler's request, as a potential traffic hazard. Tyler was able to start his truck later through a "jump start" assist from a unit of the Douglas County Sheriff's Department.

Shaefer stated that he checked on his engines and monitored radio traffic which included information on a powerline down on a backhoe, and an injured firefighter. However, since he did not hear any radio traffic pertaining to Conway or Tyler and the burnover, he assumed there had been no problems. He learned of the burnover and Conway's injuries later that night.

Personal Protective Clothing and Equipment.

Conway was encountered filming fire activity by crews from the Lake Valley Fire Protection District during the 1992 Cleveland Fire on the El Dorado National Forest in California. At the time, Conway was not wearing and did not possess personal protective clothing and equipment. Subsequently, Conway stated, Lake Valley Fire Chief John Ceko and Assistant Chief Brian Shaefer provided him with a Nomex wildland fire shirt, Nomex structure pants without the liner, and a helmet. Conway said he purchased "full cuff" leather gloves. He said he was told by Ceko and Shaefer that they did not want to see him on fire incidents without the equipment he was provided.

Conway stated prior to the incident he had not received training on the design limitations or maintenance of the clothing, although he was told by Lake Valley Fire Protection District personnel that the Nomex would burn if embers landed on it.

Conway stated since receiving the equipment, he has machine washed it only once, in hot water, without soap or any additives such as fabric softener. He stated he keeps the protective clothing in a storage area behind the seat of his pickup truck, and that it is not routinely exposed to sunlight.

At the time of the burnover, Conway was wearing the Nomex wildland fire shirt, which he said was fully buttoned up with sleeves rolled down and cuffs buttoned. The fire shirt was not tucked into the Nomex structure fire pants he was wearing. Conway did not have gloves, helmet, face shroud, fire shelter or water at the time of the burnover. Although he was not wearing goggles at the time, he stated his prescription glasses have high impact lenses, which he considers "safety glasses." All of the clothing Conway was wearing underneath, including underwear, was made of 100 per cent cotton. His t-shirt, also 100 per cent cotton, had a "puff print" design on the back. Conway wore leather boots with Vibram soles. The boots rise slightly over his ankles.

An analysis of Conway's personal protective clothing and the t-shirt he was wearing was conducted by the U.S. Forest Service Technology and Development Center at Missoula, Montana (the complete report is included in the appendix). Also submitted, in addition to his clothing, was a copy of the video filmed by Conway during the burnover, post-fire photographs of Tyler's pickup showing heat and flame damaged areas; and copies of newspaper accounts from the Nevada Appeal, Carson City's daily newspaper.

The analysis report concludes, "The analysis suggests Mr. Conway was burned with a combination of radiant and convective heat during an exposure of 18 seconds.

"Lion Brush Pants. The 7.5 ounce NOMEX brush pants had light brown charring on the buttocks, upper thigh and calf area. The pattern was in streaks with only highest areas showing thermal damage and the pattern was visible on the inside surface. The char stopped several inches below the beltline suggesting a shirt was worn over the pants at the top. No thermal damage occurred to double-layer NOMEX areas. This pattern suggests brief flame contact and radiant exposure with fabric surface

temperatures peaking at 800 degrees F for 3-5 seconds for the highest fabric surfaces.

“USFS Shirt. The 6.0 NOMEX shirt had light brown charring up to dark brown/light black charring. Light charring starts several inches from the collar and changes to dark brown char midway down with heaviest char at the shirt bottom. Char comes through to the inside surface for all areas except the bottom double layer hem. The “puff print” white marking material has melted and stuck to the inside surface of the shirt. This pattern suggests the highest areas of the shirt were exposed to brief flame contact and radiant exposure for 3-5 seconds and peak temperatures of 840 degrees F.

“T-Shirt. The 3-4 ounce 100% cotton T-shirt showed very light dye sublimation in the left shoulder area corresponding to the char pattern on the Nomex shirt. The “puff print” upper surface melted. This suggests temperatures of 300-325 degrees on the outer surface.

“Skin. Mr. Conway received 2nd degree facial burns in the areas of the forehead, cheeks and chin, which were not covered with hair. This suggests a radiant exposure since only uncovered skin is burned. Assuming that the burnover was in the average range of 1 cal/cm²/sec these burns could occur in about 1 second. The conductive burn from grabbing the railing could occur in a second or less depending on how hot the railing was at the time of contact.

“Heat to the back of the pants should have produced leg burns. Since no leg burns were reported, Mr. Conway must have been wearing pants under the NOMEX outer pants. However, none were reported or sent.”

Analysis of the video tape indicates Conway spent approximately 18 seconds in the bed of the pickup truck during the burnover. The analysis report concludes, “The short, 18-second exposure period and breathing in air within seconds suggests no flame contact to his face. Clothing damage could have been caused by radiant heat, but would take 20-30 seconds. This suggests brief flame contact, which would cause the damage in 4-5 seconds. Since only upper surfaces (highest off truck bed) were charred, this too suggests brief flame contact for up to 5 seconds and radiant heat exposure up to 18 seconds which heated some fabric surfaces to over 800 degrees F.

“Since cotton autoignites at 750 degrees F and chars at 475 degrees F, we can conclude that the Nomex clothing prevented very serious burn injury. Flame and radiant heat blocked by the outside of the truck also prevented more serious injury. Had Mr. Conway tried to run from the fire, he likely would have died.

“Although the flame resistant clothing performed as designed, a few seconds more exposure would have resulted in massive burns to his back and legs. It should also be pointed out that failure to wear all his proper personnel (sic) protective equipment (PPE), i.e. gloves, shroud, and hardhat, resulted in the injuries he did sustain.”

Factors:

1. Fire Behavior

a. Fuels. Significant Contribution. The area below the burnover site on Kingsbury Grade, most closely resembles Fire Behavior Fuel Model 2 (Aids to Determining Fuel Models For Estimating Fire Behavior-NFES 1574). In this model, fire spread is primarily through the fine herbaceous fuels, either curing or dead. These are surface fires where the herbaceous materials, in addition to litter and dead-down stemwood from the open shrub or timber overstory, contribute to the fire intensity.

The area had experienced a seven-year drought period, followed by two winter seasons with above average precipitation (the preceding winter snowfall was 105-130 percent of normal). The area also experienced late spring precipitation, with the last measurable precipitation occurring on May 28 (Markleeville monitoring station), with measured precipitation of .03". As a result, the area downslope

from the burnover site on Kingsbury Grade included dense live and decadent sagebrush to an average height of 3-4 feet, widely interspersed with individual bitterbrush, and a combination of cured seasonal cheatgrass and decadent cheatgrass from previous years. Rapid snowmelt, warmer than normal spring temperatures and wind activity contributed to drying of vegetation. Fire weather forecasts for West Central Nevada Zones 450 and 453, on June 22, showed live fuel moisture at 162 percent-low (Fish Springs N3C).

b. Weather. Significant Contribution. Wind, resulting from gradient downslope winds and an approaching/passing cold front, was the primary influencing weather factor. Measurements at the Markleeville monitoring station at 1300 hours on June 23, showed a temperature of 72 F, with relative humidity of 22 percent. Wind speeds of 11 mph and wind gusts to 21 mph.

During the first few hours of the fire prevailing southwest winds were at 10-20 mph, with gusts up to 30 mph. Wind speeds at the 8,500 foot elevation, over the Tahoe rim, during the initial burn period were southwest 40-50 mph, with gusts exceeding 80 mph. Afternoon temperatures ranged in the upper 70's near the fire with minimum humidity falling to 17 percent. Haines Index for June 23 was 4-Low. At the time of the burnover, fire spread was rapid and wind-driven, with reports of fire spread in all directions at once. Fire behavior was extreme resulting in crews under Stangle to pull out of one area of homes prior to the burnover. At the time, he contacted "Operations" (Dondero) by radio to inform him of a possible shelter deployment. Dondero responded by ordering the pullout "all the way back to the lake (Tahoe)," if necessary.

