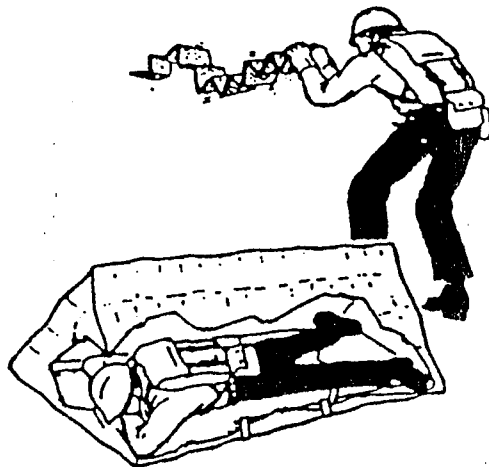


Accident Investigation Report

Dude Fire Incident Multiple Firefighter Fatality

June 26, 1990
Southwestern Region
Tonto National Forest

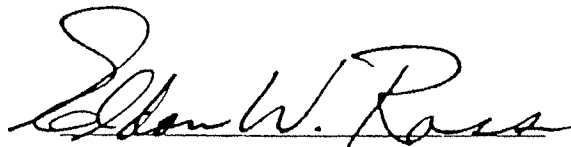


Accident Investigation Report

Dude Fire Incident

Multiple Firefighter Fatality

June 26, 1990
Southwestern Region
Tonto National Forest



ELDON W. ROSS
Chief Investigator

JUL 20 1990

Team Members:

Jerry Monesmith, Fire Operations, Safety and Training
Washington Office

Hank Walters, Regional Safety and Health Manager
Intermountain Region

Frank Quintana, Regional Safety and Health Manager
Southwestern Region

Arvin White, Director, Fiscal and Public Safety
Southwestern Region

Dick Mangan, Program Leader, Fire, Aviation and Safety
Missoula Technology Development Center

Ted Putnam, Equipment Specialist
Missoula Technology Development Center

Patrica Andrews, Fire Behavior Specialist
Intermountain Forest and Range Experiment Station

Lee Redding, Staff Officer, Recreation and Wilderness
Southwestern Region, Tonto National Forest

David Goens, Fire Weather Program Manager
National Weather Service

I. INVESTIGATION

A. Narrative

B. Findings

C. Causal Factors

A. Narrative

At approximately 1845 hours MST, Tuesday, June 26, 1990, the Washington Office Safety and Health Manager advised the Chief Investigator that a Chief's Office Accident Investigation Team was being formed to investigate a multiple fatality accident that had occurred on the Dude Fire, Tonto National Forest, Payson Ranger District.

Frank Quintana and Arvin White, Team Members from the Southwestern Regional Office, arrived at the Payson Ranger District late Tuesday evening for initial briefings, to secure the site and collect initial information. Ross, Monesmith, Quintana, White, Redding, and Walters met for the initial team meeting in the Payson Ranger District Office at 1230 hours, June 27 and received a briefing on the fire and events surrounding the accident from Bob Wagenfehr, Fire Staff Officer, Tonto NF, and Forrest Carpenter, Deputy Regional Forester.

It was determined immediately that fire behavior expertise would be required and Patricia Andrews, Fire Behavior expert was ordered for the team. Later, permission was requested and granted for David Goens, Meteorologist to join the team. Ron Zuniga, Assistant Director, Inspections and Investigations, Arizona Department of Corrections was granted permission to accompany the team during their investigation. Cliff Pearlberg, Arizona Natural Resources Manager, was also granted permission to observe the team functions.

The initial accident site visit was made on Wednesday, June 27, from 1730-2000 hours by all the team members except Mangan, Putnam, Andrews, and Goens who joined the team later. The second team meeting was held from 2030 to 2300 hours to organize and make team assignments for development of the necessary supporting data. Data responsibilities were as follows: Monesmith, Sequence of Events; Walters, Site Investigation; Quintana, Witness Statements; White, Records; and Andrews, Fire Behavior. Interview assignments were made to various team members.

The decision was made to use the Payson Ranger District Office as the Team Headquarters for June 28-29, then move to the Tonto Supervisor's Office in Phoenix for the remainder of the investigation. On Thursday, June 28, 0700 hours the team reassembled to review assignments, then separated to accomplish their individually assigned tasks. The entire team did not reassemble until June 30, however telephone contact was maintained to share important information or make additional assignments.

Bodies of the accident victims were photographed and removed by the County Sheriff's Department. Collection of equipment, materials and information related to the accident victims was coordinated through the Arizona Department of Corrections. Ron Zuniga provided excellent support and assistance throughout the investigation. Activities at the accident scene and in the fire camp were coordinated with the Incident Commander. Support needs at Payson were coordinated with the District Ranger or his Staff Officers. The decision to relocate the investigation team headquarters to the Tonto Supervisor's Office was made in order to minimize the impact on already strained resources at the Payson Ranger District.

Interviews were conducted with key members of the overhead teams and all surviving members of the Perryville Crew. Statements or records were obtained from several other key persons knowledgeable of the incident, including representatives of the Gila County Sheriff's Department and the Gila County Medical examiner.

The accident scene was released to the Incident Commander at approximately 1700 hours, June 30, 1990.

The close out for the Regional Forester, Forest Supervisor and their invited staffs was held July 5, 0830 to 1030 hours in Phoenix. Also attending was M. Jean Hassell, Arizona State Land Commissioner, Robert Richey, Chief Meteorological Services Division, National Weather Service (NWS) Western Region, and Walt Shaw, Type I Incident Management Team, Incident Commander.

Equipment and personal belongings of some of the Crew members collected at the accident site or other items belonging to the State were returned to the Department of Corrections.

The Chief Investigator released all the team members to their normal duties at 1000 hours, July 5, 1990, except Frank Quintana who was retained to come to the Washington Office to assist the National Safety and Health Manager in organizing the Chief's Board of Review.

B. Findings

The findings listed in this report are supported by Interviews, Witness Statements, Physical Evidence, Standard Forest Service Forms and other information which are held in our system of records.

