

WHISKY FIRE ACCIDENT INVESTIGATION REPORT

ACCIDENT: PERSONAL INJURY - NON-FATAL

LOCATION: PACIFIC SOUTHWEST REGION
KLAMATH NATIONAL FOREST
SCOTT RIVER RANGER DISTRICT

DATE: OCTOBER 27, 1992

CHIEF INVESTIGATOR: Michael Irvine
Michael Irvine; Klamath National Forest

MEMBERS: Walt Watton - California Department of Forestry and Fire Protection

Dave Bacon - Klamath National Forest

David Devine - Klamath National Forest

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1. NARRATIVE

Whisky Fire Accident Investigation

A. INVESTIGATION

1. NARRATIVE

- a. The accident investigation team was assembled at 0700 hours, October 28, 1992 at the Siskiyou Ranger Unit headquarters of the California Department of Forestry, in Yreka California.

The team was briefed by Kirby Schwinck, Klamath Forest Fire Management Officer. The briefing consisted of the location of the accident, the preliminary condition and status of the injured fire fighter, status of the rescue personnel and the general facts of the accident. Michael Irvine was assigned the Chief Investigator responsibilities. Irvine assigned specific tasks to each team member during the initial briefing period.

This in-depth investigation was conducted and documented for the following reasons:

This accident was a near miss fatality with the possibility of multiple fatalities.

The desire to address the long term drought effects on vegetation, including trees and snags.

To use this accident as a training tool for wildland firefighters.

- b. Members task assignments:

Mike Irvine - Chief Investigator
Dave Bacon - Forest Safety Officer Coordination
Walt Watton - CDF Representative and Interviewer
David Devine - Investigator and Report

- c. How Coordinated:

A meeting was held between Kirby Schwinck, Forest Fire Management Officer, and Ken Stanley, Ranger Unit Chief, CDF to establish a joint investigation team, because this was a USFS fire with a CDF employee injured.

- d. How Information Was Obtained:

Interviews, written statements of witnesses, Photographs, sketches of the scene, Documents from Emergency Communication Center, District Office, Emergency Room and Doctor's Report.

2. FINDINGS

Whisky Fire Accident Investigation

b. SAFETY, POLICY, AND PROCEDURES

Adam Raimer was wearing the mandatory Wildland Fire Personal Equipment at the time of the accident.

The safety helmet Raimer had was OSHA and ANSI approved. This helmet took a blow and did not sustain any apparent structural damage.

All fireline personnel, including Raimer, were cautioned several times regarding the high risk of the snags within the fire perimeter, including the tree that caused the accident.

Raimer was not struck by a snag. He was struck by a portion of a green tree that was burning.

Raimer was traveling within the fall zone of the burning green tree that fell. This tree caused the accident.

Raimer did observe the terrain in which the accident occurred during daylight hours.

Instructions and assignments were made clear to the crews.

No one was assigned the specific duty of being a lookout.

Raimer and some of the other firefighters heard the tree making noises seconds prior to the accident.

The tree that caused the accident was the lightning struck tree that started the fire.

There were several green trees effected by the falling tree. The result was several portions and tops of green trees scattered in the area.

Several of the firefighters were struck by some of the debris from the trees.

Whisky Fire Accident Investigation

c. ENVIRONMENTAL CONDITIONS (TERRAIN, WEATHER, PHYSICAL FEATURES)

The accident occurred in T42N, R10W, SW 1/4 SEC 34.

The elevation of the accident site was approximately 5400 feet in elevation.

The scene was on a southern exposure in the Mill Creek drainage.

The land form is generally uniform in the fire area.

Average cross-slope was 50 percent.

Vegetation in the area was mixed Ponderosa Pine, Pin Oak, and brush.

Wind at the time of the accident was light, 0 to 5 mph.

Temperature was in the mid 50 degree F. range.

This area has been under the influence of drought for the last six years.

When two snags within the fireline caught fire, the snags fell within two or three hours of initial ignition.

The fire started from lightning striking a Ponderosa Pine on October 26, 1992.

The area had received two light showers during their suppression efforts and prior to the accident.

Accident occurred during night time darkness with smokey conditions which reduced visibility in the area.

Visibility was reduced by the vegetation in the area of the accident.

The predicted fire danger rating for October 27, 1992 was Moderate.

Whisky Fire Accident Investigation

d. MANAGEMENT

The Whisky fire suppression activities were within existing policies and guidelines.

