TABLE OF CONTENTS

500 FIRE INVESTIGATIONS

501 INTRODUCTION

The Department of Natural Resources and Conservation is not a law enforcement agency; it is a land management agency. However, in order to properly manage state forest lands, DNRC is charged by the Legislature with enforcing certain laws pertaining to state and private forest lands. This does not mean, however, that DNRC firewardens are to act as primary enforcement officers in "maintaining the peace" on state and private forest lands. The DNRC may do its own investigations, but law enforcement is the responsibility of local law enforcement agencies, i.e., the County Sheriff's Office, etc.

Still there are, and will be, situations where a firewarden/investigator may be required to assist with law enforcement matters. This manual will help the firewarden understand his or her duties and authorities as a firewarden and will enhance the firewarden/ investigator's knowledge of specific laws relating to wildland fire and fire investigation.

This manual does not attempt to teach fire investigation techniques, but it does outline the guidelines and methods to be used when conducting a fire investigation; for the preparation of case reports; and for submitting those case reports to Department attorneys for possible civil or legal action.

The DNRC does not wish to acquire the image of a "police agency"; however, we do have the authority to investigate and prosecute, through legal channels, violations of state laws and our own administrative rules.

Law enforcement is a tool which is available to us for use in fulfilling the tasks mandated to our agency by State law. Properly used, it can be a very valuable tool.

502 DEFINITIONS/TERMINOLOGY

See Appendix A.

503 FIRE INVESTIGATION AND THE DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

Over the years, the DNRC has shown varying levels of commitment to the investigation of wildland fires. While the Department no longer has a full-time fire investigator, in recent years various units and land offices have been successful in fulfilling their investigation needs by joining cooperators in forming local investigation teams or task forces.

A. WHY INVESTIGATE WILDLAND FIRES

State law requires the Department of Natural Resources and Conservation to bill negligent parties for the costs of fires which escape their control and for those fires which escape control due to negligence on the part of

the negligent party. From 1981 through the 2004 fire season the DNRC spent, on average, $2.4 million a year to suppress human-caused fires. Through prompt fire cause investigation and thorough follow-up, the percentage of dollars potentially recoverable from fire billings is greatly increased. The dollars recovered are reverted to the State General Fund. In addition to recovering dollars spent in suppression, the billing process can serve as a prevention reminder and an enforcement tool.

Investigation can also serve as a tool to help focus prevention efforts. It is relatively easy to determine a course of action to prevent most categories of human-caused fires; however, it is very difficult to prevent fires in the unknown category. As our agency becomes more adept at determining fire case we can better aim or prevention efforts at those causes.

Years	Human-Caused Fires	Average Cost to Suppress Human-Caused Fires per Year	Average Cost to Suppress Each Human-Caused Fire
1981-1985	666	$ 830,589	$ 6,235
1986-1990	1,105	$1,005,843	$ 5,456
1991-1995	1,108	$1,338,548	$ 6,040
1996-2000	921	$7,109,768	$38,598
2001-2004 (Four Years)	801	$1,617,965	$ 8,079

B. INVESTIGATION MATRIX

Wildland Fire Investigation Matrix

Lightning determined with reasonable certainty?

Yes- end investigation.

No- investigation continues.

Cause determined with little or no additional assistance:

Yes- complete investigation form F-1004 Preliminary Fire Investigation Form, include witness names, actions taken, and details of conversations with witnesses- landowner(s) etc. Present information collected and F-1004 to fire supervisor for possible billing.

No- call for Type 3 investigator. - Complete investigation form F-1004 Preliminary Fire Investigation Form, include witness names, actions taken, and details of conversations with witnesses- landowner(s) etc. Present information collected and F-1004 to fire supervisor for possible billing.

Protection of Evidence- In the case of physical evidence being found at or near the point of origin the evidence must be protected and the chain of evidence must be maintained until such time as a trained investigator can collect and take possession of the evidence.

If fire suppression costs are expected to reach **$5,000** or greater, call for investigation through normal protocol. A single investigator will be called for fires with suppression costs expected to reach **$5,000 to $9,999.**

Protection of Evidence- In the case of physical evidence being found at or near the point of origin, the evidence must be protected, and the chain of evidence must be maintained until such time as a trained investigator can collect and take possession of the evidence.

A Investigation Team will be called for fires with suppression costs expected to reach or exceed **$10,000**.

Protection of Evidence- In the case of physical evidence being found at or near the point of origin, the evidence must be protected, and the chain of evidence must be maintained until such time as a trained investigator can collect and take possession of the evidence.

Investigation will be carried through to a reasonable conclusion.

C. LAWS OF MONTANA PERTAINING TO FIRE INVESTIGATION

There are a number of statutes in the Montana Codes Annotated (MCA) which pertain directly to fire investigation. Persons involved with fire investigations should familiarize themselves with these statutes prior to taking part in any fire investigation at any level. See MCA 50-63-101, 50-63-102, 50-63-103, 50-63-201, 50-63-202, 50-63-203 and 50-63-204.

D. WHO FIRE INVESTIGATORS ARE

Presently, the Department of Natural Resources and Conservation trains employees in fire cause determination and designates them as Firewarden/Investigators. These employees work in other capacities and are called upon to act as investigators when circumstances warrant. These individuals are selected by the Unit or Land Office and carry identification as Firewardens when acting in an investigative capacity. In addition to DNRC employees, the department also designates county fire personnel, Forest Service and BLM employees, and county law enforcement personnel, etc., as firewardens. Fire investigator trainee positions are offered, and these positions are treated like any other fire overhead position in the Division training schedule. These positions and the associated training are outlined in the NWCG 310-1 Wildland fire and Prescribed Fire Qualification System Guide.

E. LEVELS OF TRAINING

While the NWCG 310-1 lists one type of investigator, the Montana DNRC currently has two levels of Fire Investigation Certification: the Type III and Type II Investigator.

While not recognized in the 310-1 as investigators, initial attack resources play a pivotal role in the investigation process. All engine bosses should, at a minimum, have successfully completed FI-110.

1. **Initial Attack/First Responder**

FI-110 trains initial attack firefighters and other first responders to begin investigative procedures prior to the fire alarm. It teaches firefighters to recognize "suspicious" fire starts, and to identify and protect areas of origin and any evidence that may exist on or near the fire scene. The Incident Commander is responsible for requesting investigative assistance through the normal dispatch process if the situation warrants (see Section 506(C)(5), **Requesting an Investigator**, on page 14).

2. **Type III Investigator**

Type III Investigators are qualified by completing the Position Task Book as well as coursework including FI-210. Type III Investigators are typically utilized as the primary, initial fire investigator at the Land Office and Unit. Level III investigators are trained to locate the point of origin via burn indicators and fire behavior patterns. They are also knowledgeable regarding the protection and collection of evidence, fire scene photography, witness interviews, and the recording of witness statements. They are responsible for the complete and accurate filing of the Report of Preliminary Fire Investigation (Form 1004), which is utilized on every fire requiring Type III and above investigation

3. **Type II Investigator**

Type II Investigators are qualified by completing the Type III Task Book and all other courses and training that will provide the knowledge, skills and ability to serve as case managers. Type II Investigators are trained in all phases of wildland fire investigation. In addition, Type II investigators must have complete knowledge of the rules, preservation, documentation, collection, and transmission of evidence. Type II investigators have ultimate responsibility for the preparation of case reports and the accurate filing of all documents pertinent to a case. Type II investigators perform follow-up work for the Land Offices, other agencies and Department legal staff in addition to providing investigative training at unit and land office levels.

It is also suggested that Type II Fire Investigators attend the National Wildfire Investigation Training Program (a two-week course).

In addition to 310-1 requirements, in order to maintain currency investigators will be required to complete a minimum of 40 hours of continuing education during each five-year period. This education may consist of attending workshops/conferences, higher-level courses or instructing.

504 FIREWARDENS

A. WHO FIREWARDENS ARE

State Statute 77-5-104 MCA defines who may be a firewarden. Certain DNRC employees, both permanent and seasonal, qualify as firewardens under paragraph (g) of this statute.

77-5-104. Firewardens. (1) The department shall appoint firewardens in the number and localities that it considers necessary.

(2) The supervisors and rangers of the federal forest lands within this state, whenever they formally accept the duties and responsibilities of firewardens, may be appointed firewardens.

(3) The following are firewardens but may not receive any additional compensation by reason of the duties imposed:

(a) sheriffs;
(b) undersheriffs;
(c) deputy sheriffs;
(d) state fish, wildlife, and parks wardens and park rangers;
(e) the state fish, wildlife, and parks director;
(f) the director and employees of the department designated by the director;
(g) officers of organized forest protection districts;
(h) members of the Montana highway patrol;
(i) officers of the national park service residing in Montana;
(j) officers of the bureau of Indian affairs;
(k) county rural fire chiefs; and
(l) employees of the state fire prevention and investigation program provided for in 2-15-2005.

(4) The firewardens shall promptly report all fires to the department, take immediate and active steps toward their extinguishment, report any violation of forest laws, and assist in apprehending and convicting offenders.

B. POWERS OF FIREWARDENS

State Statute 77-5-105 MCA sets forth the powers of firewardens. Take special note that ". . . a firewarden is not liable for civil action for trespass committed in the discharge of his duties." Note that 77-1-114 MCA also refers to powers of firewardens.