Section

(a) Incident Management

(b) Personnel

(c) Equipment

(d) Weather

(e) Fire Behavior

(a) Incident Management

- (1) The fire was lightning caused at approximately 1230 hours June 25 and it was reported at 1315 hours.
- (2) A Type II Incident Management Team was ordered at 1500 hours on June 25.
- (3) A National Type I Incident Management Team was ordered at 2105 hours on June 25.
- (4) Records show the qualifications of the Type I and II Overhead Teams were appropriate for assigned duties.
- (5) The Tonto Fire Net used by the Type II Team had heavy use, making communication difficult.
- (6) The use of multiple undesignated frequencies resulted in the lack of communication between line personnel and overhead.
- (7) The Shift plan safety message and fire behavior forecast accurately predicted the potential for extreme fire behavior and thunderstorm buildup.
- (8) The Type I Team planned to "shadow" the Type II from 0600 to 1300 hours, and take over the incident at 1300 hours.
- (9) Type I Operations Section Chief Cooke met with Type II Team Operations Chief VanTilborg at approximately 1200 hours on June 26 to discuss transition.
- (10) Operations Chief Cooke assigned Division Supervisor Whitney responsibility for Bonita Creek sub-division protection and Division Supervisor Gatewood responsibility for Division "E" (Control Road to Road 144) at approximately 1250 hours on June 26.
- (11) Division Supervisor Gatewood did not understand he had responsibility for the segment of Division "E" where Navajo Crew No. 2 and Perryville crews were working.
- (12) The strategy was to construct and hold a line down the bottom of Walk Moore Canyon.
- (13) Escape routes were discussed and understood; however, safety zones were not designated or developed prior to the entrapment.
- (14) The Perryville Crew posted lookouts intermittently; none were out immediately prior to the entrapment.
- (15) Burnout operations were conducted during the heat of the day and during predicted thunderstorm activity.

(b) Personnel

- (1) Of the nineteen (19) Perryville Crew members, in 1990 Step testing, four scored 45 or above, six did not score 45 or above, and nine did not take the test. Two of the fatalities had passed the step test in 1989 or 1990.
- (2) The Perryville Crew Representative was a qualified Strike Team Leader/Task Force Leader and is in training for Division Supervisor.

(3) The Perryville Crew personnel Type II Overhead were in working or duty status in excess of 30 hours prior to the entrapment.

(4) The Perryville Crew had received training in shelter deployment.

(5) Eleven members of the Perryville Crew were entrapped. Six fatalities occurred: 5 males, 1 female. Of the five who survived the entrapment, one received critical burns, one serious burns, and three minor burns.

(6) Blood gas carbon monoxide levels of the fatalities ranged from less than 3% to a maximum of 28.5%.

(c) Equipment

(1) The Perryville Crew was properly equipped for fire line duty with personal protective equipment.

(2) The fire shelters were produced under contract to the General Services Administration using Forest Service specifications.

(3) Personal Protective Equipment functioned within design limits.

(4) Not all personnel had sufficient time to use Personal Protective Equipment in the recommended manner.

(5) Equipment near the victims indicate temperatures close to the ground were within survivable limits.

(6) Clothing degradation of four of the deceased indicates they were caught in a flame front prior to fully deploying fire shelters.

(7) Fire shelters of the deceased were opened, but were not held down in the recommended position throughout the hazardous period.

(d) Weather, June 26, 1990

(1) Record high temperatures in the mid 90's, with 10%-15% humidities, were forecast and observed in the Dude Fire area.

(2) A convective cell occurred over the fire before 1000 hours.

(3) An updated fire weather forecast indicating building thunderstorm activity was obtained from the National Weather Service at 1100 hours. This information was not transmitted to fireline personnel.

(4) A National Weather Service Fire Weather Forecaster was requested and arrived at the Incident Base Camp at 1200 hours.

(5) A few sprinkles of rain occurred in the fire area around 1310-1315 hours.

(6) Designated weather observers were not assigned.

(7) A definite calm occurred a few minutes before the blow-up.

(8) The sky darkened a few minutes before the blow-up.

(9) A strong blast of wind preceded the fire front.

(10) A thunderstorm gust front moved over the entrapment site at 1410-1420 hours.

(11) A transcription error resulted in the Spot Weather Report in the day shift plan not accurately reflecting the National Weather Service spot weather forecast.

(e) Fire Behavior

(1) Torching, spotting, and short runs through the crowns occurred periodically from ignition through 1400 hours on June 26.

(2) Fuels were dry. Moisture contents of one quarter inch sticks (10 hour) were 4%; large dead logs (1000 hour) 8%; live fuel (manzanita, scrub oak, and silver tassel leaves) 76%.

(3) The fire burned through ponderosa pine, manzanita, scrub oak, needle and leaf litter, and large dead and down fuel.

(4) Heavy dead and down fuels (logs) were completely consumed by the fire because of the dry conditions, contributing to development of the convection column.

(5) Short range spotting resulted from the burnout operations (1100-1315 hours).

(6) The weather (wind) totally dominated the fire environment at the time of the blow-up.

(7) The fire flashed from the west to the east side of Walk Moore Canyon. This was followed immediately by the burning of the surface fuels.

(8) The fire spread approximately 1.5 miles during the first one-half hour of the strong wind event. The fire crossed Walk Moore Canyon during this time.

(9) The fire spread and intensity were within the range of control by handcrews from 0500 until 1400 hours.

C. Causal Factors

- (a) Critical weather and fire behavior conditions were predicted and observed by some, but not acted upon by Incident personnel.
- (b) The fire enhanced the convection column to the point that the column collapsed causing the down rush of winds in a radial manner. This resulted in rapid fire spread on nearly all sides of the fire.
- (c) Poor radio communications and differences in frequencies caused a break down in communications between overhead and crews, and between ground personnel and air operations.
- (d) Transition of the overhead teams during mid-shift resulted in an uncertainty as to Division Supervisory responsibility for the Navajo Crew No. II and Perryville crews in Walk Moore Canyon.
- (e) Eight of the eighteen "Situations that Shout Watch Out" (Nos. 3 6 7 8 11 12 14 16) were not recognized, and actions consistent with seven of the ten "Standard Fire Orders" (Nos. 2 3 4 5 6 7 8) were not taken.
- (f) The fire spread so fast that the victims, without warning, did not have sufficient time to escape.