The Scott River Ranger District was operating under District Dispatch for fire suppression activities. The District Duty Officer made the decision to dispatch two engines.

The fire operations were supervised by a qualified Incident Commander.

The fire aerial observations were provided by a qualified Air Attack Supervisor.

Communications to and from the incident area were accomplished by Forest Net and District administrative radio frequencies.

The initial on site first aid and the stabilization of the victim was performed by the other crew members. Additional rescue personnel were brought in for the evacuation of the injured firefighter.

Notification of management personnel of the Forest Service Regional Office and the Supervisor's Office, and the California Department of Forestry regarding the accident were made within two hours of the occurrence.

District Ranger Lindsay, who is a qualified ICS Safety Officer, made a brief on scene preliminary assessment of the accident scene during the rescue effort.

Whisky Fire Accident Investigation

2. FINDINGS

a. PERSONNEL

Victim: Adam Raimer, CDF Firefighter.

Other personnel at the scene at the time of the accident:

CDF Engine 2665 crew consisting of Alex Lujan, Engineer; and Jose Simental, Firefighter.

USFS Engine 5571 crew consisting of Bob Prather, Captain; Ron Best, Bob Grant, and Vince Haynie, Firefighters.

Whisky IC Richard Farmer.

Other USFS personnel involved in the fire and the evacuation:

Air Attack, Dennis Brown.

District Ranger Robert Lindsay.

All personnel assigned to the Whisky Fire met the ICS position requirements.

Adam Raimer was in good physical condition to do the assigned duties of a firefighter.

Raimer started his duty day at 0800 hours on the day of the accident. He had regular shifts prior to this incident, and did not work any long shifts in the preceding week.

Raimer had completed a rest break during this shift, and prior to the accident.

Raimer had eaten lunch at approximately 1400 hours on the day of the accident.

The accident occurred on October 27, 1992 at approximately 2100 hours.

Whisky Fire Accident Investigation

3. CAUSAL FACTORS

There were unsafe conditions existing on the fire. These were several burning snags within the fire perimeter. There was also the green Ponderosa Pine that had been struck by lightning, which started the Whisky Fire. This tree had a very large scar and void in the trunk which burned, causing the tree to fall. Visibility was very low because of darkness, smoke, and vegetative growth.

The degree of hazard of the lightning struck, burning tree was not recognized by the crew. They had worked in the falling zone of the tree and were traveling in this zone when the tree fell.

B. SUPPORTING DATA

B. SUPPORTING DATA

1. SEQUENCE OF EVENTS

Whisky Fire Accident Investigation

1. SEQUENCE OF EVENTS

October 27, 1992

At approximately 1235 hours Eddy Gulch L.O. reported a smoke in the Etna, Mill Creek drainages to YICC.

Scott River district initiated response approximately 1245 hours. USFS engine 5571 and CDF engine 2665 were dispatched to the fire.

Air Attack 22 (Dennis Brown) arrived over the fire at approximately 1424 hours.

CDF Helicopter 102 arrived over the fire at approximately 1445 hours and did water bucket drops on the fire.

Chief 5501 (IC Farmer) arrived at the fire at approximately 1545 hours.

After building a scratch fire line around the head of the fire (North side), the crew and the IC were on the South west perimeter of the fire taking a break.

IC Farmer left to flag the location of the fire line that the crew was to build. He traveled around the south west corner of the fire.

IC Farmer heard a snag fall at approximately 2000 hours on the east side of the fire.

Farmer walked the existing line, skirting a burning, standing snag on the east side of the fire and found the first snag that he had heard fall.

At approximately 2045 hours, the burning snag that Farmer had skirted fell across the fire line into brush.

Farmer then called the crew, led by Captain Prather, to come around the south end of the fire to his position. As the crew traveled along the indirect line, a green tree fell, causing the accident.

At approximately 2110 hours, IC Farmer contacted the district and notified them of the accident and requested assistance.

Raimer was stabilized at the scene and then transported by litter to the vehicles, arriving there approximately 0530 hours. Raimer was then transported by ambulance to Siskiyou General Hospital in Yreka.

After being treated at the hospital, Raimer was released at approximately 0900 hours on October 28, 1992.