77-5-105. Powers of firewardens. (1) All firewardens have the power of peace officers to make arrests without warrants for violations in their presence of any state or federal forest laws, and a firewarden is not liable for civil action for trespass committed in the discharge of his duties. A firewarden who has information which shows, with reasonable certainty, that a person has violated any provision of those forest laws shall immediately take action against the offender by making complaint before the proper magistrate, or by information to the proper county attorney and shall obtain all possible evidence pertaining thereto.

C. DUTIES OF FIREWARDENS

As stated in 77-5-104 MCA, paragraph 4, "The firewardens shall promptly report all fires to the department, take immediate and active steps toward their extinguishment, report any violation of forest laws, and assist in apprehending and convicting offenders." Further duties are outlined in 77-5-105 MCA, paragraph 1, where it states that "A firewarden who has information which shows, with reasonable certainty, that a person has violated any provision of those forest laws shall immediately take action against the offender by making complaint before the proper magistrate, or by information to the proper county attorney and shall obtain all possible evidence pertaining thereto."

It is the responsibility of firewardens to acquaint themselves with this law and to act in accordance with the responsibilities it sets forth. One note of caution, however; even though this statute gives the firewarden the power of arrest, that power is NOT to be exercised by DNRC employees, whether they be seasonal or permanent (see Section 513(A), **Witness to a Criminal Act or Illegal Activity and Arrest** on page 49).

505 AN OVERVIEW OF FIRE AND ARSON INVESTIGATION

A. DIFFERENCE BETWEEN FIRE AND ARSON INVESTIGATION

In fire investigation it is important to understand the distinction between fire and arson investigation.

1. Fire investigation is the process of determining the origin and cause of the fire and whether the fire was accidental or incendiary.

2. An arson investigation is a fire investigation that becomes a criminal investigation when the subject fire is believed to be the result of a deliberate act.

B. DEFINITION OF ARSON

Land management agencies operate under a variety of jurisdictions which complicates the investigative authority over arson fires, i.e., federal and state jurisdictional authority.

From the Montana Code Annotated:

45-6-103 Arson. (1) A person commits the offense of arson when, by means of fire or explosives, the person knowingly or purposely:

(a) damages or destroys a structure, vehicle, personal property (other than a vehicle) that exceeds $1,000 in value, crop, pasture, forest, or other real property that is property of another without consent;

(b) damages or destroys a structure, vehicle, crop, pasture, forest, or other property that the person owns or has a possessory interest in, with the purpose of obtaining a pecuniary or other gain through fraud or deception; or

(c) places another person in danger of death or bodily injury, including a firefighter responding to or at the scene of a fire or explosion.

(2) A person convicted of the offense of arson shall be imprisoned in the state prison for a term not to exceed 20 years or be fined an amount not to exceed $50,000, or both.

Most states do, however, define the Corpus Delicti of arson as consisting of:

1. That the property in question did burn.

2. That it burned as the result of a deliberate act.

Showing that the property in question burned is relatively easy. Official fire reports, testimony of fire officials, photographs, etc., can establish this. Proving that the fire is the result of a deliberate act makes arson one of the most difficult criminal investigations in the criminal justice field.

C. STAGES OF AN ARSON INVESTIGATION

There are two levels in an arson investigation:

1. **Fire Scene Investigation**

This stage begins when the fire is extinguished. The fire investigator relies on the knowledge of how fire moves through an area, determines the point(s) of origin and the most probable cause of the fire.

2. **The Criminal Investigation**

This stage occurs when the fire scene investigation has uncovered evidence that the fire may have been deliberately set. Physical evidence must be linked to a particular person(s) and circumstantial and/or direct evidence gathered.

506 FIRE INVESTIGATION GUIDELINES

The following section has been prepared as a guide and offers suggestions to those who may be involved in an actual fire investigation in the field. Unit firefighters and Land Office investigators may wish to expand upon these primary considerations and adopt special procedures and/or requirements based upon their particular needs.

A. INITIAL ATTACK RESPONSIBILITIES

The old firefighter's axiom that states, "The first five minutes is worth more than the next two hours," is very true where the suppression effort is concerned. It is even more important when considered from the standpoint of fire investigation. A case can be utterly lost and destroyed in the first five minutes after the initial attack squad arrives. This section is intended to help prevent that from happening.

B. PRIOR TO ALARM

Initial attack squads can assist a fire investigation prior to a fire ever starting. They can do this by preparing themselves mentally to think in an investigative "mode"; i.e., look ahead to what consequences might exist if their actions are carelessly performed or they fail to document a license number or take a photograph of something "significant." They must be certain that they will be properly prepared by equipping themselves and/or their engine with needed items such as notebooks, binoculars, camera and an accurate watch. These items could prove invaluable to a fire investigation.

The initial attack firefighter must realize that they are in a key position as a first responder. What they, as initial attack firefighters, see while enroute to a fire and upon arrival at that fire will not be seen by anyone else. It is very important that they be AWARE of everything going on, even if it does not seem significant at the time.

1. **At First Call**

The initial attack squad should make every effort to record events and time at every stage of its involvement with the fire. When was the fire call first received? When was the first crew dispatched? When did they arrive? What did they see enroute to the fire, and at what time did they see it? Notes recording times and events should be made on EVERY fire call. Initial attack firefighters never know in advance which fires will be investigated until after arrival at the fire scene or even days later. The notes can always be used as a part of the critique, to fill out the F-1001, or they can be discarded. The important thing is this: if the fire is to be investigated, the time sequence notes are available and may prove invaluable to the investigator in reconstructing events. If the notes are not needed, the practice was good and the exercise made you think and become AWARE. Remember, if it isn't documented, it didn't happen.

Having a camera and binoculars on board can greatly increase your effectiveness in recording and witnessing events as they occur. Photos of persons or vehicles encountered may be most helpful in relocating other witnesses or suspects of human-caused fires. Binoculars may help in identifying vehicles or persons at a distance.

2. **Enroute to the Fire**

Each crewmember has a pair of eyes, and the more eyes we have out there, the more we see.

If you're not driving the engine, you can be constructively occupied with taking notes and recording times. Crewmembers should watch for any persons or vehicles they observe while enroute to the fire.

Obviously, all persons and vehicles passed enroute to the fire cannot be recorded, but some deserve more attention than others. As an example, a vehicle leaving the fire area at a high rate of speed would be suspicious. The make, color and license number of such a vehicle should be recorded. If time allows, the number of occupants, number of males and females and possibly what some of them were wearing should be noted, along with the time and location of the sighting.

The condition of gates (open or closed, locked or unlocked, broken) should be recorded. The first crews on the scene should also make note of human and vehicle tracks that are visible in the area. In addition to noting them in documentation, the crew must take steps to protect the tracks from other resources responding to the incident, as well as suppression activities.

Observe the smoke column to determine approximate size and intensity of the fire and to determine wind direction at time of arrival.

3. **Arrival at the Fire**

Firefighters must exercise caution upon arrival at the fire. If there have been other vehicles and/or people there at one time, there will almost certainly be tire tread imprints or human footwear imprints, or both, which may be important evidence. Resources assigned to the incident must be careful not to destroy these. People and resources must be kept out of these areas, and flagging must be put up to protect these areas as soon as possible.

Standard procedure, upon arrival at the fire scene, is to "size up" the fire; i.e., determine wind direction, speed, rate of spread and fire intensity. This information is as vital to the fire investigator as it is to the firefighter, so be certain it is recorded as soon as possible. Do not trust this information to memory.

As the "size up" is being performed, the firefighter should also be looking for any evidence which may give some clue as to how the fire started or who may have started it. Such evidence may consist of tracks or imprints, bottles, cans, cigarette butts, saw chips, cartridge casings, accelerant containers, etc. Anything that doesn't "belong there." or which does belong there but does not exist in a "natural" position, should be noted and protected. If possible, take photos of the fire scene so there is a record of how the fire looked upon arrival. Additionally, photographs should be taken of any people or vehicles that are in the area. Care should be taken to include the license plate in the photographs.

4. **During the Fire**

While actual suppression work is being performed it is important that crews and overhead personnel keep an eye open for additional evidence indicating that someone has been in the area. Evidence is not always found only at the point of origin. There may be tire tracks or other types of evidence on spur roads in the surrounding area or within the burn area itself.

Notes and/or photographs should be made of people and vehicles that are at the incident upon arrival, or who show up during the course of the incident. If possible, a brief witness statement should be gathered. This statement should include name, address, a description of what was observed, why they are on the scene, and the license number of the vehicle they are driving (they can always give a phony name and address).

The suspected area of origin must be protected. People must not be allowed in the area. At the first opportunity someone must be assigned to flag off the area to protect it from bystanders and other firefighters.

5. **After Control**

Now is the time to sit down together and write down all you can remember regarding the events surrounding the fire and what you observed along the way. Redo your notes to make them legible if they were done in a hurry. Review everything while it is still fresh in your memory. Much of this information will also be needed to complete the F-1000 (Fire Report) and your squad fire report.

Go back to the areas where you found possible evidence and flag those areas and the area of origin. Take measures to protect tire tracks, footwear imprints etc., and continue to observe people and vehicles who may continue to show up or pass through. RECORD EVERYTHING!

C. FIRE CAUSE DETERMINATION BY INITIAL ATTACK PERSONNEL

The importance of the initial attack (I.A.) squad cannot be overemphasized from an investigative standpoint. Responsibility for the protection and preservation of the fire scene rests with these people. Unless careful judgment is exercised, the entire case could be closed before it is even opened.