On June 25, rain began to fall shortly after 0100 hours, and continued throughout the day, contributing significantly to the suppression effort. Snow was observed over the Tahoe rim with accumulations of 2-3 inches reported from field observers. Afternoon temperatures ranged in the mid-upper 40s, with relative humidity readings of 85 percent or greater. By 1300 hours, rain accumulations of 0.34" were recorded at the incident command post.

c. Topography. Influenced. The slope below the burnover area on Kingsbury Grade visually appears slight. It gently rises from approximately 10 percent in the area where the spot fire was first observed to approximately 20 percent at the base of the roadway where it dramatically increases to approximately 40-45 percent. The fire reacted to both wind and slope, burning rapidly uphill.

d. Predicted vs. Observed. Significant Contribution. Although the spot fire was observed the potential for the flare-up was not recognized, or not recognized soon enough. Those interviewed consistently indicated when first observed, the spot fire was not moving, or was "burning into itself." All indicated a rapid change in wind conditions and fire behavior within seconds, and that fire spread changed from approximately 20-feet per minute to 20-feet per second.

2. Environmental Factors

a. Smoke. Did not contribute. Although dense at times, smoke was not a factor at the time of the burnover. Visibility was good. The spot fire and main fire could be plainly seen.

b. Temperature. Influenced. Temperature was measured at the Markleeville monitoring station at 1300 hours on June 23 at 72 F. This had a drying effect on live and dead fuels.

c. Visibility. Did not contribute.

d. Slope. Influenced. The area between Kingsbury Grade, where the burnover occurred, and where the spot fire was first observed, gradually increases in slope from approximately 10 percent to approximately 20 percent to the base of the roadway where it increases dramatically to approximately 40-45 percent. The spot fire reacted both to the wind activity and slope, burning rapidly uphill.

e. Other (Fuel Conditions). Significant contribution. Live and decadent vegetation between Kingsbury Grade and the spot fire near Foothill Road on the east provided fuel conditions for rapid and explosive spread of the fire.

3. Incident Management

a. Incident Objectives. Did not contribute. The incident was still in the initial attack phase. Incident objectives at the time were: (1) Protect lives, (2) Protect Structures/Property. Given the stage of the fire, the resources on hand and those being ordered, incident objectives were sound.

b. Strategy. Did not contribute. The strategy was to confine the fire to the immediate area and prevent spread to other residential areas, especially those along Foothill Road. Strategy was sound.

c. Tactics. Did not contribute. Tactics used included placing resources and engines for protection of individual homes in the immediate area with support of aircraft, and use of firing operations.

d. Safety Briefings/Major Concerns. Influenced. The incident was still in the initial attack stage, and resources were being assigned/committed as quickly as they arrived. The structure was not yet in place for formal safety briefings. There was a heavy reliance on the experience and training of officers and personnel in addressing safety concerns. The issue of safety briefings was not adequately addressed in the area of the burnover, although it was generally recognized that wind conditions, fire behavior and the spot fire provided for hazardous conditions. Specific safety concerns and issues could have been more adequately addressed during discussion of the firing operations.

e. Instructions Given. Significant contribution. The only instructions Conway received were from Shaefer prior to arrival at the scene. These appear to have been clearly stated and generally followed, with one exception. Shaefer directed Conway to make arrangements for transportation with someone with a vehicle on the scene. Conway told Tyler he might need a ride, but this arrangement was tenuous at best. Conway said he could have gotten on or in one of the engines in the area, and that he stayed too long in the area.

4. Control Mechanisms

a. Span of Control. Significant contribution. The span of control was broken when Conway left the relative safety of Shaefer's vehicle. Control was not re-established/maintained by the failure to formally arrange for Conway's transportation with other fire officials on the scene. Evaluation of personal protective clothing and equipment, and appropriate instructions regarding evacuation thus were not provided.

b. Communications. Significant contribution. Once Conway left Shaefer's vehicle, he was without communications with other units. As he moved about the area filming, Conway relied on listening to radio traffic from radios in nearby engines without knowing if they were from command, tactical or car-

to-car (local) frequencies. Had a prearranged signal or command been established for evacuation, and broadcast, Conway might not have heard it.

c. Ongoing Evaluations. Significant contribution. Even though he was filming fire activity and suppression operations, Conway's ongoing evaluations were inadequate. Lack of training and experience contributed to tunnel vision as he focused on filming the fire apparently not recognizing, or recognizing too late, the imminent blowup and potential for burnover.

d. 12 Wildland Fire Safety Guidelines For News Media. Significant Contribution. Of these, 10 were compromised or appropriate/timely action was not taken.

1. Keep informed on fire weather conditions and forecasts. There was heavy reliance on visual observation of local conditions, and discussion between Shaefer and Conway about wind conditions and the potential for a wind driven fire to move from the Carson Valley into the Lake Tahoe Basin. Agency personnel had access to fire weather forecasts through scheduled informational broadcasts on respective agency radio frequencies prior to the incident. This was in the initial attack phase, and the structure was not yet in place for formal fire weather briefings.

2. Know what the fire is doing at all times. Conway was on his own at the time of the blowup and did not have an escort or lookout. The changing conditions and potential for the blowup and burnover were underestimated as he focused on filming the fire.

3. Base all actions on current and expected behavior of fire. Conway did not know what to expect due to a lack of training and experience. As a result, he failed to make adequate evaluations and take appropriate action in a timely manner. Conway admitted he should have left the area sooner.

4. Establish escape routes and safety zones and make them known to everyone. Safety zones were not identified. The only communication Conway had was from Shaefer, while enroute to the fire. He told Conway to stay on the road, stay near the vehicles and make sure he could get out of the area. Conway considered his safest escape route, on foot, to be uphill on the highway. Several engines utilized this route and had to move at least twice again when the fire advanced on their position. Safety zones and escape routes were apparently not specifically established by fire officers on the scene. Those interviewed said it was understood the escape route would be up the highway. A pre-arranged signal for escape was not developed.

5. Post lookouts when there is possible danger. Conway did not have an escort or lookout. He was by himself prior to and at the time of the burnover. Fire operations lookouts in the area were inadequate for the conditions and the potential.

6. Be alert, keep calm, think clearly, act decisively. Conway's decision not to leave the area sooner, and his decision to get into the open bed of Tyler's pickup to film the "exit shot" were major factors.

7. Maintain prompt communication with your partners or group and any adjoining firefighters. Conway did not have adequate communications as he moved throughout the area filming the fire. Conway did not have any kind of escort or lookout with radio communications. He relied heavily on listening to radio traffic in nearby engines without knowing the frequencies (command, tactical, local,

etc.). A pre-determined signal for evacuation was not established and might not have been heard by Conway if communicated. Conway's communication concerning transportation with Tyler was tentative.

8. When you are given instructions, obey them immediately—your life may depend on it. The only instructions Conway received were from Shaefer, who told him to find someone with a vehicle, stay on the road, stay safe, don't wander off too far, and make sure he could get out of the area quickly. Arrangements for transportation were tentative, and not made immediately upon arrival, after Conway left Shaefer's vehicle to begin filming.

9. Maintain control of personnel—know where everyone is at all times. This generally pertains to news crews which often include one or more reporters and or photographers/camera personnel.

10. Wear proper safety clothing and equipment and have water with you. Conway did not have adequate personal protective clothing and equipment, and did not have water with him. He wore Nomex structure pants without the liner and a Nomex wildland fire shirt which was buttoned up, but not tucked in. He left his gloves and helmet with his vehicle when he accepted a ride to the fire and did not have them at the time of the burnover.

11. Have your fire shelter with you at all times and know how to use it. Conway did not possess a fire shelter or have one with him at the time he accepted a ride to the fire, and did not have one at the time of the burnover. He had never taken a formal shelter training class, but had general knowledge from fire shelter literature he had seen.