II. SUPPORTING DATA

- A. Sequence of Events
- B. Site Investigation
- C. Witness Statements
- D. Records

A. Sequence of Events

At approximately 1230 hours, June 25, 1990, a dry lightning storm started a fire under the Mogollon Rim on the Payson Ranger District, Tonto National Forest, Southwestern Region. It was sighted 1315 hours and when observed from the air at 1330 hours, the Dude Fire was estimated at 5 acres and located just below the Mogollon Rim.

An hour later, the size had grown to 50 acres and at 1615 hours, it was reported at over 100 acres with a spot fire about one mile east of the main fire.

By 1800 hours, 18 crews (360 firefighters) had been ordered in addition to the initial attack resources. A Type II Incident Management Team had been ordered earlier and was on the fire.

A Type I Incident Management Team was ordered at 2105 hours, on the 25th. The Team received a Line Officers briefing at 0430 hours, June 26.

Brisk down canyon winds pushed the fire to approximately 1900 acres by 0500 hours, on June 26, when winds subsided and the fire laid down.

The Perryville Crew arrived at the Payson Ranger District at approximately 1930 hours., Monday, June 25th. They were given instructions to eat and go to the Base Camp. While enroute to the Camp, following dinner, they were redirected to the Bonita Creek Subdivision on the fireline, arriving there about 0100 hours. Shortly after, they were moved again to the junction of Walk Moore Canyon and Control Road, arriving there at about 0230 hours.

The Crew began clearing a fireline up the jeep trail in Walk Moore Canyon. Part way up the Canyon, they were directed to continue the line along a power line right-of-way up to the Bonita Creek Subdivision. They arrived at the Subdivision at about 0500 hours, and worked there until 0900-1000 hours,

Following lunch they were directed to improve the dozer line, working down Walk Moore Canyon toward the Control Road where they had begun. By this time the jeep trail had been bladed by a dozer as a part of the fire control effort.

Type I Incident Management Team Operations Section Chief Derrick Cooke met with Type II Operations Section Chief Butch VanTilborg at about 1200 hours in the Bonita Creek Subdivision to discuss Overhead transition. Cooke made assignments to Type I Team Division Supervisors Bead, Bernal Gatewood and Jeffrey Whitney who also were in the area. Cooke then walked the fireline down Walk Moore Canyon from Bonita Creek, arriving at the Control Road at about 1415 hours.

A spot was reported below the Control Road on the west side at 1345 hours. Also, at approximately 1330 hours members of the Type II and Type I teams, when attempting to leave the Bonita Creek area found that it was surrounded by fire. Two dozers were directed to build a safety zone within the burned area.

The Perryville Crew was located approximately one-third of the way down the Canyon, at about 1300 hours, when they ran out of water. Crew Boss Larry Terra took Crew Member Fred Hill and left to get water at the Control Road leaving Assistant Crew Boss Sandra Bachman in charge with Crew Representative Dave LaTour. Terra sent the water up the line on an all-terrain-vehicle and began walking back with Hill.

The Crew gathered around the water supply, 3,300 feet from the Control Road, to fill their canteens. Just minutes after returning to work at about 1415-1420 hours, a Navajo crew member yelled "Get Out". All of the Navajo and Perryville Crew members, realizing the fire was blowing up, immediately began running down Walk Moore Canyon toward the Control Road. Part way down, 11 members of the Perryville Crew

were cut off when the fire crossed the dozer line. They turned around and began running back up the Canyon with orders to deploy their shelters.

Crew Representative LaTour radioed that the Perryville Crew was deploying their shelters. Strike Team Leader Scopa forwarded the message to Operations Section Chief Cooke at 1423 hours.

Crew member Donald Love deployed the furthest up the dozer line. Curtis Springfield was to his left, William Davenport to his right and just below. LaTour was just below Davenport. Geoffrey Hatch was below this group, then Alex Conteras, James Denney and Bachman. James Ellis probably deployed somewhere nearby. Joseph Chacon deployed 60 feet below Bachman and Gregory Hoke approximately 400 feet below Chacon.

At the time of the deployment, Denney was assisting Bachman with getting her shelter out. He then went down the dozer line. He was later found lying under Chacon. Springfield yelled "I can't take it anymore", got up, stumbled into Love's shelter, then went down the dozer line to where he expired about 150 feet below Love.

The front of Hatch's shelter was either blown or kicked off. Since he had lost part of his protection, he got up and ran up the dozer line. He continued up the dozer line about 200 yards where he was seen by Zigzag Hotshot Crew Superintendent Paul Gleason. Gleason call for Emergency Medical Technician (EMT) assistance and reported to Cooke, at 1434 hours, that he had found an injured firefighter.

Sometime during the entrapment, Ellis got up and walked down the creek bed and dozer line and spoke to Hoke who was still under his shelter.

After the deployment site had cooled down, Davenport, Love, and La Tour got out of their shelters and proceeded down the dozer line toward the Control Road. They came to Hoke still in his shelter. The four continued down the Canyon and met Ellis coming up. The five then proceeded down Walk Moore Canyon where Ellis expired 900 feet from the Control Road. The remainder then continued on and met an Engine Crew on the Control Road at about 1505 hours.