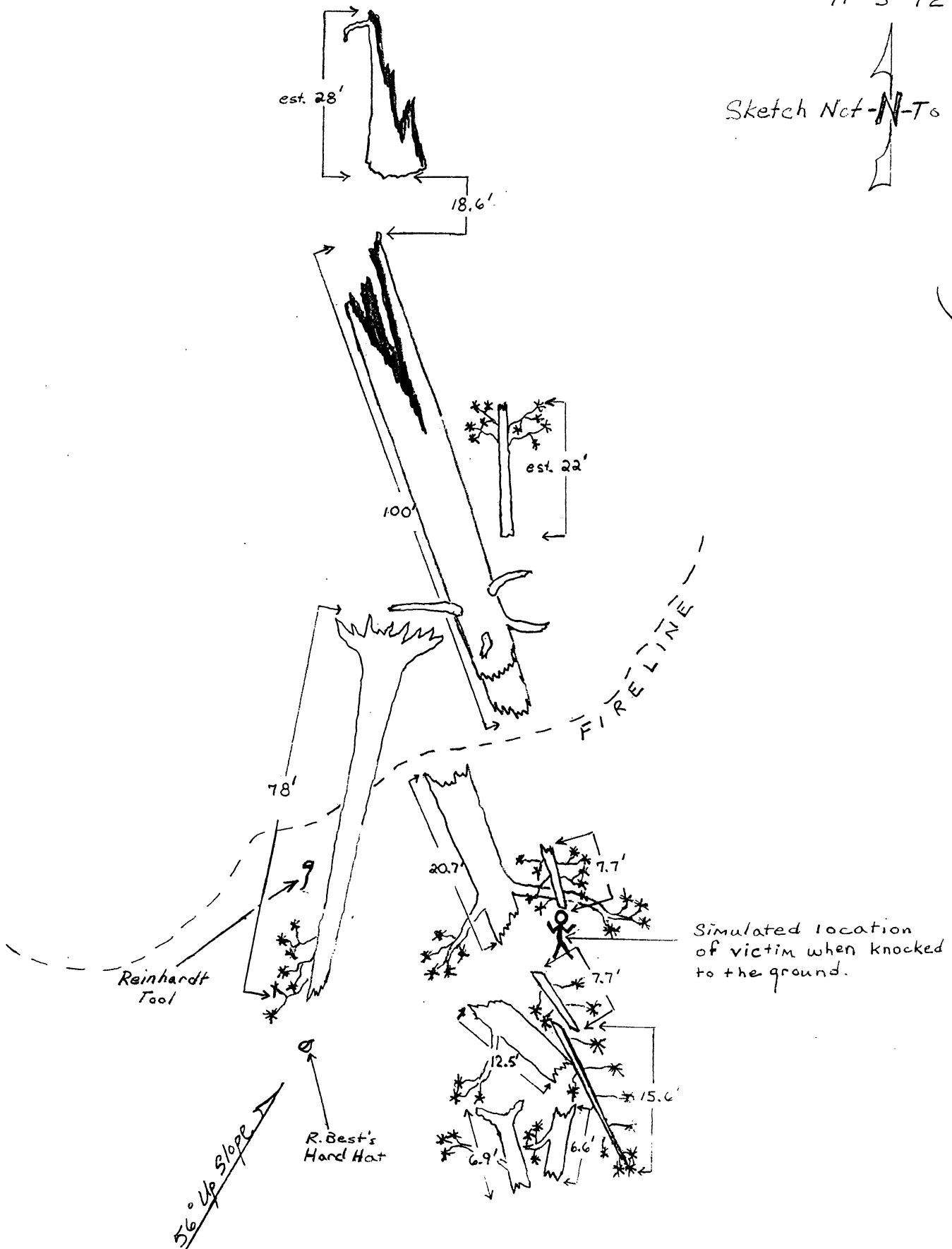
a. GROUND CONDITIONS

2. SITE INVESTIGATION

a. GROUND CONDITIONS