12. Get the story aggressively, but provide for safety first. Safety was a secondary consideration. A complacent attitude towards safety was displayed. After realizing his helmet and gloves had been left behind, Conway continued into the area in Shaefer's vehicle, then left the relative safety of that vehicle in order to film the fire. No apparent effort was made to find replacement gloves or helmet. Conway did not have a fire shelter or water, and his personal protective clothing was not properly worn (shirt not tucked in). Safety was not a consideration when Conway made the decision to film "the exit shot" from the open bed of Tyler's truck instead of trying to get into the cab from either side of the vehicle. His decision to leave the safety of the pickup truck cab to retrieve his camera after the burnover, while active fire continued in the area, is questionable, but may have been influenced by shock.

e. 18 Watch-Out Situations. Significant Contribution. Of these, 10 were compromised or appropriate/timely action was not taken.

1. The fire is not scouted and sized up. Lack of training and experience contributed to inadequate size up of the fire. This resulted in failure to consider condition of the vegetation, slope, wind conditions and spot fires, and recognize the potential for rapid, explosive spread.

2. You are working in country not seen in daylight. Conway had previously filmed commercials in the area in the daytime, and was fairly familiar with the area.

3. Safety zones and escape routes have not been clearly identified. Safety zones had not been identified. Conway was on the east side of the highway, and dense, unburned vegetation existed on the

west side of the highway in the path of the main fire, as well as along the east side of Kingsbury Grade in front of the spot fire. Conway's only avenue of escape was along Kingsbury Grade. Conway's planned escape route on foot was to run north and uphill on the highway. Given the sudden rapid spread of the fire, and the fact that vehicles retreated twice from the same area, Conway would have quickly been overtaken by the fire and probably would have died. Given the rapid change in conditions and the resulting smoke momentarily obscuring the highway, and evacuating engines and vehicles moving rapidly along Kingsbury Grade, Conway could have been struck while evacuating on foot.

4. You are unfamiliar with weather and local factors influencing fire behavior. Conway's wildland fire experience was primarily in the timbered areas of the higher elevations of the Lake Tahoe Basin. He was not trained or experienced in fire behavior and conditions in the sagebrush-cheatgrass-bitterbrush mix on the east slope of the Sierra Nevada and the wind factors that affect those fires.

5. You are uninformed on strategy, tactics and hazards. Conway was not taken to and did not go to the incident command post to obtain information on strategy, tactics and hazards. He may have been in the immediate area when Stangle, Tyler and Reymus conferred on the firing operation, but did not participate in the conversation. He did not receive specific information on strategy or tactics, or on any general or incident specific hazards. Conway's lack of specific training and experience left him at a disadvantage in recognizing hazards common to wildland fire operations.

6. Your instructions and assignments are not clear. What instructions Conway received were clearly stated.

7. You have no communication link with crew members or supervisors. Conway's only radio communications link was to listen to the radio traffic broadcast on radios in nearby vehicles. He could not have known if the frequency was a command frequency, tactical frequency, or a car-to-car (local) frequency, or if traffic was originating from another sector of the fire. He did not have an escort or lookout with radio communications.

8. You are reporting/filming with a crew constructing line without a safe anchor point. This was not a factor.

9. You are reporting/photographing from a hilltop/hillside or elevated area with fire below you. Conway was located uphill from the spot fire with a significant amount of unburned fuel between his position and the spot fire.

10. You are reporting/photographing at the head of (in front of) the fire. This was not a factor.

11. There is unburned fuel between you and the fire. Several acres of dry and relatively dense live and decadent vegetation existed between Conway's position on the highway and the spot fire downhill from the road.

12. You cannot see the main fire and are not in contact with anyone who can. This was not a factor. Although smoke was dense at times, Conway and other witnesses generally agree that visibility was good prior to the burnover.

13. You are reporting/filming on a hillside where rolling material can ignite fuel below you.

This was not a factor.

14. The weather is getting hotter and drier. Temperatures and humidity were generally consistent prior to and at the time of the burnover.

15. The wind increases and/or changes direction. The winds were gusting and constantly shifting, and were a major factor in rapid fire spread resulting in the burnover. At least one witness stated there was a momentary calm before the major wind shift which resulted in the burnover.

16. You are getting frequent spot fires across the line. There was at least one major spot fire below Kingsbury Grade when Shaefer and Conway arrived. Witness statements indicate there may have been other small spot fires in the same general area. The spot fire(s) were a major factor in the burnover. The potential for spread of the spot fire(s) was not recognized, or recognized too late.

17. The terrain and fuels make escape to safety zones difficult. Conway's position on Kingsbury Grade was exposed. Had Tyler's pickup truck not been there, and Conway was unable to get a ride with an engine, he would have been caught in the open. His only escape route was to run uphill on the highway, which was flanked by relatively dense, dry vegetation. Conway's escape route was burned over. Had Conway attempted escape along this route, on foot, he likely would have died.

18. You feel like taking a nap near the fireline. This was not a factor.

5. Involved Personnel Profiles:

a. Training/Qualifications/Physical Fitness. A wide range of firefighting experience, training and qualifications was found for those involved in the burnover. Physical fitness was not a factor.

Mike Conway had no previous training in wildland fire hazard awareness, influences on fire behavior or safety considerations prior to the incident, but had seen literature on shelter deployment. There is no record of any training received by Conway in the training files of the Lake Valley Fire Protection District. Conway has unrelated training in other areas. He claims eight years service as a sworn law enforcement officer with the El Dorado County Sheriff's Department and advanced first aid training certification which has lapsed. Approximately 10 days after the burnover Conway attended a Wildland Fire Hazard Awareness For News Media course, approved by the Occupational Health and Safety Section of the Nevada Division of Industrial Relations, and put on by the Nevada Division of Forestry. He completed three out of four hours of instruction due to a conflicting medical appointment related to his burns.

Brian Shaefer is assistant chief of the Lake Valley Fire Protection District and is assigned as operations chief, with 21 years of service in the department. The district covers 80-square miles of unincorporated lands on the California side of the south shore of Lake Tahoe. Shaefer is "red card" qualified as division group supervisor and strike team leader, and has extensive in-service training. His fireline experience has primarily been in the Lake Tahoe Basin, but does include a number of fires on the east slope of the Sierra Nevada.

Don Stangle retired from the East Fork Fire and Paramedic Districts as deputy chief in August of 1996, after 22 years with the agency. His “red card” training and qualifications include fire operations in the urban interface, strike team leader-crews, strike team leader-engines, strike team leader-dozers, as well as fire command 1A/1B, fire management and extensive in-service training. His fireline experience includes numerous fires on the East Slope of the Sierra Nevada.

Paul Tyler is a Fire Prevention Technician with the Lake Tahoe Basin Management Unit of the U.S. Forest Service, with 23 years of service. His “red card” training and qualifications include heli-spot manager, division group supervisor, strike team leader-engines, strike team leader-crews, staging area manager, falling boss, faller-Class C, fire investigator, with on the job training as helibase manager and additional skill levels as fire cause and origin investigator, burn boss III and Section II recorder. His fireline experience includes numerous fires in the Lake Tahoe Basin as well as on the East Slope of the Sierra Nevada.

Eric Reymus is an engine foreman for the Western Nevada Agency-Bureau of Indian Affairs with four years of service. His “red card” training and qualifications include: ICS 200, firefighter, power saws, introduction to fire behavior, basic air operations, fire business management, cause and origin investigation. He has also completed the wildland engine academy. His fireline experience includes numerous fires throughout the Southwest as well as on the East Slope of the Sierra Nevada.

b. Operational Period Length/Fatigue. This was not a factor.

c. Attitudes. Significant Contribution. A casual/complacent attitude towards use of personal protective clothing and equipment was clearly demonstrated by Conway when he left his gloves and helmet at the roadblock after accepting a ride to the fire with Lake Valley Fire Protection District Assistant Chief Brian Shaefer. The Missoula Technology and Development Center analysis of Conway’s personal protective clothing and the video he shot concluded, “From a human factors standpoint, it is questionable why the exposure occurred in the first place. People without proper PPE, designated escape routes (rides), and better knowledge of what the fire is doing should not be near wildland fires. The video tape indicates Mr. Conway had no real sense of where he was or what the fire was doing. His own disregard for the fire placed another individual, Paul Tyler, at risk to help him out of the area.”