1. **Protection of Area of Origin**

Generally speaking, the area which has already burned, and which may be beginning to cool when the I.A. squad arrives, will be the area of origin (AO). Make a mental note of the parameters of this area when you arrive, for it is this area you will eventually need to flag and protect. Generally this area poses no threat, as it has already burned out and started to cool. Usually, nothing will be gained by turning a straight stream into this area or by mopping it up. The usual practice is to begin digging line around the tail end of the fire and working toward the head. This is sound practice, as it helps to safeguard the firefighter without compromising the investigation as long as the firefighters are not walking through the area of origin or throwing their own refuse into this area. **Unless something in the area of origin, like a tall burning snag, is threatening firefighter safety or contributing to fire spread, no work should be done in the area of origin until it has been examined by the fire investigator.**

The easiest way to safeguard the area of origin against ALL entry is to flag it completely and post a guard. An investigator will want a rather large area flagged off; i.e., if you suspect the fire came from a fire ring in a campground, don't just flag the fire ring, flag an area 50 feet around the fire ring. The people doing the flagging need to be careful where they walk so as not to disturb possible evidence in the area.

Firefighters must control their curiosity. If you see what may be a device inside the area of origin you must restrain yourself from going in to have a look or from disturbing the device in any way. You may think you're saving the day by discovering the device, but you may be destroying the case by altering the evidence prior to documentation.

The bottom line is this: The Department must not relinquish absolute control of the area of origin until the investigator in charge is satisfied that all collection and documentation of evidence has been completed. On a complex investigation this may take several days.

2. **Witnesses/Spectators**

It is important to record and identify witnesses and witness vehicles present at the fire scene. The initial attack squad should take a brief statement from each witness as to what was seen or heard, and where the witness can be contacted again. If possible, try to capture the witnesses in your "routine" photographs of the fire area. Watch for witnesses or spectators who seem to have a lot of information or a theory about how the fire got started. We will want to talk with these people again. Take special note of people who are overly eager to assist the firefighters.

When talking with a witness, be polite and don't say or do anything to

make the witness feel he or she, or their children, may be suspect. Remember, you are attempting to gather information, not give it out.

3. **Protection of Evidence**

By now you have an understanding regarding what things might constitute evidence. Evidence needs to be protected from people and from the elements. Flagging the area of origin will help keep people out, but if your evidence can be destroyed or damaged by rain or wind, you must take steps to protect it. A matchbook and cigarette device is very delicate. A drop of water can destroy the remains of such a device. Should you discover fragile evidence as you are flagging the area of origin and you notice that rain is beginning to fall, or if suppression activity is necessary in the area of origin, cover the device with a hard hat or drafting bucket to help preserve it until it can be photographed and collected. Tire tracks and footprints can be preserved in a similar manner. Parking a vehicle over a tire track will help safeguard it.

Evidence must not be handled or moved by anyone until an investigator has had an opportunity to examine it. If the Rules of Evidence are broken, the evidence may be disqualified and therefore not admissible in court (see Section 507(B), **Rules of Evidence,** page 19). **The rule of thumb is that anything, everything, and the lack of something can be valuable evidence in a fire investigation. Protect it all from contamination.**

4. **Determine Need for Investigator**

Determining if a fire investigator is needed is not usually a difficult task, but it is one additional responsibility which is placed upon the initial attack squad.

A quick look around the area of origin, coupled with knowledge of recent fire weather and observations made enroute to the fire, will probably suffice in helping you decide if the fire should be investigated. If evidence is present which indicates that people were in the area prior to the fire start, then chances are good that you will want an investigator.

When you don't know what started a fire, think twice before you classify it as an unknown or a miscellaneous fire. Fires don’t normally just pop into existence; they occur as the result of events in nature or they are human-caused. Usually, you will know how your fire started, but when you don't, get an investigator.

Never, under any circumstances, should you allow the cost of suppression to influence your decision to have a fire investigated. Cost may be used by the Land Office to prioritize investigations or to determine the resources allocated to the investigation, but cost must not dictate if a fire is

or is not investigated.

A number of small, inexpensive fires may indicate that an arsonist is working in the area, practicing for the big fire that costs many thousands of dollars. Investigation of the small fires may provide valuable pieces of information, which could assist us in apprehending the arsonist who lights the big expensive fire.

5. Requesting an Investigator

Once it has been determined that a fire investigator should be ordered, the initial attack incident commander needs to contact the Unit office to make the request. The Unit will then make the request for the Type III Investigator.

a. Investigative Level Determined by Unit or Land Office

The Land Office or Unit will normally determine the level of investigation for a given fire. The Type III investigator may request assistance from other qualified investigators at any point during the investigation of a fire; however, such requests must be made through the proper channels.

b. Participation with Other Agencies

In recent years some Units and Land Offices have taken part in Investigation Task Forces. These Task Forces have been created on a permanent basis or in reaction to an ongoing situation which requires various agencies to work together.

These Task Forces allow agencies to work together, sharing resources, knowledge and specialized skills. Permanent Task Forces also allow investigators the opportunity to work on fires outside our normal fire season, and polish skills during the slow times; plus, we are able to rely on investigators from other agencies when we are at our busiest.

6. Fire Investigator's Responsibilities

The most important function of the Firewarden/ Investigator is to provide proper investigation of wildland fires. The DNRC organization does not have police authority, but it does have authority to conduct its own investigations. Investigation is priority business and should be attended to as soon as possible, second only to safeguarding life and property and firefighting.

a. **Prior to Alarm**

Fire investigators should prepare themselves, well in advance of the fire season, for the day they may be called out to investigate the season's first fire. The investigator will need to inventory the investigation kit and to resupply it if necessary. The investigator should keep a change of clothing at the office for more rapid dispatch to the fire. Check supplies of camera film, recording cassettes for use with a tape recorder, batteries, investigation forms and business cards. Be certain you have a State ID card or badge which identifies you as a Firewarden.

Sit down with your Land Office Manager or supervisor prior to the fire season and discuss your place in the Incident Command System (ICS) and the parameters within which you must operate. Identify vehicles that may be used (preferably 4x4 pickups) for investigative assignments.

Introduce yourself to local law enforcement agencies so you know who to call should you need assistance in tracking down the owner of a vehicle whose license number was recorded by the initial attack squad.

b. **Investigation Kit**

The investigator should have an investigation kit that will contain, at a minimum, the following items:

- Forms and logs
- Writing materials
- Clipboard
- Fire spread markers
- Diagramming materials
- Straight-edge ruler
- Flagging/barrier tape
- Heavy magnet
- Magnifying glass or 3x reading glasses
- 100’ steel tape
- Compass
- Belt weather kit
- Camera/film
- Evidence tags/containers
- Shovel

c. **At First Call**

The fire investigator should attempt to record certain information as soon as possible; i.e., fire name and number, legal description, time the fire was reported, who reported it, their address and/or phone number, and who the initial attack people are. Make arrangements with the dispatcher to provide you with this information automatically when you become involved.

Start recording times: the time you are dispatched, arrival time, time and date you interview a witness, etc. Start reviewing your procedures mentally. What will you do when you first arrive at the fire? Who might you wish to talk with? Who will you check in with if it's a project fire? Plan ahead and SLOW DOWN. You need to think clearly.

d. **Arrival at the Fire**

The fire investigator will almost certainly arrive after the initial attack squad. Check in with the Incident Commander, let him know you are on scene, and let him know that you need to talk with him and possibly with others when the situation allows. As soon as is feasible, talk with them, collect their notes and find out what they know and what they saw. In the meantime, begin filling out the Report of Preliminary Fire Investigation (F-1004). In short, begin your investigation and talk with the I.A. squad when they are available. If there are witnesses present, talk with and identify them immediately. They have a way of wandering off after a while. Develop your strategy for conducting the investigation. What does the situation say to you? What was the situation prior to ignition? Who had reason to be at the scene?

7. **Report of Preliminary Fire Investigation**

Form 1004 is the investigator's worksheet. Use it! You are required to file a copy of the F-1004 for each fire you investigate. The F-1004 will serve as a checklist to remind you of all the things you want to know concerning the fire to which you have been dispatched. Instructions for the completion of the F-1004 are in the forms manual. Review the instructions before attempting to use the form. Some of the information on the F-1004 can be taken from the F-1000 (Fire Report); i.e., wind direction, person reporting the fire, etc. Be certain that information appearing on both forms is in agreement; e.g., wind direction on both the F-1004 and the F-1000 should be the same.

For most investigations, the filing of the F-1004 as an investigation summary will be sufficient when accompanied by a brief, narrative cover

letter. Upon completion, the F-1004 (with cover letter) is filed under 304.64. One or two color photos of the fire may be attached to the F-1004 when it is filed. Any photo logs being kept on the case should be cross-referenced on the F-1004 form. The F-1004 may contain confidential information, which must remain confidential as long as the case is active. The investigator must be very careful concerning confidentiality on any case.