B. Site Investigation

1. Maps

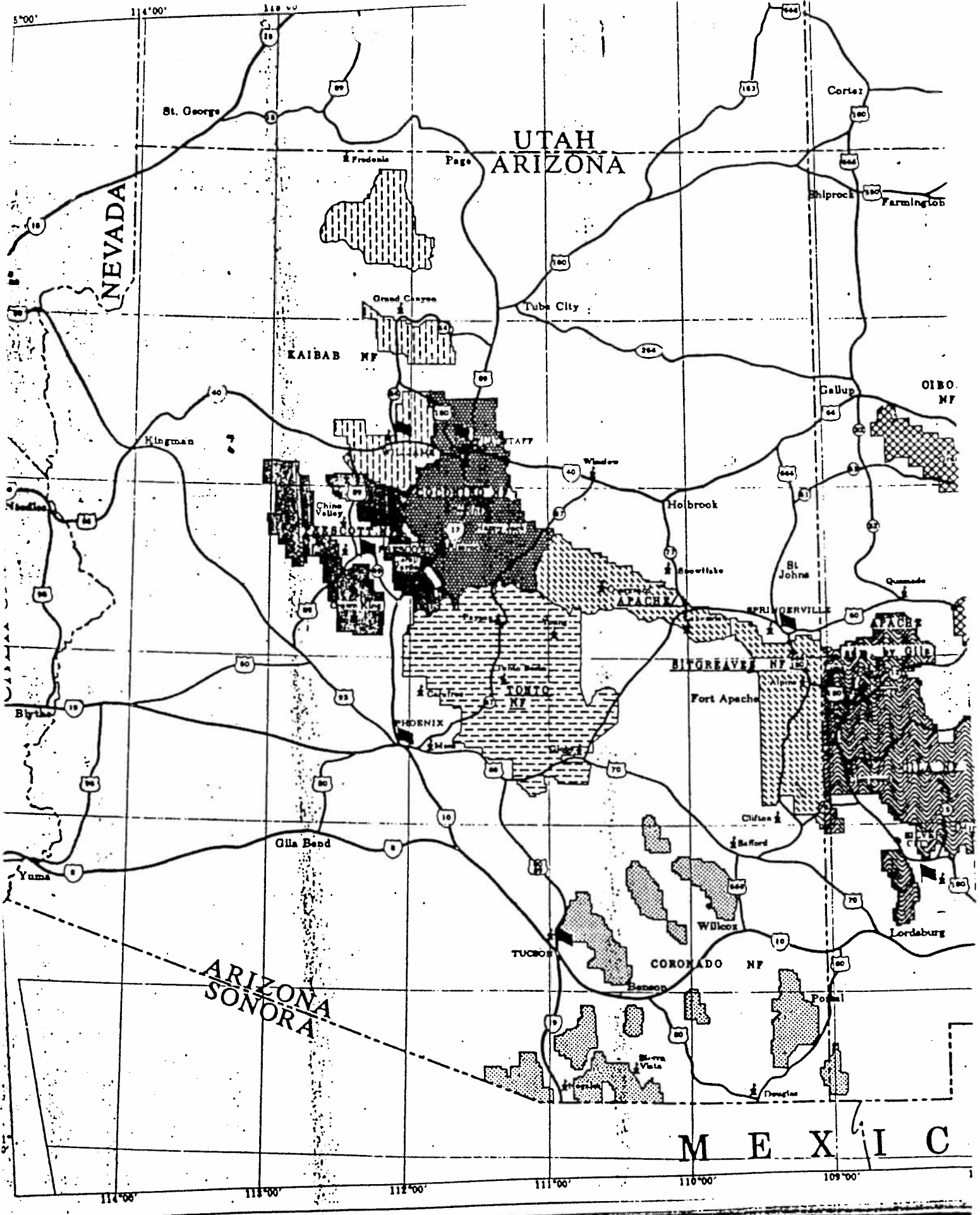
- (a.) State: Arizona
- (b.) Forest: Tonto NF
- (c.) Area: District
- (d.) Fire: Dude Incident
- (e.) Site: Walk Moore Canyon