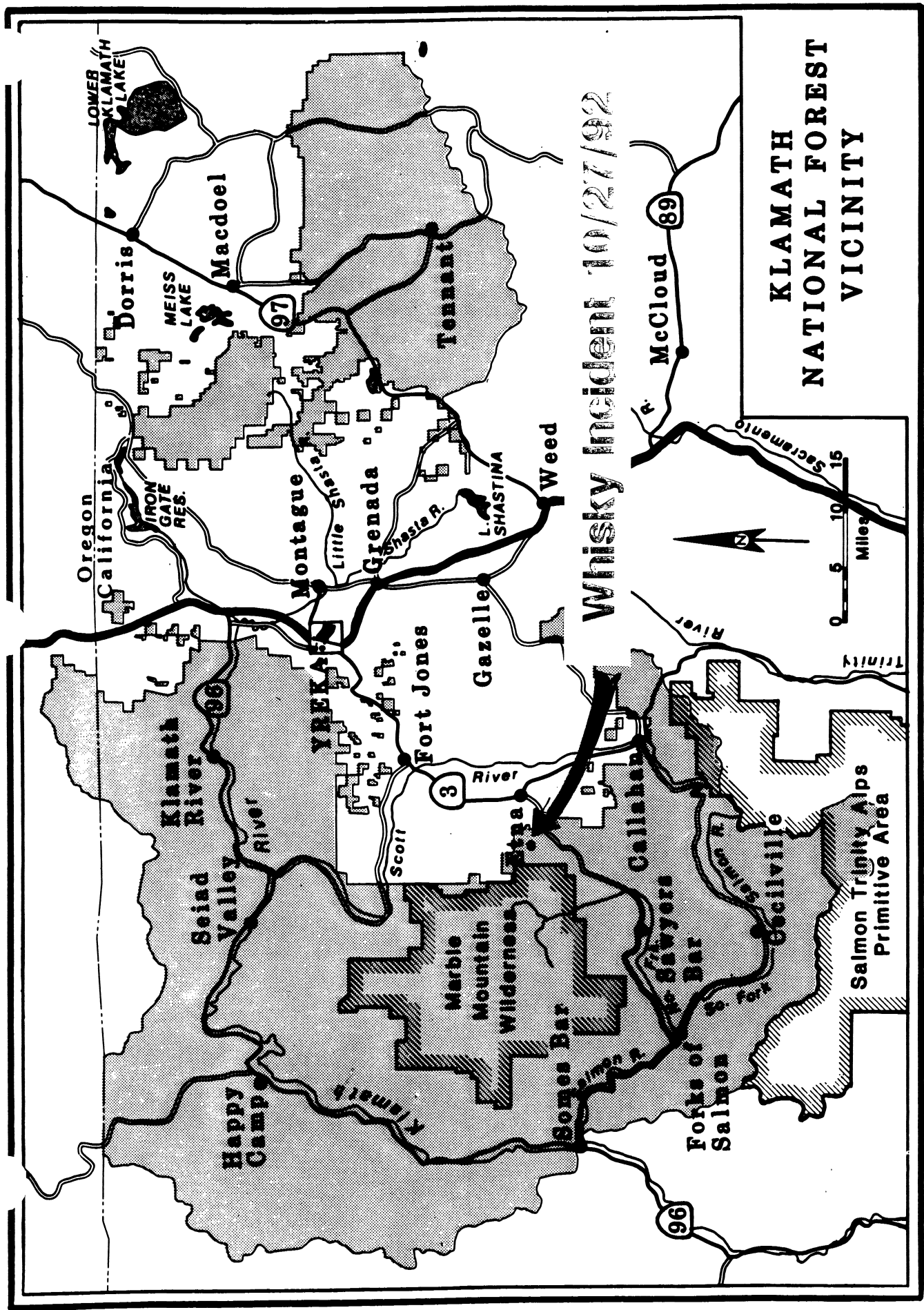
Adam Raimer Accident
Wiskey Incident 10-27-92
Sketch made by M. Irvine
11-5-92