8. **Examine Area of Origin**

Once the area of origin is secured and witnesses have been interviewed, the investigator will begin the actual physical examination of the area of origin. Just remember to GO SLOW. Don't let anyone rush you. A good investigation is a thorough investigation, and thoroughness is destroyed by haste.

a. Prior to entering, the investigator must walk entirely around the area of origin several times and from both directions, clockwise and counter clockwise. This practice allows the investigator time to get a feeling for the burn indicators outside the area of origin and to see and photograph things inside the area of origin from a variety of locations and angles. Remember, once you have entered the area of origin you have altered it with your footwear imprints, and they can't be erased. You must study the area of origin prior to entry, in order to determine the best and safest way to enter it without destroying the scene.

b. The investigator or investigators will work the fire from the head, following indicators to the area of origin. Pin flags will be used to mark representative indicators that are identified as they lead the investigators to the point of origin:

- Red flags will be used to mark advancing fire indicators.
- Yellow flags will be used to mark lateral spread indicators.
- Blue flags will be used to mark backing fire indicators.
- White flags will be used to indicate evidence, potential evidence and the point of origin.

Investigators will begin at the head of the fire and zigzag their way along the fire, marking indicators as they go. When the indicators begin to show the investigators they are nearing the point of origin, the investigators will loop below the ignition area and use blue flags to mark the backing indicators as they work towards the ignition point. Not all indicators will receive a flag, but mark enough indicators so the various flags can give a good visual representation of the fire spread.

c. NO ONE enters the area of origin without the consent of the lead investigator. If permission is given, care must be taken to point out specific areas where one MUST NOT WALK and items that MUST NOT BE TOUCHED! Burned or charred evidence is usually very fragile and must be examined carefully.

9. **Locate Point of Origin**

The investigation process slows down even more once the "area of ignition" has been identified. It is usually a good idea to take a break at this point and leave the area of origin for a few minutes. Use this time to clear your head and relax. You're getting close now, and you don't want to get excited and do something wrong.

The "area of ignition" is normally about the size of a large car or truck body. This is the area you will probably grid prior to an intensive search. You may be looking for a burned paper match or a sliver of a carbon particle, which is as black as the ground on which it lies.

You get one shot at discovery in the area of ignition. Unless the cause of ignition is obvious, grid the area and examine it on your hands and knees. Once you've thoroughly examined a grid section, it will be destroyed while you crawl through it to examine the next one. **Be careful, be thorough**.

When you've located the point of origin, photograph it, both from a distance and close up. You will then need to determine how to handle the evidence.

507 PROTECTING AND DOCUMENTING EVIDENCE

Physical evidence may be defined as articles and material which are found in connection with an investigation and which aid in establishing the identity of the perpetrator or the circumstances under which the crime was committed. Evidence must be properly handled from its initial discovery at the scene of the crime until its final appearance in court. Violation of the Rules of Evidence (see Section 507(B) **Rules of Evidence,** page 19) may lead to a partial or total loss of the value of the evidence as it pertains to the case. Investigations are conducted for the purpose of securing evidence, which is the means by which facts are proven.

A. TYPES OF EVIDENCE

1. **Direct Evidence**

Direct evidence is evidence which tends to prove or disprove a fact at issue (also known as Corpus Delicti evidence). Evidence of eyewitnesses is direct evidence. Virtually all other evidence is circumstantial evidence.

2. **Circumstantial Evidence**

Circumstantial evidence is evidence from which the actual fact of the crime may be inferred (also called indirect evidence).

3. **Real Evidence**

Real evidence is evidence comprised of tangible objects used to prove or disprove a fact at issue. An incendiary device is an example of real evidence. Real evidence may be direct or circumstantial.

B. RULES OF EVIDENCE

Nearly all investigation matters handled by the Firewarden/Investigator will deal with either civil or criminal proceedings to some degree. In order to achieve success and make your work product meaningful, a sound basic knowledge and practice of the rules of evidence must be a principal part of the fire investigator's background.

Knowledge of the rules of evidence is invaluable in the preparation of an investigation. Pitfalls can be avoided, and the evidence can be arranged and sifted by you, as the investigator, so as to have the maximum probative value when your case comes to trial.

The ability to recognize and gather valuable physical evidence must be supplemented by knowledge of the correct procedure in caring for evidence from the time of its initial discovery until its appearance in court.

The Montana Rules of Evidence can be studied in Title 26, Chapter 10, of the Montana Code Annotated.

C. PROTECTING EVIDENCE

Protecting evidence serves two main purposes. First, some types of evidence, such as fingerprints or ash residue, are so fragile that any carelessness in handling can destroy their value as evidence and remove the possibility of obtaining any information from them which would further the investigation.

Secondly, it is necessary that evidence presented in court be in a condition similar

to that in which it was left at the time of the offense. If damage or alteration has occurred, the evidence may not be admissible in court.

D. DOCUMENTING EVIDENCE

As evidence is discovered, it must be documented. The first step in the documentation procedure is to photograph the evidence as it appears at the fire scene at the time of discovery (see Section 510, **Fire Investigation Photography**, on page 45 for guidelines). Record the necessary photographic information on Form 1012, Photo Log.

Then locate the evidence with respect to at least two fixed reference points on the ground. Indicate the location of the reference points on your fire scene sketch.

Finally, transfer the evidence to the proper type of storage container and label the container by marking it directly or by attaching an evidence label to it. The evidence container should be marked with the case number (fire number), date and time collected, and name of the person who collected the evidence.

508 HANDLING EVIDENCE (per Forensic Science Division, MT Dept. of Justice)

In order to spell out techniques for properly collecting and protecting evidence, we have adopted the Evidence Handling Manual prepared by the Forensic Science Division in the Department of Justice of the State of Montana. This section includes pertinent sections taken directly from that manual. Please refer to that manual for more information or directions on evidence not found in this manual.

A. EVIDENCE SUBMISSION

All evidence submitted to the Forensic Science Division must be accompanied by the appropriate Evidence Submission form describing the evidence and the type of examination(s) needed. If a form is not available, a temporary form can be faxed to your agency for one time use, or contact the laboratory to have a supply sent to your agency.

In addition, the agency should submit a copy of all investigative reports associated with the evidence. This information helps the Forensic Scientists assess the evidence and determine what additional tests, if any, should be performed.

When in doubt about which tests to request, the agency should contact the Lab for advice prior to submitting the evidence. A separate report will be issued from each Laboratory analyst who worked on evidence in a particular case.

This manual does not address crime scene search or crime scene safety in any detail. Investigators may request the lab's assistance in processing a crime scene. The following is a list of crime scene tips to ensure the proper collection and preservation of evidence:

- Wear non-shedding clothes to a crime scene.
- Clear the area of all people except those essential to the investigation. The greater the number of people present, the greater the risk of contamination, loss and damage to evidence.
- Limit the number of officers collecting evidence to two.
- Avoid using the same entry/exit path the suspect used, if the suspect path can be determined.
- Use knowledge, experience and intelligence in collecting evidence.
- Consider what significance an item might have and what examinations can be performed by the laboratory.
- The location of all evidentiary items must be recorded prior to removal or movement.
- Wear non-powdered gloves and disposable lab coats to package evidence.
- Handle evidence as little as possible to prevent contamination and loss.
- Prior to and between wrapping exhibits, thoroughly clean the surface upon which exhibits will be wrapped.
- If a clean surface is not available, lay out a "table" from your roll of paper to wrap exhibits on. The "table" paper must be replaced with clean paper between exhibits.
- "Sandwich" wrap textile items in paper and package in paper bags. If the items are damp, air-dry as soon as possible away from direct sunlight, drafts and possible contamination.
- Keep evidence handling to a minimum to avoid loss.
- Tape lift bodies, whether nude or clothed, if contact with an assailant/assailant extensions is suspected.
- Obtain known standards such as fibers, glass or soil. Use clean or new containers.
- In missing person cases, gather personal care items, such as a hair brush, for possible latent prints and DNA profiling.
- Seal containers with tamper-resistant security tape to prevent unauthorized access. However, do not over-seal and complicate opening at the Lab.
- Do not use staples. They create biohazards through accidental puncture wounds and through the transfer of biological material from the inside of a

bag out through the staple holes.

B. LABELING EVIDENCE

Label all evidence packages at the crime scene. Record the following information on the outside of the evidence container:

- Your name or initials, date and time.
- Your agency case number and item number.
- Description of the item, including condition if pertinent.
- Exact location of item relative to a fixed and permanent object.

As a general rule, DO NOT label the evidence directly. This is considered contamination and alteration. Depending on the analysis required, the marks may contaminate trace evidence, obliterate unique characteristics of firearms or latent prints, or interfere with chemical or biological analysis. Exceptions to this rule will be noted in the various chapters.

C. CHAIN OF CUSTODY

Persons involved in the transfer of evidence should sign their name, date, time and place where the transaction took place on the evidence container. Alternately, use your department's chain of custody form.

Keep the chain of possession as short as possible. Even if the container is sealed, anyone who has had it in his or her possession may be called to testify in court.

D. EVIDENCE CONTAINERS

Various types of containers can be used for submission of physical evidence. Try to suit the container to the evidence. Special instructions regarding containers are given in the various chapters. The following is a handy guide:

- Paper letter envelopes are suitable for air-dried bloodstained swabs. Seal all corners.
- Use white wrapping paper (not butcher paper) to "sandwich wrap" clothing to prevent evidence transfer from one part of a garment to another. Further package in paper bags.
- Latent print items such as drug baggies and saran wrap can also be "sandwich wrapped" in paper to prevent latent prints from smudging. Further package to prevent internal movement.
- Paper bags should be used to package individual items of clothing or bedding.

Never place damp evidence in plastic bags. Bacterial or fungal contamination could occur.

- Paperfolds, druggist folds and bindles are synonymous. They can be used for many types of evidence, from powders to paint chips. Secure paperfolds with tape or paperclips and double package in resealable plastic bags or taped coin envelopes.