It should be noted that Conway was not singular in a casual attitude towards use of personal protective clothing and equipment. One individual identified as a newspaper reporter/photographer, but unnamed, was seen in the area of active flames with no personal protective clothing or equipment. Although he remained in the relative safety of a vehicle throughout the incident, another newspaper reporter had only a Nomex wildland fire shirt. Fire personnel, including chief officers, were seen with wildland fire shirt sleeves rolled, up, without complete personal protective clothing, or wearing only portions of that clothing. Engine personnel were seen moving into close proximity of active flames with engine windows rolled down and elbows resting on windowsills.

d. Leadership. Significant contribution. The primary objective in emergency operations is life safety. Each individual who enters an area of emergency operations, has a definite responsibility to themselves and others to attain appropriate levels of training prior to the incident; to be adequately equipped with personal protective clothing and equipment; to wear such clothing and equipment properly; and, to provide for transportation, among other safety considerations. Failing this responsibility compromises the safety of other personnel in the area whose duties and responsibilities include protection of life through rescue operations when necessary, and when conditions would otherwise allow for their own

safe and timely evacuation.

Fire service personnel who provide transportation and escort of non-emergency (non-agency) personnel into hazardous areas of emergency operations must insist on adequate personal protective clothing and equipment. Agency personnel must also provide for transportation out of the area, or formal transfer of individuals to other personnel who can accommodate transportation and escort. Agency personnel must remain with those individuals until such transfer or transportation takes place.

The law obligates individual employers for training and personal protective clothing and equipment for their personnel, and employee safety in the field. When non-emergency (non-agency) personnel are encountered without appropriate personal protective clothing and equipment in hazardous areas during emergency operations they should be advised of the deficiency.

e. Experience Levels. Significant Contribution. Conway's wildland fire experience was limited primarily to fires in timbered areas at much higher altitudes. Prior to the incident, he had not experienced a wildland fire on the east slope of the Sierra Nevada, and was unfamiliar with prominent wind conditions peculiar to the area. He was also unfamiliar with fire behavior in the brush and grass combination type of fuels encountered. Lack of experience and training contributed to underestimating the potential of the spot fire.

6. Equipment.

a. Availability. Significant Contribution. Conway was inadequately equipped with personal protective clothing and equipment at the time of the burnover. He had been given a Nomex wildland fire shirt, Nomex structure pants without liner, and a helmet by the Lake Valley Fire Protection District. He also carried a pair of full-cuff leather gloves, which he purchased. He left the helmet and gloves with his vehicle when he accepted a ride to the fire with Lake Valley Fire Protection District Assistant Chief Brian Shaefer. Conway had never obtained a fire shelter and did not have one at the time of the burnover.

b. Performance/Non-Performance. Did not contribute. The Nomex wildland fire shirt performed within design limitations. Although designed for another type of firefighting, the Nomex structure pants without the liner appear to have performed adequately. Safety clothing (Nomex wildland fire shirt, Nomex structure pants without liner and a helmet) was provided to Conway in 1992 by the Lake Valley Fire Protection District. Conway maintained these items out of sunlight in an area behind the seat in his pickup truck. Conway had not received specific training in safety clothing design limitations or proper maintenance. He had washed them once only in hot water, without detergent or additives. Maintenance does not appear to have been a factor in the performance of the safety clothing worn at the time of the burnover. Because he did not tuck the Nomex wildland fire shirt into the Nomex pants, as recommended, Conway had the potential for additional burn injuries.

c. Clothing and Equipment. Significant Contribution. The personal protective clothing that was worn performed as designed. A major factor in limitation of burns was the fact that Conway was wearing all cotton clothing under the safety equipment he was wearing. Failure to wear all personal protective equipment, i.e., gloves, hardhat, and shroud, resulted in the burn injuries he sustained. Had he been caught in the open, Conway would probably have experienced more serious burns, and probably would have died as a result of respiratory damage.

d. Used for intended purpose. Did not contribute.

Appendices

- I. Burnover Chronology, Autumn Hills Fire**
- II. Analysis of Personal Protective Clothing, USDA Technology and Development Center, Missoula, Montana**
- III. Weather Forecasts and Monitoring, National Weather Service**
- IV. Communications Logs, August 23, 1996, Sierra Front Interagency Dispatch Center**
- V. Witness Statements**
- VI. Newspaper Accounts**
- VII. Nevada Division of Forestry Information Policies and Procedures**
- VIII. Nevada Division of Forestry News Media Training Program:
“Wildland Fire Hazard Awareness For News Media.”**

Appendix I

Burnover Chronology, Autumn Hills Fire.

June 23, 1996

- 1419 Alarm
- 1437 Foothill Road closed
- 1446 Rector orders Sierra Front IMT (Type II) and 3 additional air tankers
- 1513 Shaefer dispatched from Lake Valley FPD as strike team leader
- 1529 Kingsbury Grade closed
- 1600 Arrival of Shaefer and Conway on scene (time estimated)
- 1609 Rector orders Type I incident management team
- 1615-1620 (Time estimated) Burnover occurs
- 1745 Nishikida arrives at Douglas Co. High School as information officer
- 2135 Sierra Front IMT (Type II) assumes command

June 25, 1996

- 0600 Rocky Mountain IMT (Type I) assumes command

Appendix II
Analysis of Personal Protective Clothing
By Missoula Technology Center

United States
Department of
Agriculture

Forest
Service

Technology &
Development
Center

Ft. Missoula - Bldg #1
Missoula, MT 59804
(406) 329-3900

File Code: 5100
Route To:

Date: September 3, 1996

Steven R. Frady, Chief: Prevention and Enforcement
Nevada Division of Forestry
123 W. Nye Lane, Suite 142
Carson City, NV 89710-4244

Dear Mr. Frady:

The clothing worn by Mike Conway during the burnover on June 23, 1996, at the Autumn Hills Fire has been analyzed. The analysis suggests Mr. Conway was burned with a combination of radiant and convective heat during an exposure of about 18 seconds.

Lion Brush Pants The 7.5 ounce NOMEX brush pants had light brown charring on the buttocks, upper thigh and calf area. The pattern was in streaks with only highest areas showing thermal damage and the pattern was visible on the inside surface. The char stopped several inches below the beltline suggesting a shirt was worn over the pants at the top. No thermal damage occurred to double-layer NOMEX areas. This pattern suggests brief flame contact and radiant exposure with fabric surface temperatures peaking at 800 degrees F for 3-5 seconds for the highest fabric surfaces.

USFS Shirt The 6.0 NOMEX shirt had light brown charring up to dark brown/light black charring. Light charring starts several inches from the collar and changes to dark brown char midway down with heaviest char at the shirt bottom. Char comes through to the inside surface for all areas except the bottom double layer hem. The "puff print" white marking material has melted and stuck to the inside surface of the shirt. This pattern suggests the highest areas of the shirt were exposed to brief flame contact and radiant exposure for 3-5 seconds and peak temperatures of 840 degrees F.

T-Shirt The 3-4 ounce 100% cotton T-shirt showed very light dye sublimation in the left shoulder area corresponding to the char pattern on the NOMEX shirt. The "puff print" upper surface melted. This suggests temperatures of 300-325 degrees on the outer surface.

Skin Mr. Conway received 2nd degree facial burns in the areas of the forehead, cheeks and chin, which were not covered with hair. This suggests a radiant exposure since only uncovered skin is burned. Assuming that the

burnover was in the average range of 1 cal/cm²/sec these burns could occur in about 1 second. The conductive burn from grabbing the railing could occur in a second or less depending on how hot the railing was at the time of contact.