Sketch Not ~~N~~-To Scale



Whisky Fire Accident Investigation

b. MAPS



Whisky Incident 10/27/92

Whisky Butte
6889

T42N

T41N

R10W

R09W

Ruffey Gap

Etna Mtn
7528

RUFFEY LAKES

MEEKS MDW L

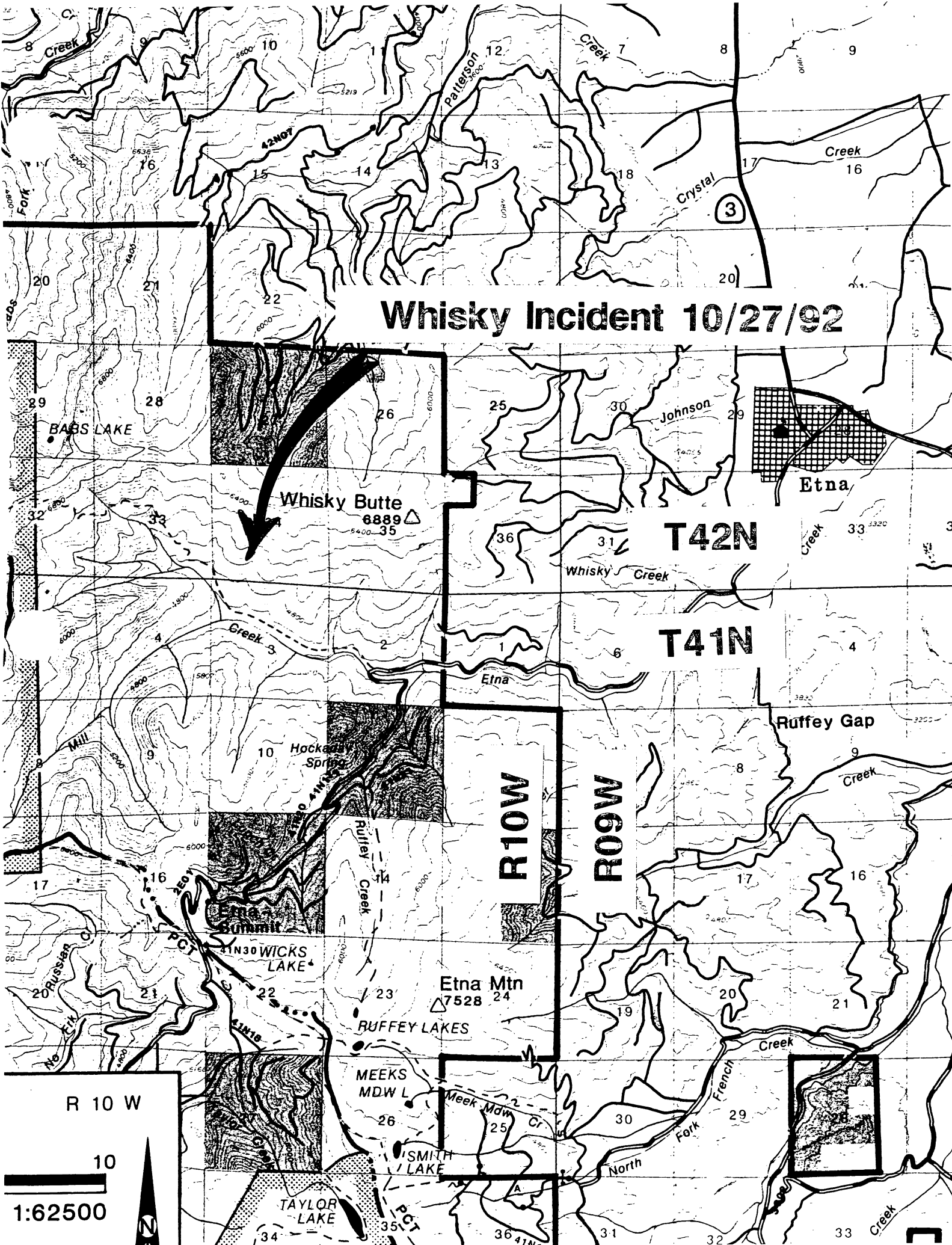
SMITH LAKE

TAYLOR LAKE

R 10 W

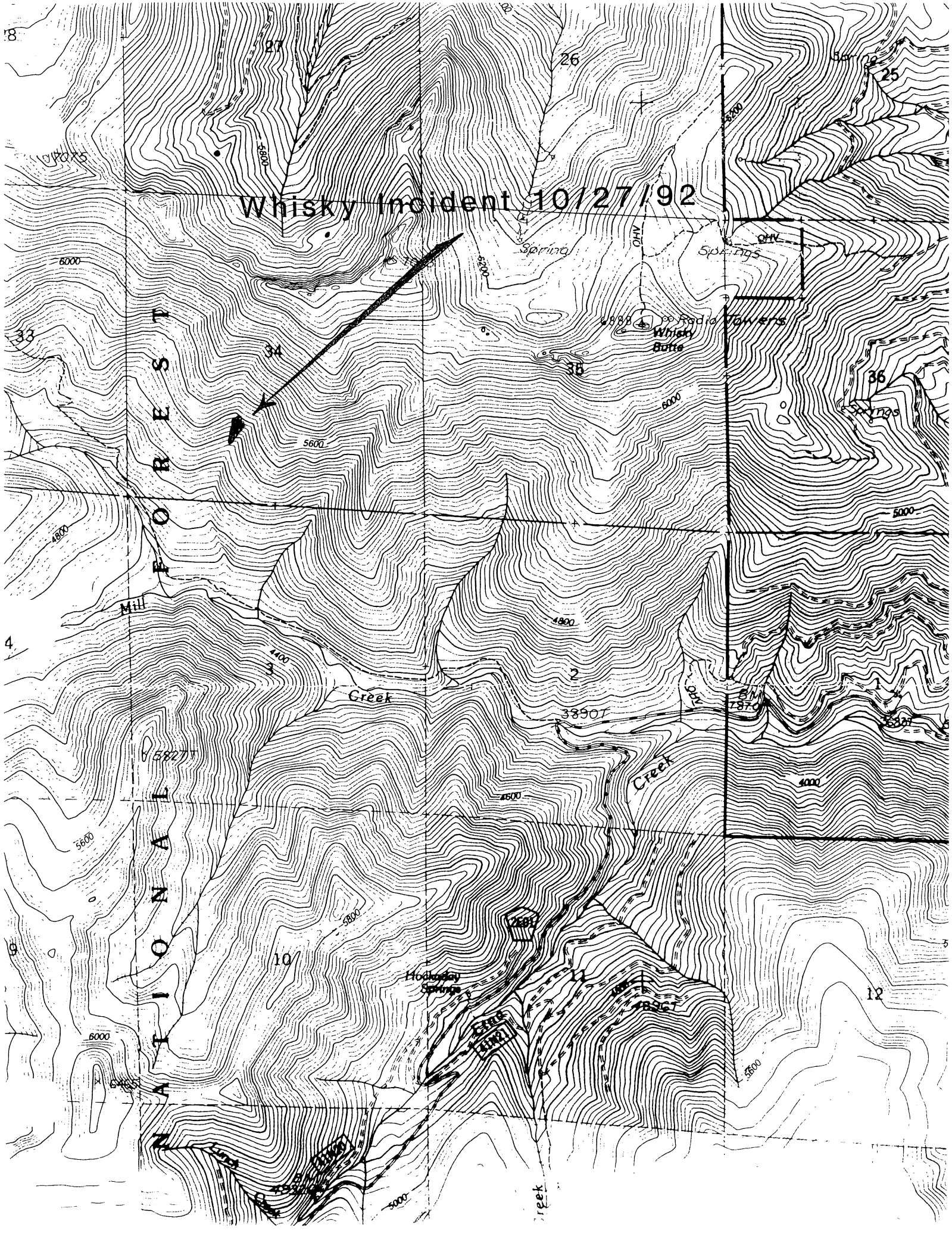