- Resealable plastic bags are suitable for small, dry, nonbiological objects that don't require fingerprinting. Keep a range of sizes handy. The size of the bag should correspond to the size of the evidence. They are useful for rolls of suspect tape and fiber standards, for example.

- While trace materials may be secure in taped letter envelopes, the evidence may catch in folds, requiring the analyst to spend a significant amount of time locating the evidence and risk losing it. Coin envelopes are better for enclosing the paperfolds and glassine envelopes containing trace materials.

- Small plastic boxes or cardboard boxes are also suitable for trace materials. Do not use glass vials for glass evidence. The AMAC Plastic Products Co. is a source of sturdy plastic boxes (415-332-2170).

- Tape lifts can be used for the initial collection of questioned trace materials. Avoid tape-lifting paint. Affix tape lifts to transparent pages and seal in manila envelopes.

- Special soil collection envelopes are available for loose soil samples from Miner's Inc., Riggins, Idaho, (208) 628-3247. Package intact lumps of dirt in small cardboard evidence boxes.

- Paint cans are the container of choice for arson-related and ignitable materials evidence. If lined paint cans are used, submit another unused can for a comparison blank. Containers must be airtight.

- Use syringe safety cylinders for drug syringes. Remove needles from syringes prior to packaging. Label with biohazard warning stickers.

- Each individual item should be separately packaged and sealed. Sealed items secured at different locations should not be boxed together to avoid the slightest chance of cross-contamination.

E. EVIDENCE STORAGE

Always store evidence in a safe, vault, locker or some other location with controlled, limited access. Keep biological samples and items requiring refrigeration in a locked refrigerator. Vials containing blood samples should be kept no warmer than room temperature. Refrigerate these vials if they are not going to be delivered to the Lab within two or three days. Do not freeze!

1. **Evidence Submission Forms**

All evidence submitted to the Crime Lab, whether mailed or hand-delivered, must be accompanied by the proper evidence submission form.

When evidence is hand-delivered, the person delivering the evidence must sign an evidence submission form in the presence of the Lab employee who is receiving the evidence. For mailed evidence, the evidence submission form must be affixed to the outside of the evidence container, according to the directions on the following page.

The Lab will provide the following Evidence Submission forms upon request:

- FSDl, *"Request for Forensic Examination."* Use this form when submitting the following types of evidence: street drugs, firearms, tool marks, latent print and impression evidence, trace, arson, sexual assault, and homicide evidence.

- FSD3, *"Request for Alcohol and Drug Analysis."* Use the "Dill" form when submitting blood samples for analysis of alcohol and/or other drugs when it is suspected that the driver is under the influence of alcohol and/or other drugs.

- FSD4, " *Request for Toxicology Analysis."* This form is used primarily by Coroners when submitting bodily fluids (blood, urine, vitreous) and tissue samples in death investigations or by agencies taking urine samples for urinalysis. Also, use this form to submit hair for analysis of drugs.

Note: If you are uncertain which form to use, please call the laboratory at (406) 728-4970 to talk with the evidence technician or a scientist.

2. **Biohazards/Hazardous Materials**

Many items submitted to the crime lab fall under the categories of biohazards or hazardous materials. Examples of these materials are live ammunition, firearms, ignitable liquids, and biological samples. Federal shipping regulations exist for sending these materials in the mail. Please contact your shipper for special requirements.

FORENSIC SCIENCE DIVISION

DEPARTMENT OF JUSTICE
STATE OF MONTANA

Joseph P. Mazurek
Attorney General

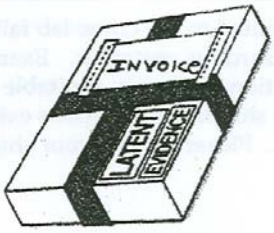
2679 Palmer
Missoula, MT 59808

PROPER PACKAGING OF EVIDENCE

1. Individually packaged items of evidence should be sealed with tamper resistant evidence tape. Pack the individually sealed items of evidence securely in a box or manila envelope.

2. Submit no more than ONE case per container!

3. Place the completed two part evidence submission form in an envelope marked "invoice". Do not detach yellow copy.



4. Attach the envelope to the outside of the sealed box or manila envelope.

5. Address to: Montana State Crime Lab
2679 Palmer Street
Missoula, MT 59808

This method permits access to the original evidence submission form without opening the package. We are then able to generate a case file, document the receipt of evidence on the original evidence submission form, and assign the case to the appropriate Forensic Scientist for examination.

If you are not sure how to handle, package or preserve an item of evidence, please call the Crime Lab at 728-4970 and we will put you in contact with the person who can answer your questions.

over

Tel. (406) 728-4970
FAX (406) 549-1067

PROPER PACKAGING AND EVIDENCE SUBMISSION

Impression Evidence:

1. Package all items in sealed paper bags or envelopes. (**NO PLASTIC!**) This also includes fingerprint cards. If you have a suspect, please enclose a copy of their fingerprint cards or make sure you list a name, date of birth, or other identifying information so that we can obtain the print cards.

Serology:

1. All stained items must be thoroughly air-dried before packaging.
2. Package items separately in paper. **NEVER PLASTIC!**
3. Label and seal each package with evidence tape.

Drug Analysis:

1. All items of evidence must be individually packaged and sealed with tamper resistant evidence tape. **To avoid cross contamination, each item should be packaged and sealed individually.** These items may then be submitted together in another box or container.
2. When submitting marijuana or other plant material, be sure the sample is dried. Fresh or damp plant material will mold when placed inside plastic. Moldy plant material is difficult to identify.
3. When submitting entire plants from a grow operation, please remove the roots. Roots do not contribute to the sample weight by statute, and contaminate the sample with soil.
4. Do **NOT** submit drug test kits with the evidence.
5. If you are submitting a syringe, please place it in a syringe safety canister. Safety canisters are available commercially and are expressly for this purpose. This is for your safety and the safety of others. Be sure to mark the item appropriately.

Firearms and Toolmarks:

1. Never disassemble any weapon before sending it to the Lab. This is considered altering the evidence and will not allow us to make a determination as to operability at the time of the incident.
2. Package individual bullets, casings, cartridges, and tools separately. Questioned marks may be obliterated, altered, or added to an item by having it in contact with other pieces of metal. **Do not submit any items in plastic!!!**
3. All items of clothing to be tested for gunpowder should be handled carefully and packaged separately to preclude contamination and protect gunpowder/gunpowder residue.
4. If cartridges are in a magazine, do not remove them. Remove the magazine from the firearm and package it separately.

GENERAL: Be sure to label and seal each item of evidence. Date and initial all seals. If you are not sure how to handle, package, or preserve an item of evidence, please call the Crime Lab at 728-4970 and we will put you in touch with the person who can answer your questions.

REQUEST FOR FORENSIC EXAMINATION

STATE OF MONTANA
DEPARTMENT OF JUSTICE
FORENSIC SCIENCE DIVISION
2679 PALMER ST.
MISSOULA, MT 59808
(406) 728-4970

FOR LABORATORY USE ONLY
CASE NUMBER_____
CASE MANAGER_____

Agency: _____ ☐ Add'l/Resubmittal to Lab Case No. _____

Address: _____ Investigating Officer: _____

City: _____ ST ___ ZIP_____ Phone No.: _____

Offense: _____ Agency Case No.: _____

Suspect:_____ DOB: _____ Court Date Set: No ☐ Yes ☐ Date _____

Suspect:_____ DOB: _____ Victim: _____

Suspect:_____ DOB: _____ Victim: _____

Brief Summary of circumstances: (submit all pertinent data, i.e. reports, photos, etc.)

_____

_____

_____

Evidence Submitted: Brief description (One item per line. Use additional forms if necessary.)

	LAB USE ONLY			LAB USE ONLY	

CHAIN OF CUSTODY (Continued on back)

	LAB USE ONLY	EVIDENCE RECEIVED FROM	EVIDENCE DELIVERED TO	DATE	TRANSFER PURPOSE

EXAMINATIONS REQUESTED

_____

_____

_____

_____

_____

NOTE: Send both pages of form to lab, please! Yellow copy will be returned with our lab case number.

FSD1 2000

3. **Clandestine Laboratories**

If you suspect a clandestine laboratory is operating in your area, contact the Montana Division of Criminal Investigation immediately. They will assist you in locating a certified responder in your area. Do NOT handle the evidence in any way prior to contacting the DCI unless it's to secure an area or lives are in danger.

Many hazardous chemicals may be present in clandestine laboratories, as well as drugs in various stages of synthesis. Special precautions must be taken when handling these materials. Some of the chemicals can be extremely toxic and/or explosive, thus presenting a potentially dangerous or lethal situation.

Prior to submitting evidence collected from a clandestine laboratory, contact one of the chemists at the Crime Lab. A Memorandum of Understanding must first be signed by the submitting agency stating that the submitting agency will assume responsibility for the transportation of the evidence to and from the laboratory. The Crime Lab will NOT be held responsible for the destruction of evidence from clandestine laboratories.

4. **Serology/DNA Evidence**

Forensic Serology is the identification and typing of blood and other body fluids, primarily as they exist in stains. The majority of the stains identified include blood, semen, saliva and vaginal fluid.

a. **Blood Stains**

Blood stains may be very significant in homicides, assaults and rapes. In some cases, the investigator must examine the direction of blood spatters to determine movements of individuals, establish sequence of deposits, and develop additional information.