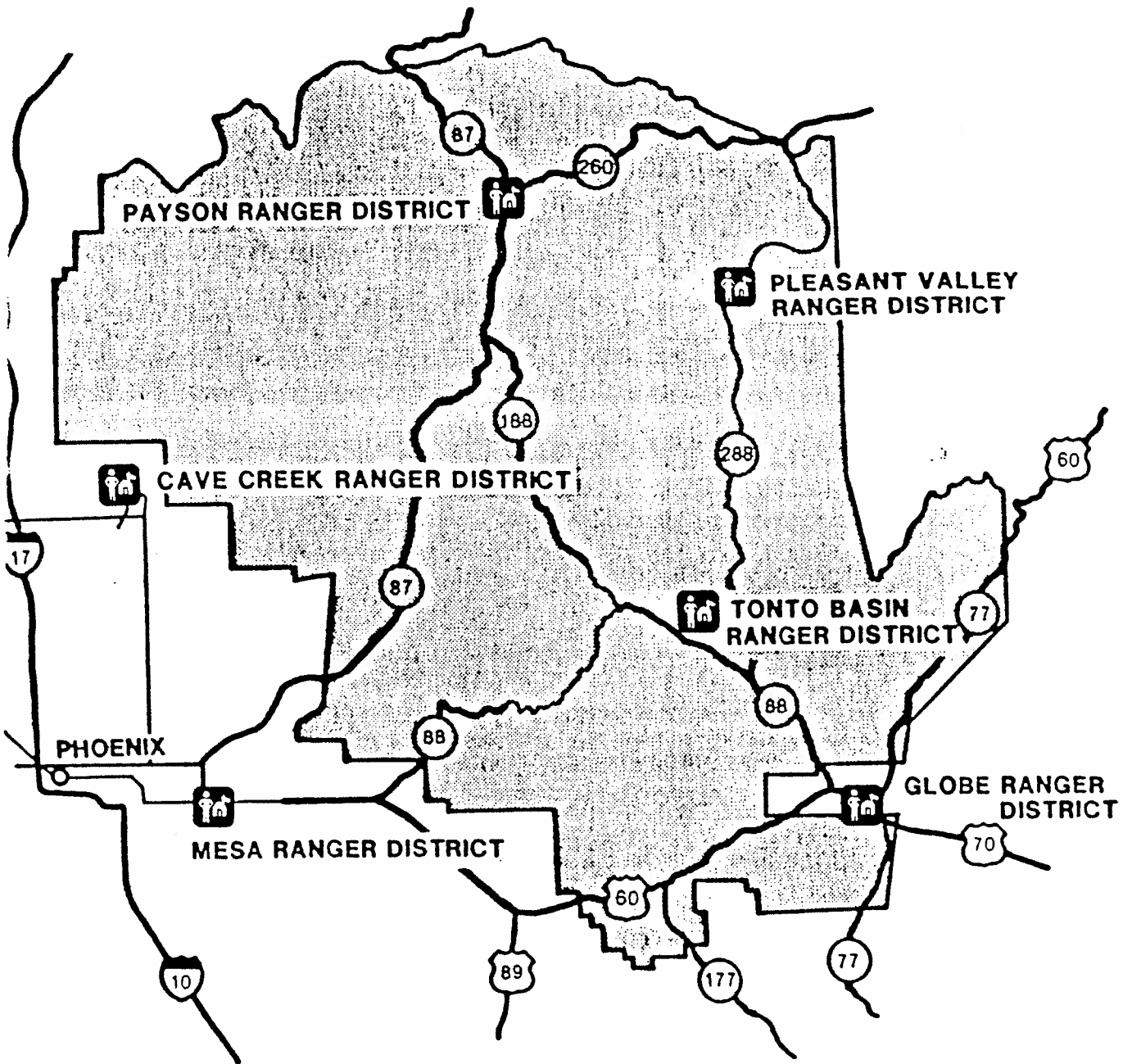
2. Perryville Crew Member List

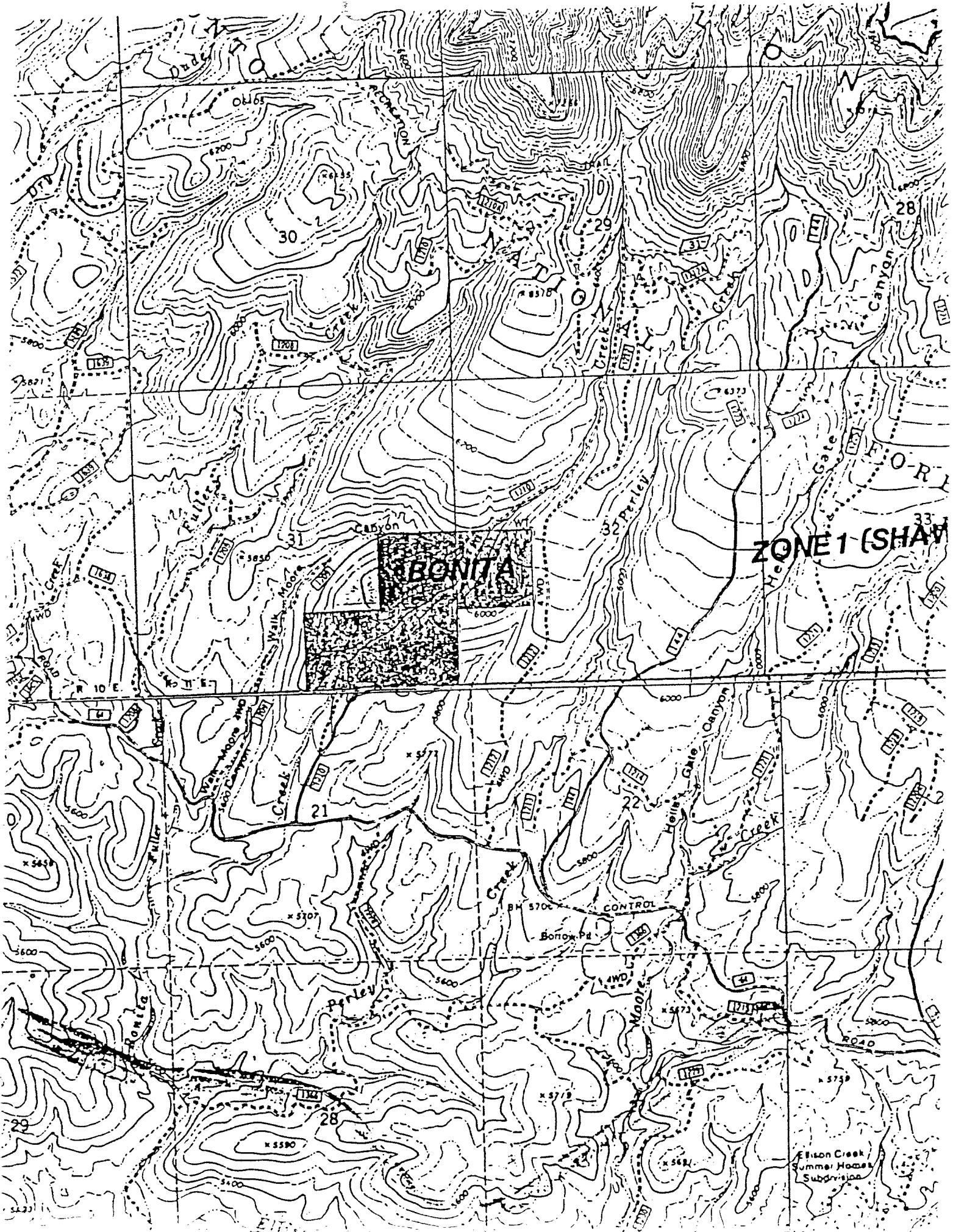
3. Crew Deployment Positions

4. Crew Equipment Location

1. Maps







BONITA

ZONE 1 (SHAW)

Elison Creek
Summer Homes
Subdivision

CONTROL

Borrow Pd

Canyon

Perley

Gate

Canyon

Moore

Moore

Elison

2. Perryville Crew Member List

Perryville Crew Member List

Name	Age	Title	Injured	Doc. No. ¹	Pack No. ²	Entrapped ³
LARRY TERRA	30	CSO	NO			
SANDRA J. BACHMAN	43	CSO	DOA		27	YES
JOSEPH L. CHACON	25	FF	DOA	59979	13	YES
ALEX S. CONTRERAS	33	FF	DOA	39347	6	YES
JAMES L. DENNEY	39	FF	DOA	32912	1	YES
JAMES E. ELLIS	34	FF	DOA	40578	4	YES
CURTIS E. SPRINGFIELD	24	FF	DOA	57718	19	YES
GEOFFREY HATCH	27	FF	CRITICAL	50438	11	YES
WILLIAM H. DAVENPORT	23	FF	INJURED	75897	5	YES
GREGORY HOKE	29	FF	INJURED	41497	16	YES
DONALD R. LOVE	30	FF	INJURED	45301	12	YES
ROBERT M. CARRILLO	32	FF	NO	39380	7	NO
NORMAN ENRIQUEZ	23	FF	NO	46541	18	NO
PATRICK A. FLIPPEN	27	FF	NO	71515	9	NO
DERRICK E. GUY	25	FF	NO	36257	15	NO
GLEN A. HARDER	28	FF	NO	46793	14	NO
FRED HILL	37	FF	NO	37610	2	NO
TIM SMITH	31	FF	NO	63479	3	NO
STEVEN PENDER	22	FF	NO	57518	10	NO