Heat to the back of the pants should have produced leg burns. Since no leg burns were reported, Mr. Conway must have been wearing pants under the NCMEX outer pants. However, none were reported or sent.

The video tape showed Mr. Conway spent about 18 seconds in the bed of the truck during the burnover before getting into the cab of the pickup truck. The audio track indicated he started to scream within seconds and did not hold his breath the 30-40 seconds reported in the newspaper account. Keeping his head low to the truck bed, not holding his breath, saved Mr. Conway from inhaling hot gasses.

The short, 18-second exposure period and breathing in air within seconds suggests no flame contact to his face. Clothing damage could have been caused by radiant heat, but would take 20-30 seconds. This suggests brief flame contact, which would cause the damage in 4-5 seconds. Since only upper surfaces (highest off truck bed) were charred, this too suggests brief flame contact for up to 5 seconds and radiant heat exposure up to 18 seconds which heated some fabric surfaces to over 800 degrees F.

Since cotton autoignites at 750 degrees F and chars at 475 degrees F, we can conclude that the Nomex clothing prevented very serious burn injury. Flame and radiant heat blocked by the outside of the truck also prevented more serious injury. Had Mr. Conway tried to run from the fire, he likely would have died.

Although the flame resistant clothing performed as designed, a few seconds more exposure would have resulted in massive burns to his back and legs. It should also be pointed out that failure to wear all his proper personnel protective equipment (PPE), i.e. gloves, shroud, and hardhat, resulted in the injuries he did sustain.

From a human factors standpoint, it is questionable why the exposure occurred in the first place. People without proper PPE, designated escape routes (rides), and better knowledge of what the fire is doing should not be near wildland fires. The video tape indicates Mr. Conway had no real sense of where he was or what the fire was doing. His own disregard for the fire placed another individual, Paul Tyler, at risk to help him out of the area.

In summary, the PPE Mr. Conway was wearing, and the shielding offered by the truck bed prevented more serious injury. However, the fact that the incident occurred at all raises other concerns.

Please contact me if there are any questions concerning this analysis.

TED PUTNAM
Project Leader - PPE

Appendix III
Weather

AUTUMN HILLS FIRE

On 06/23/96 the fire started just west of Geiger Grade road along the east slopes of the Sierra Nevada mountains. The fire quickly spread north as prevailing southwest winds of 10-20 mph with gusts to 30 mph fanned flames. Wind speeds at 8500 feet over the Tahoe rim during the initial burn period were southwest 40-50 mph with gusts exceeding 80 mph at times. Afternoon Temperatures ranged in the upper 70s near the fire with minimum humidities falling to 17%.

Observations from the fire line indicated that the winds continued through the evening before diminishing around 0300 pdt on 06/24/96. Mostly cloudy skies, cooler temperatures, elevated afternoon humidities and light afternoon winds aided suppression efforts through the day on 06/24/96. Daytime temperatures ranged in the mid 60s below 5000 feet with minimum afternoon humidities around 33-36%. South to southwest winds increased after 1000 pdt with speeds ranging 8-16 mph with occasional gusts to 30 mph after 1300 pdt. Southwest winds at 8000+ feet were substantially lighter with speeds of 25-30 mph and gusts to 55 mph at times.

On 06/25/96, rain began to fall shortly after 0100 pdt and continue through the day. snow was observed over the Tahoe rim with accumulations of 2-3 inches reported from field observers. Afternoon temperatures were considerably cooler with readings ranging in the mid to upper 40s throughout the day and relative humidities at 85% or greater. By 1300 pdt, rain accumulations of 0.34" were recorded at Incident Command.

>##CA
<ZCZC RNOFWFRNO
TTAA00 KRNO 222152
RENO FIRE WEATHER OFFICE ...AFTERNOON FORECAST...
NATIONAL WEATHER SERVICE RENO NEVADA
300 PM PDT SAT JUN 22 1996...HUSTON

WEATHER DISCUSSION...THE UPPER LEVEL LOW PRESSURE TROUGH WHICH WAS CENTERED OVER NEVADA THIS MORNING WILL CONTINUE TO PUSH EAST INTO THE ROCKIES LATE THIS AFTERNOON. SEVERAL WEAK DISTURBANCES EMBEDDED IN THE FLOW ALOFT WILL ROTATE THROUGH SOUTHERN NEVADA. CONVECTIVE BUILDUPS WERE DEVELOPING ALONG A WEAK SURFACE FRONTAL BOUNDARY WHICH WAS LINGERING BETWEEN SOUTHERN WHITE PINE COUNTY AND NORTHERN LINCOLN COUNTY IN EXTREME EASTERN NEVADA THIS AFTERNOON AND ARE EXPECTED TO DIMINISH RATHER QUICKLY EARLY THIS EVENING AS THAT SURFACE FRONT SHIFTS OUT OF THE STATE AND WEAK SUBSIDENCE ALOFT CAPS ANY THUNDERSTORM DEVELOPMENT. THE NEXT PACIFIC DISTURBANCE DROPS SOUTHEAST INTO THE WASHINGTON/OREGON COAST BY SUNDAY AFTERNOON WITH THE SOUTHWEST FLOW ALOFT INCREASING OVER NEVADA FOR AFTERNOON WINDS MOST DISTRICTS AND A CHANCE OF THUNDERSTORMS DEVELOPING ACROSS THE NORTHWEST DISTRICTS BY LATE AFTERNOON.

AREA 1
LAKE TAHOE BASIN/SIERRA EAST SLOPES (ZONES 542 AND 576)

TONIGHT...
SKY/WEATHER...FAIR SKIES.
LAL.....1
TEMPERATURE...LOW 32 - 42
HUMIDITY.....MAX 65-95%
WIND - 20 FT..WEST TO NORTHWEST WINDS 5-15 MPH EARLY WITH GUSTS TO 30 MPH AT TIMES OVER THE SIERRA CREST. DRAINAGE WINDS AFTER 2100 PDT 3-8 MPH.
10K WIND.....NORTHWEST 10-20 MPH.
HAINES INDEX..3 VERY LOW.

SUNDAY...
SKY/WEATHER...MOSTLY SUNNY IN THE MORNING. PARTLY CLOUDY AND BREEZY IN THE AFTERNOON. A LITTLE WARMER.
LAL.....1
TEMPERATURE...HIGH 60 - 73
HUMIDITY.....MIN 25-35%
WIND - 20 FT..INCREASING SOUTH TO SOUTHWEST WINDS 15-25 MPH DURING THE AFTERNOON GUSTS TO 45 MPH OVER THE SIERRA CREST.
10K WIND.....SOUTHWEST TO WEST 15-25 MPH.
HAINES INDEX..3 VERY LOW.

	TEMPERATURE		REL HUMIDITY %	
	NOT SUN	NOT SUN	NOT SUN	NOT SUN
TRUCKEE	32	75	--	--
S. LAKE TAHOE STATELINE	39	71	--	33
8000 FT LEVEL	42	60	--	--
BRIDGEPORT	36	74	--	--
MAMMOTH LAKES	41	75	--	--

LIVE FUEL MOISTURE...
TOPAZ (CIA).....159% LOW

AREA 2
WEST CENTRAL NEVADA (ZONES 450 AND 453)

TONIGHT...
.. SKY/WEATHER FAIR SKIES

TEMPERATURE...LOW 46 - 55
 HUMIDITY.....MAX 45 - 55% RISING TO NEAR 80% MOST WESTERN VALLEYS
 WIND - 20 FT..WEST TO NORTHWEST 5-13 MPH EARLY. DRAINAGE WINDS
 3-8 MPH AFTER 2100 PDT.
 10K WIND.....NORTHWEST 5-10 MPH.
 HAINES INDEX..2 VERY LOW.

SUNDAY...

SKY/WEATHER...MOSTLY SUNNY IN THE MORNING. PARTLY CLOUDY AND
 BREEZY IN THE AFTERNOON. A LITTLE WARMER.