Blood found at the scene may belong to the victim, the suspect, or an unrelated party. Thus, the investigating officer should obtain known reference samples (blood or buccal swabs) from the victim, suspect and any other individuals who may be possible sources of the blood. This is necessary for blood typing and possible elimination of suspects.

This section pertains to blood, but suspected bodily tissue may also be encountered at a crime scene. If dry, package in a paper fold at room temperature. If wet, place in a plastic vial and air-

dry as soon as possible. Repackage and submit to the laboratory immediately.

b. **DNA**

DNA (deoxyribonucleic acid) is the fundamental building block of an individual's genetic makeup. It is found in virtually every cell in the human body (except circulating red blood cells) and is the same in every cell. Each person's DNA is different from every other individual's, except in the case of identical twins. DNA is analyzed in body fluids, stains, hair, bones, teeth and other tissues recovered from evidence. The DNA profiles of questioned biological samples are compared with the DNA profiles obtained from known reference samples. This lab, at present, only performs nuclear DNA (nuDNA) analysis. Mitochondrial DNA (mtDNA) analysis can be performed by the FBI and some private laboratories.

c. **Uses of DNA**

DNA is used to:

- Associate the victim(s) and/or suspect(s) with each other or with the crime scene.
- Identify an unknown person through DNA profiling of relatives.
- Link evidence from serial cases together.
- Identify possible suspects from a DNA database.
- Eliminate an individual as a possible source of the biological material.
- Establish paternity.

Valuable DNA can be found on evidence that is sometimes decades old. However, a variety of factors such as sunlight, humidity, moisture, bacteria, mold and chemicals can affect the ability to obtain a DNA profile. In addition, DNA profiling cannot tell investigators when the evidence was deposited or how long it has been there.

d. **Contamination**

Because DNA samples may be extremely small, great attention to contamination prevention is necessary. Contamination can occur when DNA from another source gets mixed with the casework DNA. To avoid contamination of evidence that may contain DNA, please take the following precautions:

- WEAR GLOVES and change them often.
- Use disposable instruments or clean them thoroughly before and after handling each sample.
- Avoid touching the evidence in the areas where DNA may exist.
- Avoid talking, sneezing, coughing or spitting over evidence.
- Avoid touching your face, nose and mouth when collecting evidence.
- Air-dry evidence thoroughly before packaging.
- Wrap evidence in paper or place into clean, unused paper bags.

e. **Storage of Serology/DNA Evidence**

Keep the evidence dry. Stained evidence can be stored at room temperature. Direct sunlight and warm temperatures may destroy DNA, so avoid placing evidence in areas that may get hot, such as a room or police car without air conditioning. Liquid samples should be refrigerated, if possible. Submit the evidence to the laboratory as soon as possible.

5. **Tape**

Although tape actually belongs in the category of plastics and resins, its sticky nature and concomitant handling problems require special attention. The use of tape has become more common in crimes such as kidnappings, rapes, homicides and bombings. The lab analyst can sometimes identify the brand of tape and even the batch from which it came. This information can provide investigative leads and associate tape evidence found at the scene with a roll of tape in a suspect's possession. Latent prints may be present on tape evidence, as well as adherent trace materials. If cut/torn

ends of questioned and known tape physically match, then a positive identification is made.

a. **Types of Analyses**

- To distinguish between questioned and known tape samples, an analyst compares color, composition and construction.

- In comparing construction, the analyst examines the weave pattern of the reinforcing cloth, the number of threads per inch, and the type of twist in the threads.

- In comparing composition, the analyst identifies the fibers in the threads, performs chemical analysis of the adhesive and tape backing, and elemental analysis of the adhesive.

- These techniques may differentiate tape samples, or they may demonstrate physical and chemical consistency.

b. **Handling Techniques**

To prevent contamination of tape evidence, investigators should wear nonpowdered disposable gloves and handle tape as little and as carefully as possible.

- Submit a piece of questioned tape evidence intact on the item on which it was stuck. Cover with transparency sheets and seal the edges.

- If this is not possible, affix transparency sheets to a piece of cardboard and place the questioned tape on it, then cover with more transparency sheets and seal. Alternatively, a sturdy, nonporous material such as newly unwrapped plexiglass can be used as a support.

- If the tape is stuck badly and lifting will result in tearing (and the object the tape is stuck to is too large to mail), the Lab can provide a solvent to loosen the adhesive without dissolving trace materials. The solvent may gum up the adhesive, preventing recovery of latent prints. If used judiciously, it may be of help in certain situations.

- Place known tape, such as a roll of tape recovered from a suspect, in a resealable plastic bag to prevent contamination. A heavy-duty resealable plastic bag is preferable to a paper bag, as paper bag fibers may adhere to the sticky edges of the roll of tape.

- If the entire roll is not present, attach whatever tape is found to a sturdy, clean nonporous material as described above, and seal.

F. LATENT PRINTS

Latent prints are the chance reproduction of friction ridge skin onto an item when it is touched. The word "latent" means hidden. Latent prints are composed of perspiration. Although latent prints may be visible, for example on windows, they need to be developed in order to be visualized for comparative purposes. Fingerprints, palm prints and footprints can all provide latent print evidence. Latent prints generally are:

- Invisible.
- Developed with chemicals or powders.
- Photographed or lifted for permanent recording.

Patent prints are visible reproductions of friction ridge skin in a substrate such as grease, blood or caulking. Visible patent prints are usually:

- Developed with chemicals when practical.
- Photographed, lifted or cast for permanent recording.

1. **Types of Evidence**

a. The following are examples of evidence that may be examined for latent or patent prints:

1) Nonporous:

- Glass
- Plastic & plastic bags
- Metal
- Painted surfaces
- Rubber
- Finished wood
- Ceramic
- Smooth vinyl
- Tape

2) Porous:

- Paper
- Brown paper
- Cardboard
- Unfinished wood
- Finely woven fabric

Any officer who has had Basic Law Enforcement Academy training may process latent prints in the field.

G. FOOTWEAR AND TIRE IMPRESSIONS

Footwear and tire track impression evidence is often left at crime scenes. Impression evidence is anything which has had another object's imprint retained on its surface in two-dimensional or three-dimensional form. Impressions can provide positive identifications if they contain sufficient individual characteristics. Depending on the existence of class and individual characteristics, results of comparisons may yield report findings of "similar to," "consistent with," "was not made by" or "was made by." Even partial impressions may have forensic value.

1. **Photographic Methods**

Photography is the best method of preserving impression evidence such as footwear and tire tracks. It also may be the only opportunity you have to record this type of evidence. To ensure that you have examination quality photographs, follow the suggestions below:

a. Place a scale next to and in the same plane as the impression. If the impression has depth, such as in dirt or snow, push the ruler down so that both the ruler and the bottom of the impression are in focus. A label in the picture may help correlate the impression with crime scene notes and general photographs.

b. Use a 35mm camera with 1-to-1 size capability or a Macro lens that will allow you to fill the picture frame with the impression and scale. Most "point and shoot" cameras or low cost digital cameras do not provide sufficient image detail for comparative examination. They also do not allow macro or close up photos (within 8 inches of your object).

c. A slow speed film such as 64 to 100 ISO is suggested for clarity of detail. The faster the film speed, the grainier the photo will be and detail will be lost, especially if the photograph has to be enlarged. (Black-and-white film is preferred.)

d. At the start of a photo session, photograph a sheet of paper labeled with the case number, date, and officer's name. Maintain a photographic log that correlates exposure number to location of impression and exposure settings.

e. Mount the camera on a tripod and use a shutter release cable or a shutter timer so the camera doesn't jiggle. Most photos will require that you be very close to your object, thus causing reduced lighting and a longer exposure time for the camera to remain stationery. Also, a tripod will ensure that the camera back is parallel to the surface plane of the impression.

f. Oblique side lighting will be required in most impression photographs and may necessitate blocking out bright ambient sunlight. This will require that a remote light source such as an electronic flash or flashlight be utilized. Take several photographs with the light positioned at different angles, bracketing the optimal exposure of each angle with an underexposed and overexposed image. (For consistent exposure, hold the remote electronic flash at least five to seven feet from the impression).

g. Snow impressions can be lightly sprayed with Snow Print Wax@ to increase contrast for photography. Highlighted impressions will absorb heat and melt, therefore, they must be shielded from the sun until cast.

h. Submit both the photos and film negatives of impressions so these may be enlarged to I-to-l size. Send all of the photographs, even the "bad" ones. You never know which photograph will yield the individual characteristics needed to make a positive identification.

2. <u>Obtaining Known Comparison Samples</u>

Questioned impression evidence should be accompanied by known samples. Submit:

- Suspect or elimination footwear (all shoes from the suspect's house, workplace, vehicle, and person).

- Suspect or elimination tires (from vehicle or garage).

The actual footwear or tire should be obtained and submitted to the Lab to provide the most complete source of comparison. When actual shoes or tires cannot be submitted, then photograph and make exemplars (examples or models) of them. Exemplars of tires and footwear may be taken with printer's ink. Do not make exemplars of shoes or tires if the actual shoes/tires will be

submitted to the Lab. Trace evidence may be lost or individual characteristics obliterated. Never remove rocks or debris from footwear or tire tread, as the debris may have imparted individualizing characteristics to the impression.

a. **Tire Exemplars**

- Use two posterboard tracks cut slightly wider than the width of the tire and slightly longer than the circumference of the tire (approximately 12 feet long). Ink one track with printer's ink. This track will be used for inking the tire, while the other track will be used for rolling the inked tire on and, thus, will be the exemplar of the tire tread.