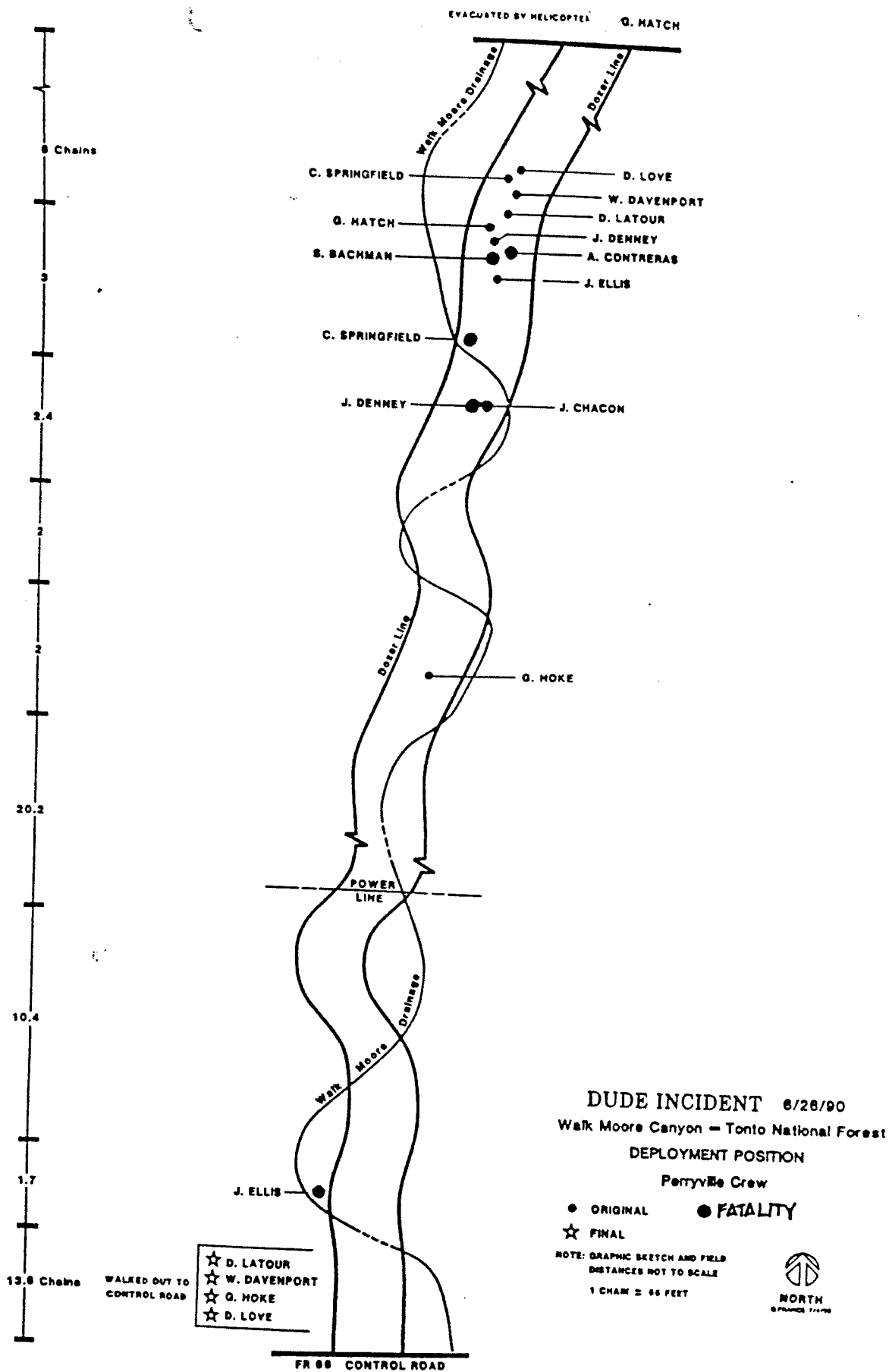
¹ Department of Correction's Personnel Number

² Fire Pack Number

³ "No" means the person escaped; "Yes" means the shelter was deployed in some manner or not used.

3. Crew Deployment Positions

4. Crew Equipment Location



C. SPRINGFIELD

G. MATCH

S. BACHMAN

C. SPRINGFIELD

J. DENNEY

J. DENNEY

J. ELLIS

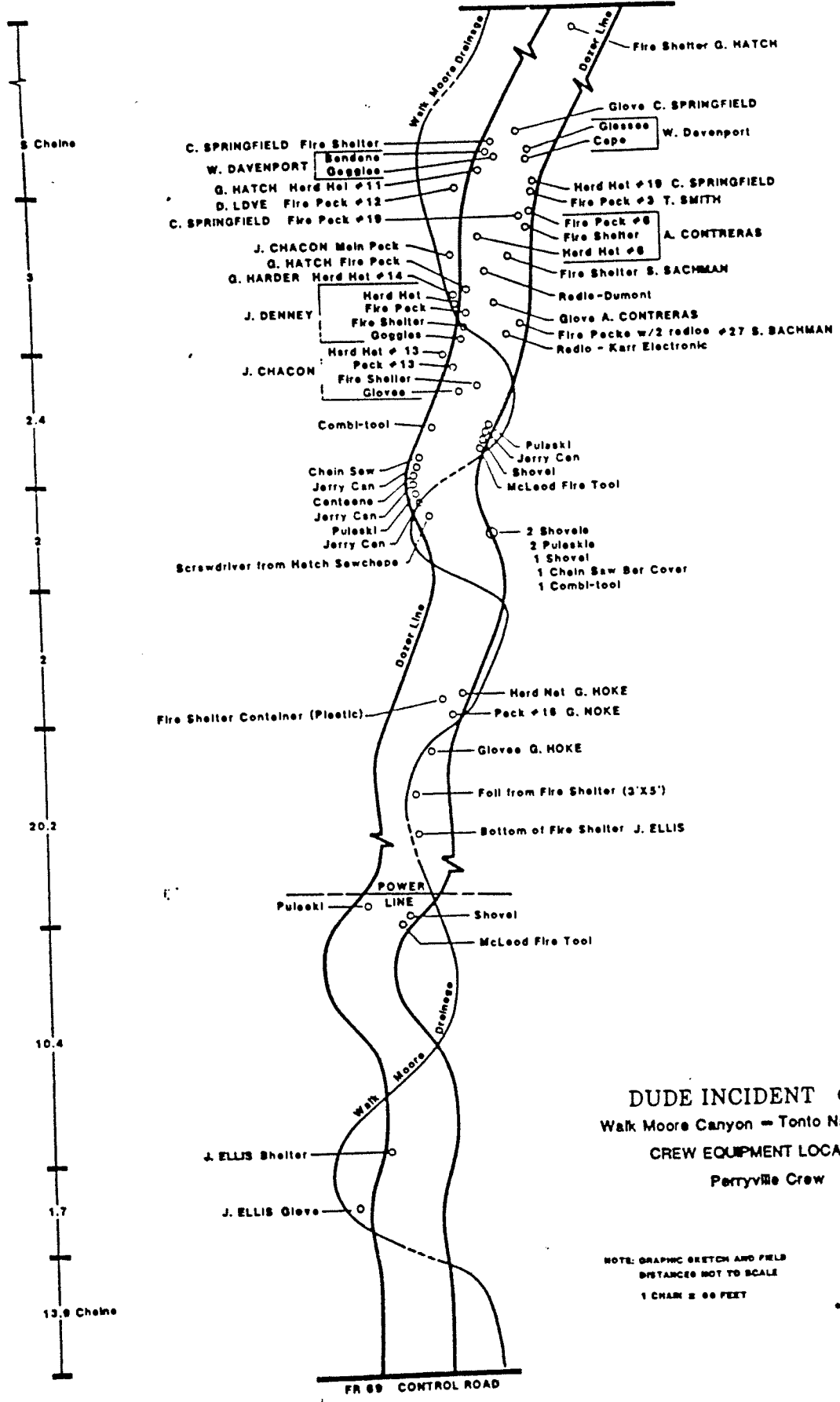
- ☆ D. LATOUR
- ☆ W. DAVENPORT
- ☆ G. HOKE
- ☆ D. LOVE