LAL.....1

TEMPERATURE...HIGH 76 - 87
 HUMIDITY.....MIN 16 - 26%
 WIND - 20 FT..INCREASING SOUTHWEST TO WEST WINDS 15-25 MPH DURING
 THE AFTERNOON WITH OCCASIONAL GUSTS TO 33 MPH.
 10K WIND.....SOUTHWEST TO WEST 20-30 MPH.
 HAINES INDEX..4 LOW.

	TEMPERATURE		REL HUMIDITY %	
	NGT	SUN	NGT	SUN
RENO	47	82	74	20
CARSON CITY	47	82	--	--
VIRGINIA CITY	46	76	--	--
FALLOM	53	86	51	16
YERINGTON	50	85	--	--
HAWTHORNE	55	87	--	--

LIVE FUEL MOISTURE...

WARM SPRINGS (N3A).....149% MODERATE
 CARSON (N3B).....115% HIGH
 FISH SPRINGS (N3C).....162% LOW
 DOYLE (N3D).....N/A

 AREA 3
 NORTHWEST NV/EXTREME NORTHEAST CA (ZONES 481, 570-572)

TONIGHT...

SKY/WEATHER...MOSTLY CLEAR.

LAL.....1

TEMPERATURE...LOW 39 - 50
 HUMIDITY.....MAX 60 - 70%
 WIND - 20 FT..SOUTHWEST TO NORTHWEST WINDS 10-20 MPH EARLY.
 DRAINAGE WINDS 3-8 MPH AFTER 2100 PDT.
 10K WIND.....WEST 5-10 MPH.
 HAINES INDEX..2 VERY LOW.

SUNDAY...

SKY/WEATHER...PARTLY CLOUDY AND WARMER. A SLIGHT CHANCE OF
 AFTERNOON THUNDERSTORMS MAINLY NORTH OF INTERSTATE 80.

LAL.....2 ISOLATED AREAS 3 ZONE 570.

TEMPERATURE...HIGH 80 - 85
 HUMIDITY.....MIN 14 - 24%
 WIND - 20 FT..INCREASING SOUTHWEST TO WEST WINDS 12-22 MPH DURING
 THE AFTERNOON.
 10K WIND.....SOUTHWEST TO WEST 20-30 MPH.
 HAINES INDEX..4 LOW.

	TEMPERATURE		REL HUMIDITY %	
	NGT	SUN	NGT	SUN
LOVELOCK	50	85	57	14
WINNEMUCOA	43	83	62	19
MISSER	39	80	--	--

Observations Log Sheet

Name of Fire Autumn Hills Location SQW5MT 8700'

Date	Time	DB	WB	DP	RH	WINDS	REMARKS	LOCATION
6/23	1000	47				2016629		
	1300	50				2128647		
	1600	49				2034651		
	1900	45				2144670		
	2200	39				2149676		
6/24	0100	37				2047672		
	0400	35				2045667		
	0700	33				2143614		
	1000	35				2040659	↘	
	1300	37				2132652	↘	
	1500	39				2131649		
	1600	38				2130647		
	1900	36				2024643		
	2200	34				197632		
	0100	31				1912638		
	0400	27				1911617		
	0700	28				1907609		
	1000							

FISH SPRINGS 7:30 of Minam elev 5080'

WEATHER INFORMATION MANAGEMENT SYSTEM
DATA CAPTURE OF OBSERVATIONS

16-JUL-96

Station Id	Obs Date	Ob Tm	O T	Dry W Tmp	M RH	HC L	Wind Dir	10 Sp	Temp Max	Temp Min	%RH Max	%RH Min	Dur	Y Amt	FHC L	FHC Rsk	
261204	23-JUN-96	0	R	3	48	61	0	0	93	1	79	37	64	14	0	0	0
261204	23-JUN-96	1	R	3	47	62	0	0	71	2	79	37	64	14	0	0	0
261204	23-JUN-96	2	R	3	44	64	0	0	133	1	79	37	64	14	0	0	0
261204	23-JUN-96	3	R	3	42	66	0	0	66	2	79	37	66	14	0	0	0
261204	23-JUN-96	4	R	2	42	69	0	0	107	1	79	37	69	14	0	0	0
261204	23-JUN-96	5	R	3	39	74	0	0	94	0	79	37	74	14	0	0	0
261204	23-JUN-96	6	R	3	55	51	0	0	241	0	79	39	74	14	0	0	0
261204	23-JUN-96	7	R	4	64	39	0	0	248	3	79	39	74	14	0	0	0
261204	23-JUN-96	8	R	3	68	31	0	0	237	3	79	39	74	14	0	0	0
261204	23-JUN-96	9	R	3	72	23	0	0	293	4	79	39	74	14	0	0	0
261204	23-JUN-96	10	R	2	76	17	0	0	308	5	79	39	74	14	0	0	0
261204	23-JUN-96	11	R	2	77	18	0	0	277	7	79	39	74	14	0	0	0
261204	23-JUN-96	12	R	2	78	18	0	0	276	9	79	39	74	14	0	0	0
261204	23-JUN-96	14	R	2	79	19	0	0	236	11	81	39	74	17	0	0	0
261204	23-JUN-96	15	R	2	78	21	0	0	254	13	81	39	74	17	0	0	0
261204	23-JUN-96	16	R	3	77	21	0	0	230	12	81	39	74	17	0	0	0
261204	23-JUN-96	17	R	3	75	21	0	0	222	14	81	39	74	17	0	0	0
261204	23-JUN-96	18	R	4	68	27	0	0	234	11	81	39	74	17	0	0	0
261204	23-JUN-96	19	R	4	64	29	0	0	201	6	81	39	74	17	0	0	0
261204	23-JUN-96	20	R	4	63	29	0	0	201	12	81	39	74	17	0	0	0
261204	23-JUN-96	21	R	4	60	35	0	0	188	8	81	39	74	17	0	0	0
261204	23-JUN-96	22	R	4	58	37	0	0	148	7	81	39	74	17	0	0	0
261204	23-JUN-96	23	R	4	59	36	0	0	184	9	81	39	74	17	0	0	0
261204	22-JUN-96	0	R	3	43	47	0	0	125	3	76	43	47	16	0	0	0
261204	22-JUN-96	1	R	2	42	47	0	0	357	1	76	42	47	16	0	0	0
261204	22-JUN-96	2	R	3	40	53	0	0	77	2	76	40	53	16	0	0	0
261204	22-JUN-96	3	R	3	38	56	0	0	290	1	76	38	56	16	0	0	0
261204	22-JUN-96	4	R	3	37	62	0	0	121	0	76	37	62	16	0	0	0
261204	22-JUN-96	5	R	3	37	64	0	0	56	2	76	37	64	16	0	0	0
261204	22-JUN-96	6	R	4	51	45	0	0	70	0	76	37	64	16	0	0	0
261204	22-JUN-96	7	R	4	59	34	0	0	260	3	76	37	64	16	0	0	0
261204	22-JUN-96	8	R	3	63	32	0	0	273	3	76	37	64	16	0	0	0
261204	22-JUN-96	9	R	2	66	30	0	0	262	5	76	37	64	16	0	0	0
261204	22-JUN-96	10	R	2	72	26	0	0	301	2	76	37	64	16	0	0	0
261204	22-JUN-96	11	R	2	75	21	0	0	21	5	76	37	64	16	0	0	0
261204	22-JUN-96	12	R	2	76	16	0	0	264	6	76	37	64	16	0	0	0
261204	22-JUN-96	14	R	2	78	17	0	0	263	8	78	37	64	14	0	0	0
261204	22-JUN-96	15	R	2	79	18	0	0	309	8	79	37	64	14	0	0	0
261204	22-JUN-96	16	R	3	78	20	0	0	300	10	79	37	64	14	0	0	0
261204	22-JUN-96	17	R	3	77	23	0	0	300	10	79	37	64	14	0	0	0
261204	22-JUN-96	18	R	4	74	29	0	0	304	12	79	37	64	14	0	0	0
261204	22-JUN-96	19	R	4	69	34	0	0	298	8	79	37	64	14	0	0	0
261204	22-JUN-96	20	R	3	64	40	0	0	343	5	79	37	64	14	0	0	0
261204	22-JUN-96	21	R	3	58	48	0	0	97	3	79	37	64	14	0	0	0
261204	22-JUN-96	22	R	3	53	55	0	0	75	2	79	37	64	14	0	0	0
261204	22-JUN-96	23	R	3	51	57	0	0	126	2	79	37	64	14	0	0	0