- Position the inked posterboard under the suspect tire. Roll the tire (with the full weight of the car) over the inked board, making sure the entire tire surface is inked.

- Place the clean posterboard under the tire and mark the starting position on the tire with chalk. Roll the tire over the posterboard and label appropriately with brand-name, size, and position on the vehicle.

- Allow the printer's ink to dry before packaging or transporting the posterboard exemplars.

b. **Footwear Exemplars**

- Apply a thin layer of printer's ink on the outsole bottom of the shoe with a roller or by stepping on an ink pad.

- Using a protective plastic bag over your foot, wear the shoe and step on a large sheet of clean, smooth, quality paper. Any color of paper that contrasts with the ink is fine.

- Take several steps, placing pressure on different areas of the outsole, to capture the entire outsole surface.

Photographs of the footwear outsole and tire tread surface should be:

- Black-and-white;

- Reversed;

- One-to-one (with ruler/scale in the photo);

- And side-lighted from at least five different angles, as with an impression photograph.

3. **<u>Casting</u>**

a. Three-Dimensional Footwear or Tire Tracks

A cast is a positive reproduction of a footwear or tire impression that can be compared directly with the known object. A cast can reproduce unique and microscopic details that are necessary for identification. It will represent depth and the true size of the impression, thus, providing a tangible piece of evidence in court. Never remove any debris from an impression; cast the impression with the debris in it.

Photography precedes casting. Take general crime scene photographs to relate impression evidence to the scene. Then take examination quality photographs of individual impressions.

To make a cast:

- Add 8 to 12 ounces of water to two pounds of die stone or dental stone in a plastic bag and knead well for three to five minutes, **through** the bag. Consistency should be that of thin pancake batter. (Dental stone can be pre-measured in resealable plastic bags for storage.)

- For impressions in snow, mix the die stone with very cold water or snow. The chemical reaction of die stone and water is exothermic (produces heat); therefore, the mixture needs to be cooled down to near freezing to prevent the snow impression from melting. Snow impressions may be sprayed with Snow Print Wax prior to casting with dental stone.

- Pour the casting material gently beside the impression and let it flow into the impression, overfilling the impression.

- Drying time can take anywhere from 30 minutes to several hours depending on temperature, humidity and water-to-stone ratio. Allow a cast to set for two hours or longer in cold weather. Casts can be damaged if lifted too soon.

- Cast as much of a tire impression as possible. Several separate sections may have to be cast. Photograph and label each section. Casts can be labeled by inscribing the back of the cast before it sets.

- Remove the cast and allow to air dry for at least 48 hours. Package in paper, not plastic.

- Do not clean the cast. Soil adherent to the cast is a soil standard which may be associated to soil on suspect shoes or tires.

H. FIRE INVESTIGATION AND IGNITABLE LIQUIDS

1. **At the Fire Scene**

The types of evidence encountered in a fire investigation are potentially as broad as in any other type of criminal case. The recovery and interpretation of physical evidence in this type of case, however, is frequently complicated by partial or complete destruction caused by the fire. In the case of large structural fires, exhibits of importance may be covered by debris and, therefore, difficult to locate. Firefighting operations - including forcible entry, hose stream evolutions, ventilation and mop up - may also destroy evidence, obscure burn patterns or otherwise alter the scene.

Ignitable liquids are commonly used by arsonists. Even though some of these liquids are highly volatile and burn readily, they frequently do not disappear completely. Identifiable residues of such liquids therefore can be recovered in many cases, even when large fires have occurred.

Fires must have fuel, oxygen and heat to burn. If one of the three essentials is absent or consumed by the burning, the fire will be extinguished. Thus, when the ignitable liquids soak into upholstery, rugs and other fabrics, plaster or wallboard, flow through floor cracks into underlying soil, seep under molding and into wood at the base of walls or collect at other locations, sufficient oxygen often may not be present to support continued combustion.. Residue of the ignitable fluid may remain and can be recovered and identified later.

While establishing the point of origin of a fire is important, the most complete combustion may occur at that point, leaving no ignitable fluid residues. When the point of origin is determined, therefore, investigators should search this general area for sponge-like materials - such as fabric, wallboard or soil- where lack of oxygen may have prevented complete combustion of the ignitable liquid.

Samples collected from a suspected pour pattern should be removed from the edge of the pattern and should include portions from both inside and outside the pattern. Avoid collecting samples in the areas of deepest charring, as these are also the areas of most complete combustion.

Search for ignitable liquids as soon as feasible, since highly volatile liquids will eventually evaporate. Fortunately, the use of water in extinguishing fires slows the loss of volatile liquids by cooling, covering and insulating materials into which the ignitable substances have soaked.

Detecting the most concentrated deposits of many ignitable liquids by odor may be difficult, because the human nose loses its sensitivity to many odors if exposed to large quantities over a period of time. Trace amounts of ignitable liquid odors may also be masked by other odors at fire scenes, particularly by the smell of burned plastic and rubber.

It also is important to realize that many ignitable liquids, including some alcohols, deodorized kerosene and charcoal lighter fluids have little or no odor. The search for traces of ignitable liquid may be facilitated by the use of a highly sensitive combustible vapor detector.

In addition, the Fire Prevention and Investigation Bureau has acquired an accelerant detection dog certified by the Bureau of Alcohol, Tobacco and Firearms. The dog and its handler are available upon request to assist local fire investigators.

2. **Packaging Ignitable Liquid Evidence**

- Use new, clean, unused paint cans, which have lids that may be readily sealed. Paint cans are not susceptible to breakage, and thus prevent loss of ignitable liquids and vapors. Such cans are available from many paint and hardware stores at low cost and may be stored in limited space, because pint-, quart- and gallon-sized cans nest within one another.

- Paint cans with an interior lining do not rust through as quickly as unlined paint cans. However, if using a lined paint can, submit an unused can for a background comparison sample.

- Never use common polyethylene Ziploc-type plastic bags for evidence storage. Plastic wrapping also is unsuitable for use as a jar cover or as a sealant to protect large objects. These products will not prevent the loss of volatile fluids or vapors.

- In case of emergency, glass jars may be used for ignitable liquids if they have lids that can be tightly sealed. Such containers are breakable and must be packed to prevent breakage. These containers should only be used as a last resort!

- Mason or other jars with rubber seals on the lids must be used with caution, because many ignitable liquids soften or dissolve such seals and permit leakage and loss of contents. If rubber seals are used, protect the seal by inverting the lid insert and using a covering of aluminum foil underneath the lid.

- Pour samples of ignitable liquids found in open jars or cans into clean metal or glass containers and seal the containers completely to prevent any loss of fluid.

- When glass or plastic containers or cans containing just an odor or trace of fluid are found at fire scenes, seal the container immediately in an unused paint can. If the container will not fit inside a paint can, seal the sample as completely as possible. If stoppers or jar lids are not available, use aluminum foil and tape.

- Even when containers appear empty, vapors may be identifiable if the container has not been burned by the fire. Traces of such fluids may also remain when water from firefighting operations has entered the container.

- Aluminum foil can be used in extreme situations, when debris cannot be made to fit inside one or more paint cans. The object must be wrapped thoroughly and sealed as best possible with tape. Investigators should realize that foil does not seal completely, allowing volatiles to dissipate. Foil should be used only in rare cases where no other option is available.

- Comparison samples of each type of substrate should be collected away from the bum pattern, if possible. The control samples are used to determine the quantity and type of volatiles that originate from the substrate itself. Carpet, foam pad, linoleum, adhesives, wood and other materials can contribute a significant quantity of volatile components, some of which are also seen in accelerants. The comparison samples are used to eliminate the sample substrate as the source of volatiles detected in arson samples.

- Seal all containers with tamper-resistant evidence tape. Mark each sample container with the name of the person recovering the exhibit and the date, time and location of recovery. Follow postal or other carrier regulations when shipping evidence containing ignitable liquids.

3. **Ignitable Liquid Analysis**

The Lab often can identify the fluid used in an arson fire, even when the fluid is present in minute amounts or residues. Examinations generally cannot identify specific brands. Advise the Lab of any odors noted at the fire scene or other evidence that suggests that a specific fluid was used to start the fire.

Comparisons are sometimes possible between ignitable liquids recovered at the scene and samples of volatile fluids obtained from suspects. In some instances, analysis can indicate common origin of specimens recovered in gasoline theft and other investigations, as well as in arson cases.

4. **Other Arson Evidence**

Search arson scenes for candles, cigarettes, matchbooks, Molotov cocktails, fused chemical masses, or any electronic or mechanical devices that may have been used to assist the arsonist. Also search for cloth or paper burn trails, burn trails on carpeted or hardwood floors, and the removal of personal property or commercial inventory.

Analysis may be able to identify mechanical, electrical or other fire ignition devices, even if they were burned in the fire. All parts of such devices should be searched for and recovered. This type of analysis may require examination by an outside laboratory.

Residues from fuses and other chemical igniters or fuels are usually identifiable. Candle wax can be identified as to type and compared with candles or wax deposits on clothing or other objects found in the possession of suspects. Other types of evidence covered in this manual may also be involved in fire investigation cases.