- ORIGINAL ● FATALITY
- ☆ FINAL

NOTE: GRAPHIC SKETCH AND FIELD DISTANCES NOT TO SCALE
1 CHAIN = 66 FEET



DUDE INCIDENT 6/28/90
Walk Moore Canyon - Tonto National Forest
DEPLOYMENT POSITION
Perryville Crew



DUDE INCIDENT 6/26/90
 Walk Moore Canyon - Tonto National Forest
CREW EQUIPMENT LOCATION
 Perryville Crew

NOTE: GRAPHIC SKETCH AND FIELD DISTANCES NOT TO SCALE
 1 CHAIN = 66 FEET



C. Witness List

An asterisk (*) indicates that the statement provided by the individual is in this report (See Section D). All other statements are a part of the supporting documents to this report and kept as part of our system of records.

<i>Name</i>	<i>Title/Position</i>	<i>Home Unit</i>	<i>Telephone</i>
<i>Class I</i>			
Walt Shaw	Incident Commander	BIA	
Steve Healy	Safety Officer	Gila NF	505-388-8241
Jim Paxon	Public Info Officer	Gila NF	505-894-6677
Ron Melcher*	FBA	Coconino NF	602-526-8223
Derrick Cooke*	Ops Section Chief	Rgnl Office	505-842-3266
Mark Spann*	Communications Tech	Tonto NF	602-225-5200
Ronald Regan*	Communications Tech	Coconino NF	602-527-7400
George Leech	Ops Section Chief		
<i>Class II</i>			
Ed Hollenshed*	Incident Commander	Prescott NF	602-445-1762
Randy Cherington	Safety Officer	Tonto NF	602-488-3441
Pete Libby	Public Info Officer	Tonto NF	602-835-1161
Dale Ashby	Group F Supervisor	Tonto NF	602-474-2269
Bob Ortlund	Air Attack	Tonto NF	602-467-2236
Phil Gil*	Division Supervisor	BLM	
Butch Van Tilborg*	Ops Section Chief	Prescott NF	602-445-7253
Hall Ashcroft*	Safety Officer	Tonto NF	602-488-3441
Glen Dundas*	OPS Section Chief	Prescott NF	
<i>Perryville Fire Crew</i>			
Larry Terra*	Corrections Serv. Off.	Perryville Detention Center	
Don Love*	Crew Member	Perryville Detention Center	
Fred Hill	Crew Member	Perryville Detention Center	
Robert Carrillo	Crew Member	Perryville Detention Center	
Patrick Flippen	Crew Member	Perryville Detention Center	
Norman Enriquez	Crew Member	Perryville Detention Center	
Derek Guy	Crew Member	Perryville Detention Center	
Gregory Hoke*	Crew Member	Perryville Detention Center	
Bill Davenport*	Crew Member	Perryville Detention Center	
Steve Pender	Crew Member	Perryville Detention Center	
Glenn Harder*	Crew Member	Perryville Detention Center	
Tim Smith	Crew Member	Perryville Detention Center	
Jeff Hatch	Crew Member	Perryville Detention Center	
Dave LaTour*	Crew Rep.	Perryville Detention Center	
		Rural Metro, Tucson	

Other Fire Personnel

James W. Clawson	Law Enforcement Officer	Prescott NF	
Guy A. Jirrels	Fire Fighter	Chandler	602-786-2862
Clifford Pearlberg	State Representative	AZ Forestry	602-542-2612
Craig Ellis*	Fire Weather Forecaster	Weather Service	
		Phoenix	
Robert Berkovitz*	Fire-Weather Meteorologist	Weather Service	
		Phoenix	
Mark Tiffany*	Crew Foreman, Eng. 438	Payson RD	
Pat Velasco	Fire Mgt. Officer	Payson RD	
Alan Farnsworth*	FBA-Trainee		
Roy Sandoval	Rec. Guard, Eng. 438	Payson RD	
Bob Scopa*	Fire Captain	Yavapai Fire Dept.	
Paul Gleason*	Supt. Zig Zag Crew	Mt. Hood NF	
Bobbie Ortland	FS Regulars	Tonto NF	
Scott Hunt	District Forester	AZ Forestry Div.	
Jim Mattingly*	Foreman, Alpine Hot Shots	Zion NP	
Bob Wagenfehr	Tonto NF Fire Staff	Tonto NF	
Jeffrey Whitney*	Div./Sup.	Payson RD	
Bernal Gatewood*	Div./Sup., Div. "E"	Fort Apache-White	
		River	
Dr. Wes Romburger	Medical Examiner	Payson	602-474-6920
Bob Birgam	Deputy Sheriff	Gila County	602-474-2208
Mark Glossy	Air Attack (Trainee)	Region 5	
Louis Sorrell*	Crew Boss	BIA Fort Defiance	602-729-2307