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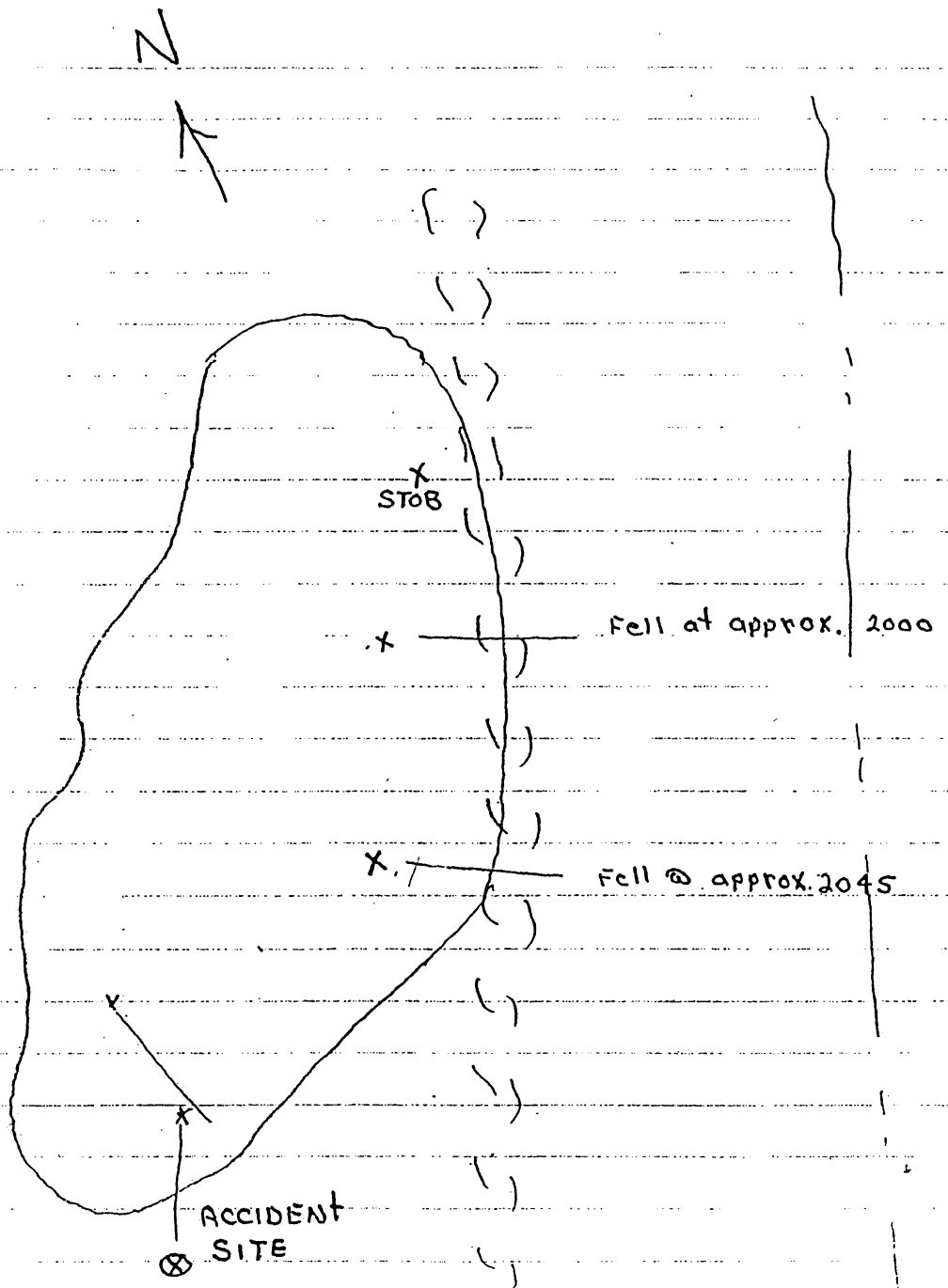
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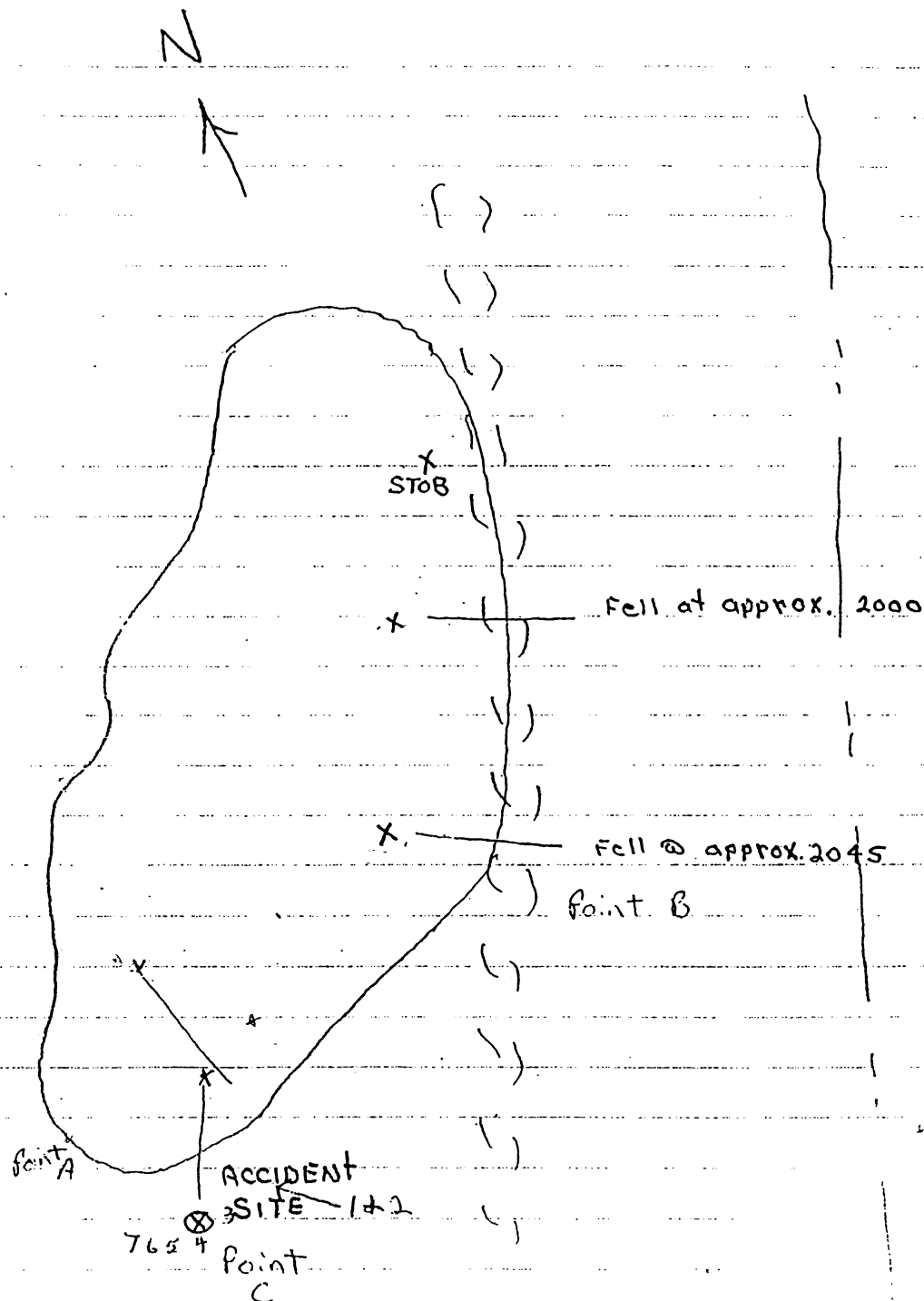