Appendix IV
Communications Logs

DATE 6-23
 TIME 1419
 LOCATION foothill & Arroyo Hills
 LAT 38 55.1 LONG 51.1

INCIDENT NAME AUTUMN FIRE
 DISPATCHER [Signature]
 CCD# [Signature] TMU#
 DFV# 2960 6604 P 47603
 TAPE SIDE FT / FREQ / RPTR

RP PHONE #
 RESPONSIBLE AGENCY
 CONTROL DATE TIME
 OUT DATE TIME
 DIST

CONTAIN DATE
 TIME
 "INITIAL REPORT"
 DUTY OFFICER
 RAILROAD POWER/GAS
 LAW ENFORCEMENT
 CAREFLIGHT

VEGETATION FIRE
 MEDICAL EMERGENCY
 PUBLIC ASSIST
 LAW ENFORCEMENT

UNIT	IN SERVICE	ON SCENE	AVAIL RETURN	IN QUARTERS	HAZ MAT	SEARCH & RESCUE	FLT FOLLOW	FALSE ALARM	NOTIFICATIONS:	TIME	TO	FROM
B-1	1419	1445										B-1
E-11	1420	1443	0213	0243								
S-001	1424		0125	1732	1801							
A-53	1426	1514	0425	1812	1919					1422		B-1
460	1426		0125	1859	2013					1429		B-1
E-17	1426	1442	0329									
105	1427									1440		B-1
E-8	1431		0208	0259								
B-3	1433	1440								1453		401
E-10	1445		0208							1455		B-1
B-12	1459	1514								1511		CAPT STEPHENSON
T-10	1503	1540	0425	1851	1931					1609		105
PreVA	1504									1704		105
3900	1544											

INCIDENT LOG

Structure engines Type 1 engines
 Upgrade Need 10 Type 1 engines
 5 brush engines
 3 aerial air tankers Sierra front team order of
 returning to Menden for fuel 2 seals
 Dawn foothill Son of Kingsbury
 CAPT STEPHENSON IN 10 min
 per IC. Order Type 1 team
 Dazer and command bus - notify mechanics

MOVE-UP/STAGING				
UNIT	MVUP	CMTD	QTRS	QTRS

INCIDENT LOG (Cont.)

1719	1719	Staging	1/2 doz HT lights generator water, food semi wats	being handled per 105
1719	105	Mark Jensen	Tell TMU fire's in their area now.	
1720	105		notified	
1734	105		Ordered fuel tks	Kind and how many gallons
			2000 gallons and need diesel & gas	
1908			related logistics	
1832			F/E command BUS 30 BEHIND	
1855			Loadline/Diesel	- 1 TRUCK 50/50
1858			off M&EV Tom board	Shutting crews
1927	H401		Call for Sawyer w/ kitchen and sending offer to China Springs	
			farmer w/ pond 1/2 mi S of Centerville on foothill	fill bucket if needed
			hail refill pond	
2021	429		Contact Eng @ meet me @ Foothill & Genes lot.	
2031	Staging		critical need gas & diesel	
2113	Ops		Need fuel tender & porta potties	CRITICAL NEED at staging
2115	Ops		fuel arrived on scene	
2129	Ops		Check OES & CDF strike team ETA	
	H401		leaving DCSO secured scene	
0708	4808		15 staging at DHS. approx - 15 109	three approx - in the region and E/E. ETA 30-45 min.

ADMINISTRATIVE INFORMATION

CCD	CAUSE:	SIZE:	FUEL TYPE:	P/J	SAGE	GRASS	OTHER:
	BURNING INDEX:	ADJECTIVE:					
TMU	ACRES:	CLASS:	STAT:	NON-STAT:	CAUSE:	ELEVATION:	% SLOPE:
	ASPECT:	GROUND COVER:	FUEL:	S O #	P#		
TOF	ACRES:	CLASS:	STAT:	NON-STAT:	DISTRICT:	S O #	P#

SFIDC
INCIDENT REPORT/
DISPATCH ACTION

Incident Name Autumn Hills	CTR # 453-2
Dispatcher	FIRE NO. W961669 DATE
	Page of

DISPATCH ACTION						MOVE-UP/STAGING ACTION					
Unit	Committed	Standby	At Scene	Available	In Quarters	Unit	To Station	Committed	Quarters	Returning	In Quarters

INCIDENT LOG

TIME	TO	FROM	MESSAGE
0750		Billy	7113 committed to this fire, Investigator
0850		105	CAPT Lueck on fire as LASIOSO w/ NAT GUARD
1119		Autumn AA	Bring 27 out of Stead into rotation T100 to Stead initial attack
1121		Autumn AA	T-27 on the fire in the rotation
1129		Autumn AA	ETA of lead?
1130		Autumn AA	No lead Available
1659		B-3	extended manning til 1800 hrs.
1709		Autumn AA	trouble w/ smoke & clouds pulling air attack en route MCV after left Kelo base
1717		Autumn AA	clear w/ air ops & Kelo base en route MCV
1944		T121 1/4	
1944		04	Released returning tomorrow
1945		E122 1/4	
2043		430 1/4	returning to CAMP
2051		LAMBERT	at Pools
2050		109 1/4	
2127		430 1/4	
1054		P122	released from Autumn Hills fire
1835		released from Fodness (4)	thru Paul Hawkins - 4808 cell name
			immediately
1835	109		advised
1855		4100 (4)	inmate injured (twisted knee) waiting for custodian to show in talk to hosp.

25

INCIDENT LOG

TIME	TO	FROM	MESSAGE
1850		Lee Stewart	(LL) Have 290Z landline me ASAP 885-2910
1857	290Z		notified
0450		B7	arrived Sta 10
0453		B14	@ Stall
0535		B7	enrte Sta 11
0515		B7	Out @ Stall
0528		E11	E11, B12, B14, B7 & B8 enrte Autumn Hills RP
0828	will	Billy	OC 37 released from this FWC.
0925		2309	Carlton C-1, 2 released returning - ETA
5		2	Carlton Camp 1630 -
1200	B-1		Notify operations heavily smoke end of Tamborine Ranch Rd. next to Wotts Creek. Up thousand Herz
1201	Carflight 1		What freq. are they on air-wise?
1202	Carflight 1		Contact Autumn Hills helobase @ 123.025
1202	Carflight 1		Can I get them on 20?
1203	Carflight disp.		notified go to 107.95 for Carflight w/ helik
1207	B-1		Was operations notified of smoke end of Tamborine Ranch Rd? Aff.
1244		Stephenson	Let E11 or B14 know to go to structure end of Tamborine Ranch Rd.
1247		Stephenson	said some tones out if they don't answer on the radio
1248	A63 -	E11	or B14 respond to Minden on the radio
1248		Stephenson	- contact made they'll be en route
1253	Stephenson		Rensa landline they want to know where their helicopter is () landing pt now will be enrte St Marys
1310		Donna ICP	communications - Engine went & checked burned out residence end of Tamborine Ranch Rd. Lost steam, no fire. Engine will go back in an hour and check again.
1410		Stephenson	- contact B14 or E11
1412	E11/B14		no contact