D. Records

- 1. Witness Statements**
- 2. Incident Objectives**
- 3. Fire Behavior Forecast**
- 4. Health and Safety Message**
- 5. Site Photographs**

1. Witness Statements

2. Incident Objectives

INCIDENT OBJECTIVES
ICS 202

1. INCIDENT NAME
Dude

2. UNIT PREPARED
6-25

3. PREPARED

4. OPERATIONAL PERIOD (DATE/TIME)

6-26-90 0600 - 1800

5. GENERAL CONTROL OBJECTIVES FOR THE INCIDENT (INCLUDE ALTERNATIVES)

- 1 - Suppress fire insuring maximum firefighter and Public safety
- 2 - Protect private land and structures at Bonita Creek, Whispering Pines and Verde Glen.
- 3 - Protect timber resource on top of the rim & at the bottom.
- 4 - Protect T & E plants in riparian zones.
- 5 - Hold fire south of FR 300 on top of rim.
- 6 - Protect General Springs Cabin Historic Site north of FR 300. Notify host if evacuation necessary.
- 7 - Minimize impacts to General Crook Hiking Trail north of FR 300.
- 8 - Hold fire at lowest acreage possible to minimize visual quality scars on side of rim and along FR 300.
- 9 - Avoid cultural resource sites during line construction and other SUPPRESSION/SUPPORT ACTIVITIES

6. WEATHER FORECAST FOR OPERATIONAL PERIOD

7. GENERAL/SAFETY MESSAGE

Extremely steep terrain; watch for falling rocks, numerous snags, watch for spot fires. Beware of rapid rates of spread.

8. ATTACHMENTS (/ IF ATTACHED)

ORGANIZATION LIST (ICS 203)

MEDICAL PLAN (ICS 206)

DIVISION ASSIGNMENT LISTS (ICS 204)

INCIDENT MAP

COMMUNICATIONS PLAN (ICS 205)

TRAFFIC PLAN

202

ICS
2-88

9. PREPARED BY (PLANNING SECTION CHIEF)

R. Johnson

10. APPROVED BY (INCIDENT COMMANDER)

Ed Johnson

3. Fire Behavior Forecast

FIRE BEHAVIOR FORECAST NO. 1

NAME OF FIRE: DUDE PREDICTION FOR: DAY SHIFT
FOREST: TONTO SHIFT DATE: 6/26/90
TIME AND DATE
FORECAST ISSUED: 6/26/90 @2200 SIGNED: P. Velasco

WEATHER SUMMARY:

See Attached 'Spot Fire Weather Forecast'

FIRE BEHAVIOR

GENERAL: Severe burning will continue to be present today.
Heavy Brush. Heavy timber stands and steep topography. Fuel moistures are very low at this time. Fire will be active all night and pick up by as early as 0900.

SPECIFIC:

Top of Rim: Expect upslope runs to cause spotting. Be alert for spots across the control line.

West Side: Winds may actually be favorable for line construction and burning out.

East Side: This will be the critical side. Expect extreme fire behavior with long range spotting; torching and high rates of spread.

South Side: Also a very critical flank. Expect very active fire behavior. Predicted afternoon, erratic winds will escape, intense fire behavior. Watch for hot runs.

AIR OPERATIONS: Smoke will hamper operations. Thunder storms will produce turbulent flying conditions.

SAFETY: Extreme rates of spread (100 chains per hour), possible, and predicted high temperatures and dry thunderstorms.

Call for maximum alertness.

4. Health and Safety Message

Health and Safety Message

Incident: Dude Fire

Date: 6/25 Time: 2100

Major Hazards and Risks:

Mogollon Rim Fire - All hazards associated with a rim fire. Steep slopes, erratic fire behavior, high intensity fuels, possibility of lightning.

Narrative:

Study "watch out" situations and survival checklist below carefully both have messages which can help in working the Dude Fire. Be especially aware of the following: 1. Rolling rocks and other materials on the line 2. Spotting and other extreme fire behavior 3. Gusty shifting winds 4. Hazardous transportation conditions.

"Watch Out!" Situations

1. Fire not scouted and sized up.
2. In country not seen in daylight.
3. Safety zones and escape routes not identified.
4. Unfamiliar with weather and local factors influencing fire behavior.
5. Uninformed on strategy, tactics and hazards.
6. Instructions and assignments not clear.
7. No communication link with crew members/supervisors.
8. Constructing line without safe anchor point.
9. Building fireline downhill with fire below.
10. Attempting frontal assault on fire.
11. Unburned fuel between you and the fire.
12. Cannot see main fire, not in contact with anyone who can.
13. On a hillside where rolling material can ignite fuel below.
14. Weather is getting hotter and drier.
15. Wind increases and/or changes direction.
16. Getting frequent spot fires across line.
17. Terrain and fuels make escape to safety zones difficult.
18. Taking a nap near the fireline.

Your Safety Team
Safety Officer

Survival Checklist

- Fight fire aggressively but provide for safety first.
- Initiate all action based on current and expected fire behavior.
- Recognize current weather conditions and obtain forecasts.
- Ensure instructions are given and understood.
- Obtain current information on fire status.
- Remain in communication with crew members, your supervisor and adjoining forces.
- Determine safety zones and escape routes.
- Establish lookouts in potentially hazardous situations.
- Retain control at all times.
- Stay alert, keep calm, think clearly, act decisively.

5. Site Photographs



A view south along Walk Moore Canyon. The large ponderosa pine at the right is charred on the west side, but not the east.



A view north in Walk Moore Canyon approximately 14 chains from the Control Road FR 69. Nomex clothing is laid out at the location where fatality, J. Ellis, was found lowest in the Canyon.



A view north in Walk Moore Canyon at the accident site. Nomex clothing is laid out where victims were found. Shows deployed shelter location of J. Denney lower left, S. Bachman, center, and A. Contreras, center right side of trail.



A view north in Walk Moore Canyon at the accident site. Nomex clothing is laid out where victims were found with their shelters. Shows location of J. Chacon's deployed shelter and his hardhat.