Whisky Incident 10/27/92

NATIONAL FOREST







- 1- Alex Lujan
- 2- Jose Simental
- 3- Bob Brather
- 4- Adam Rainer
- 5- Bob Grant
- 6- Ron Best

order
may not

c. PHOTOGRAPHS



THIS PHOTO DEPICTS THE EASTERN BOLE FACE OF THE LARGE PONDEROSA PINE THAT BROKE. NOTE THE BURNED HOLLOWED CAVITY WITHIN THE TREE.



THIS PHOTO DEPICTS THE NORTHEASTERN FACE OF THE PONDEROSA PINE
BOLE.



THIS PHOTO DEPICTS THE NORTHERN FACE OF THE LARGE PONDEROSA PINE
BOLE.



THIS PHOTO DEPICTS THE NORTHWESTERN FACE OF THE LARGE PONDEROSA PINE BOLE.



THIS PHOTO DEPICTS THE WESTERN FACE OF THE LARGE PONDEROSA PINE BOLE THAT BROKE. NOTE THERE ARE NO VISIBLE SIGNS OF THE HOLLOW CAVITY ON THIS SIDE.



THIS PHOTO DEPICTS THE SOUTHEASTERLY FALL PATH OF THE LARGE PONDEROSA PINE. NOTE THE SMALLER PONDEROSA PINE WITH IT'S TOP MISSING WITHIN THE TREE'S FALL PATH. THE MISSING TOP WAS SNAPPED OFF DURING THE TREE'S FALL AND ALSO STRUCK ADAM RAIMER.



THIS PHOTO DEPICTS THAT PORTION OF THE PONDEROSA PINE THAT BROKE OFF OF THE TREE'S MAIN BOLE. NOTE THAT THIS PORTION FELL AND CAME TO REST APPROX. 18 1/2 FT. TO THE SOUTH OF THE TREE'S BASE. ALSO NOTE THE SMALL AMOUNT OF HOLDING WOOD REMAINING.



ACCIDENT SITE

THIS PHOTO SIMULATES THE LOCATION WHERE ADAM RAIMER WAS STANDING
WHEN HE WAS KNOCKED TO THE GROUND.



ACCIDENT SITE

THIS PHOTO DEPICTS THE SIMULATED POSITION OF ADAM RAIMER WHEN HE WAS KNOCKED TO THE GROUND AND AFTER THE TREE'S TOP WAS CUT AND REMOVED. NOTE THE CROSS SECTION OF THE TREE'S TOP IMMEDIATELY ABOVE THE FIREMAN'S HELMET. THAT CROSS SECTION IS A PORTION OF THE SMALLER PONDEROSA PINE'S TOP THAT WAS SNAPPED OFF.



THIS PHOTO DEPICTS THE TREE TOP THAT WAS CUT AND LIFTED OFF OF
ADAM RAIMER. THE TOP IS IN THE CENTER OF THE PHOTO AND IS LAYING
AT A 30° ANGLE.