4/27

INCIDENT LOG

W961664

TIME	TO	FROM	MESSAGE
1949	2308		landline disp. 782-1404
2131	Heikka		Status of T-131? I'll find out in 15 min
2151		Stephenson	T-131 will be released @ 2200 hrs.
			Back on fire @ 0600
2221		Stephenson	- all NDF engines released, en rte
			Stall or Sta 12 I'll be @ Sta 12 tonite
2237		Stephenson	B-14 w/ Z (Hansen, Grady)
			B-12 w/ Bisetti and Stephenson
			staying @ Sta 12 tonite, going out again @ 0600
2309	Heikka		(LL) Heikka & Thomas staying @ Stall tonit
			Foreman continuing to residence
1/28 0543		Stephenson	- NDF strike team en rte. ICP Autumn Hills fire.
0930	2909		and 2912 to Winnemucca LA 1430
			E/KO advised -
1815	SCC-2		should be back at Sta 15 1845 hr
1842	LES FARMERS		cow swap scheduled has been postponed 45.
2027	P-12		gully near top of fire hits lot of trees
			down slope winds pushing smoke into valley
			will probably get a lot of calls in the
			evening
0543	Stephenson		- B 10 ops - P-12 will be going
			as replacement - P-11 avail 12 for
			back
0619	REINHART		IN P-1 E/R to ICP
0834	LAURET		in COMMAND BUS to ICD
1057	H273		going to Autumn Hill FIRE, Size up for DC
1351	451		AT 1013
1754	073		IMMEDIATE TOWN POSS HEAT STRIKE
1913	2910		to Clear Creek w/12
1/28 0855	109		contact KIMMET need SEE about re. contact
	1		- need toilettries + garbage etc.
	KIMMET		(man) (slow moving) - L. L. - 2nd - 109nd

Appendix VII

Nevada Division of Forestry

Information Policy and Procedures

Following the 1994 wildland fire season, the Nevada Division of Forestry adopted an interim policy and procedures to deal with news media and information issues and programs. This policy and procedures was expanded and adopted on June 7, 1996 and included the following sections:

Section 2.701

Authority. Authority for release of information to news media representatives is vested in the Director of the Department of Conservation and Natural Resources, who may delegate that authority.

The state forester may delegate authority for release of information to a lead information officer for the agency; and the regional foresters who may designate a lead information officer for the region, providing they have taken a recognized information officer course of instruction, are a "qualified" information officer and, upon approval of the state forester.

Operational Goals

- a. To create an open and honest communication policy with the public and the media.
- b. To provide a central clearing house for gathering and releasing accurate information to the news media.
- c. Focus information on cause and effect, damage, and abatement cost to help prevent fires and similar incidents.
- d. NDF personnel knowledgeable about an incident will answer individual questions and issue statements to reassure the public and reduce interference with emergency personnel and operations.
- d. Integrate the activities of the media and the incident personnel so neither group hinders the other.

Section 2.703

Incident Information Officer.

It is the primary mission of the incident information officer to formulate and release information about the incident to news media representatives and other appropriate agencies and organizations.

The number of incident information officers active during an incident will depend upon the size and complexity of the incident. In campaign fires or other emergency incidents that are expected to go beyond one-two days, additional information officers may be needed. It is incumbent upon incident commanders and designated incident information officers to order additional incident information resources early in an incident. When designated incident information officers are not available, it may be necessary to designate fire or other appropriate personnel to perform duties within the incident information organization.

The incident information organization will be organized so that there is a clear flow of information and easy access to information officers for news media representatives. This should include a lead information officer, information center director (when size of the incident warrants), field information officers and media guides. Order the kind of skills needed to facilitate the flow of information to the news media and thus the public.

The incident information officer works under the command of the incident commander. In smaller incidents, the incident commander or his designee may serve as information officer to provide such information as size/extent of the incident, agencies involved, number of engines/personnel involved, cause if known, etc. Incident information officers will work with the incident commander to schedule interviews with the media as soon as possible, with the understanding incident commanders

may not be immediately available due to emergency incident needs.

Section 2.704

Media Relations.

Safety.

The Step Test is not required for news media personnel on the fire line.

Personal protective equipment worn by news media representatives is the responsibility of their respective news media organization under provisions of the Nevada Occupational Safety and Health Act, NRS 618.375. Personal protective equipment will not be provided to individual members of the news media by the Nevada Division of Forestry

Wearing of personal protective equipment by news media representatives is a requirement of the Nevada Occupational Safety and Health Act. Enforcement of the requirement for personal protective equipment is the responsibility of the respective news media organization and the Nevada Division of Industrial Relations.

Training.

The Nevada Division of Forestry may provide annual training in wildland fire hazard recognition, as approved by OSHA, to members of the news media.

Media Guides/Escorts.

When appropriate, the incident information officer may utilize fire suppression personnel, Volunteers In Prevention (VIP's), and other appropriate personnel to act as media guides/escorts while in the fire area. All news personnel must be attired in appropriate personal protective clothing when transported in official agency vehicles in the fire area, and while in the fire area when accompanied by designated guides/escorts. Our guiding principle is that if it's safe enough for us, it's safe enough for them to be with us.. Catch 22: Often, the media are the first or second group to arrive on the fireline. It is imperative media guides be provided as soon as possible. It is the responsibility of incident information officers, incident safety officers and media guides to provide safety information to news media representatives, i.e., information pertaining to stump holes, rocky terrain, erratic winds and fire behavior, etc. It is imperative that appropriate ground transportation be available for news media escort activities when available.

Access.

Media Identification.

The Nevada Division of Forestry does not issue news media identification cards to news gathering personnel employed by media of general interest coverage or circulation.

Appendix VIII
Nevada Division of Forestry
News Media Training Program:
‘Wildland Fire Hazard Awareness
For News Media’

Following the 1994 wildland fire season, the Nevada Division of Forestry developed a wildland fire hazard awareness training program specifically for members of the news media. The program was developed by Steve Frady in conjunction with Richard Urey, press secretary for Governor Bob Miller, and Danny Evans, Chief Administrative Officer for the Occupational Safety and Health Enforcement Section, Division of Industrial Relations, Department of Business and Industry. The completed curriculum was reviewed and approved by the Occupational Safety and Health Enforcement Section as meeting “all of the agency standards concerning wildland fire safety awareness training.”

The class was introduced throughout the spring and summer of 1995. Eight class sessions were delivered to 126 journalists including eight individuals in the “freelance” category. Attending the sessions were representatives of radio, television, newspapers and wire service news organizations. Also attending various sessions were 16 agency representatives, many of whom attended in a “train the trainer” role in order to provide delivery of the program in their respective jurisdictions. Classes were held in Nevada in Reno, Carson City, Las Vegas and Elko. At the invitation of the Tahoe National Forest, a class was held in Grass Valley, California. The Salt Lake District of the Bureau of Land Management hosted two sessions in Salt Lake City, Utah, and two sessions were brought to Boise, Idaho at the invitation of the Boise National Forest. Following the attendance of two members of the San Francisco Bay Area Press Photographers Association, an invitation was extended to provide two sessions for that organization in Oakland, California.

At the urging of various federal, state and local fire service representatives, the course curriculum was forwarded to the Health and Safety Working Committee of the National Wildfire Coordinating Group for review as a possible model for a national program. Final review findings of the program have not yet been released. The course curriculum was also forwarded to officials in the Public Affairs Office of the Washington Office, USDA Forest Service, Washington, D.C. for review.

The fast-paced four-hour course includes several videos, handout materials, and is interactive. General topics include factors affecting fire behavior, extreme fire behavior, weather, lightning, effects of heat and smoke, heat stroke and fatigue, wildland/urban interface safety and survival (specific hazards-escape routes-safety zones, etc.), safety guidelines when aircraft are operating, proper use of personal protective clothing and equipment and general design limitations, and others. The course was developed to allow flexibility for incorporation or substitution of new information, video and handout materials to support the curriculum as they are developed.

Response to the course from news media attendees was positive and resulted in several news organizations requiring employee attendance before they cover wildland fire incidents, and purchasing personal protective clothing and equipment for employees engaged in field coverage of wildland fires.