509 INTERVIEWS - WITNESSES/SUSPECTS

In every law enforcement action or investigation, you will sooner or later interact with other persons for the purpose of eliciting information from them. Generally, these persons will fall into two categories: witnesses and suspects. You must recognize the difference, as the law requires that each be handled differently. Generally, the difference between an interview and interrogation is the purpose for which it is conducted. An interview is usually associated with a witness to an incident, whereas an interrogation is directed toward eliciting a confession from a suspect. We do not conduct interrogations; law enforcement professionals will perform interrogations. Law enforcement professionals have the training and background in interrogation that will allow them to successfully and legally conduct the interrogation. Prior to any interview, you must have a good knowledge of the available facts surrounding an incident. Dates, times, names of places and things are essential at this stage, along with knowledge of the language or occupational jargon that the person may employ.

In conducting an interview of a potential witness there are certain rules you should follow:

- Do not advise a witness of his "rights" under the "Miranda Decision." It is not required and will only frighten or alienate your witness.

- Try to choose the place of the interview so it will be free of distractions. Attempting to interview a woman when she is supposed to be cooking supper, surrounded by seven hungry kids, is a waste of time.

- Identify yourself to the witness immediately. It is suggested the title of "Fire Investigator" be used.

- Interviews should be attended by two investigators if possible. However, it should be agreed in advance who will conduct the interview. The second investigator should not interrupt, but should be given an opportunity to ask any questions he or she may have to clarify points. If the witness is accompanied by someone else (spouse, children, etc.), the second investigator should keep that person occupied during the interview. Should an opportunity arise to get that person out of the room during the interview, the second investigator should certainly take advantage of it.

- Establish rapport with the witness. A short, casual, irrelevant conversation prior to "getting down to business" is a tremendous tool. If you are offered a cup of coffee or other nonalcoholic beverage, feel free to accept.

- Know your facts and do not start taking notes immediately. An official writing notes each time something is said frightens most people.

- After discussing the information that your witness has to offer, begin preparing a written statement (see Section 509(B), **Statements,** on page 42).

- Witnesses have no "right" to refuse to give information on the grounds of self-incrimination or any other reason. However, the investigator also has no power to compel testimony from a witness. Whether or not you get an interview depends upon the cooperation of the witness. If you believe the witness has valuable information, you may be able to subpoena him/her for an interview at a later date. Work with local law enforcement and/or the County Attorney to develop a plan.

- Once the interview has been completed to your satisfaction, thank your witness and then terminate the meeting. Do not stay around to "discuss" the case.

A. MEMORANDUM OF INTERVIEW - FORMAT

A memorandum of interview is just that, a brief memo stating that you interviewed someone, what was discussed pertaining to the case, and whether the information had any bearing on the case. Memos of interview are written after interviewing someone with indirect knowledge of an incident. The format for a memorandum of interview is quite simple:

MEMORANDUM OF INTERVIEW

> On July 5, 2008 I interviewed Mr. John W. Ames in his home at 911 Elm Street in Missoula, Montana 59801. This interview was conducted in regards to Mr. Ames' purported knowledge of events leading to the ignition of State Fire #58066, which occurred on July 4, 2008.
>
> Mr. Ames was not able to provide any new information concerning the case.

B. STATEMENTS

Statements are taken from interviewees who qualify as "best witnesses" to an incident; i.e., those who have the best direct knowledge of the incident under investigation.

A statement is nothing more than a written copy of what the interviewee relates to the investigator during the interview. It is important to write out a statement as soon as possible after an incident has occurred while events are still fresh in the mind of the witness. A statement may be long and detailed or it may be quite short. The important thing to remember is to make it complete and accurate.

Statements are to be written in ink and should be written in the first person (e.g., "I saw this" or "I heard the explosion," etc. Make a few "mistakes" on each page and ask the witness to correct any mistakes found and initial them as he/she reads.

Ask your witness to sign the statement when he/she has finished reading it. If he refuses to sign it, don't insist. The statement is still good. If he signs it, ask him to date it beneath his signature as well. Then both investigators should sign it as witnesses.

Taking statements from juveniles, who are 12 years old or less, requires a few additional considerations. If the juvenile is acting solely as a witness, then the juvenile can be interviewed as an adult, i.e., the statement should be written up and signed. However, it is advisable to interview children age 12 or younger in the presence of at least one parent. At the end of the interview, ask the child to

sign the statement (if he/she is old enough to write) and ask the parent to sign it as well.

If a statement is to be taken from a juvenile suspected of committing a crime, it is best left to trained law enforcement personnel. Above all, when interviewing children, be certain to have a witness with you (e.g., another investigator, DNRC employee, etc.) who will witness the interview, and who will co-sign and date the statement.

The statement is the property of the State of Montana, and you may not give copies to anyone but the witness without the approval of the DNRC attorney assigned to the case or the County Attorney, if you are working through the county courts.

Never include the original copy of the statement in the case report. Always keep your original documents in a lock-up file as "Best Evidence." Your case report should specify where the originals are being kept.

C. PREPARATION OF CASE REPORT

A case report will be prepared for every case in which civil or criminal action is anticipated or for any case when the Department's legal staff requests a case report.

The case report is nothing more than a systematic assembly of facts and is designed as a tool to facilitate review of the case by the Department's legal staff. It is imperative that the case report be accurate and complete as the information contained therein may be used in court.

The case report is prepared by the investigator in charge of the case as soon as possible after the incident occurs and a complete investigation has been made. If there is any question as to future action to be taken, a complete report should be submitted to the appropriate legal representative for review to ensure that all information is considered.

1. **Information Included in Case Report**

Each case report should include all pertinent facts under each of the following headings. Brevity is appreciated by our legal staff, but should be secondary to thoroughness.

- *Summary of Case* - A brief summary of the case addressing when, where and how the incident occurred. Include in the report: landowner, person or persons responsible for the fire, witnesses and the damages and suppression costs.

- *Identity of Trespasser* - Names and addresses of trespasser and employees. Be sure to establish the relationship of employees or contractors to sale purchaser or major contractor when necessary.

- *Violation Charged* - Be certain to cite the regulation, State law or laws and/or the contract or agreement violated.

- *Details of Case* - A chronological record of all facts relevant to the case. Also, note the fire weather conditions present when the fire occurred.

- *Witnesses for the State* - Name, address, title and a brief statement as to what each witness reported.

- *Defense Witnesses* - Same information as Witnesses for the State.

- *Case Conclusions* - List the facts as discovered during the course of the investigation. The investigator may record any opinions or recommendations regarding the case, which he/she deems appropriate. Opinions are to be noted as such.

- *Exhibits* - Maps, statements, copies of contracts, F-1004, photos and sketches, fire report, damage appraisal, fire cost summary, etc.

2. **Filing the Case Report**

Upon completion, the case report is signed by the investigator in charge and sent to the ordering Land Office or Unit for review and signature. Copies of the report are then sent to the Division.

3. **Requests for Copies - Case Report**

Copies may not be distributed outside the DNRC until the investigation is complete and the final report has been delivered to the ordering Land Office or Unit.

4, **Follow-up Procedures - Legal Staff and Land Office**

Once the case report is filed, any additional casework should be handled by the investigator who filed the report. This allows the original case report to be updated as the case progresses towards litigation, negotiation or dismissal. The investigator in charge will relay any new case information to the Division Investigator and/or legal staff as required.

The Land Office and/or legal staff may request additional fieldwork and/or case report work to be performed. This will be the responsibility of

the Area Investigator or outside agency investigator, whoever directed the initial investigation.

A letter from the legal staff explaining the final outcome or dismissal of the case should be filed with the case report before the case report is removed from a secured file.

510 FIRE INVESTIGATION PHOTOGRAPHY

Photographs are one of the best aids to illustrate the facts presented in an investigation case report. The following section on fire scene photography does not attempt to teach photographic skills but makes a few basic suggestions as to what kinds of photographs should be considered by the investigator when documenting the fire scene on film.

A. PHOTOGRAPHING THE FIRE SCENE

Either a good quality 35 mm single lens reflex camera or a quality digital camera should be in the investigator's hands upon arrival at the fire scene, as the camera will most likely be the first tool utilized in the course of the investigation.

If "witnesses" are standing around the area, they should be photographed immediately. The fire scene will be there for some time, the witnesses may not. It is usually best to photograph witnesses indirectly, i.e., make them think you are photographing something else, but include your witnesses in the photo. Good, clear, identifiable facial shots are to be preferred. Photograph vehicles as well and be sure to include the license number in the photo.

The next step will be to photograph the area of origin and any evidence you may observe. The area of origin should be photographed from several angles. Additionally, it doesn't hurt to photograph some of your major burn indicators, even though your burn indicators don't have to be proven in court.

Items of evidence (i.e., devices, tire tracks, footwear imprints, cans, etc.) should also be photographed from several different angles. Incendiary devices are photographed from a distance of, say, five feet, depending upon the size of the device. Then, take several close-up photos, with the device filling the frame. At least one photo of the device should be a "perspective improvement" photo (i.e., a photo of the device with a pen or pencil beside it to show its relative size more clearly).

Finally, a number of photos should be taken which display the type and extent of damage which resulted from the incident. If structures, vehicles, animals or other property were damaged or destroyed, they should be photographed. Then find a good vantage point and photograph the burn area of the fire from a distance. Try to show the entire burn area if possible, or at least the area of origin in relation to the total burn area. It may be necessary to get into the air to accomplish this.

B. PHOTO LOG

It is a good idea to keep a log of the photographs taken at the fire scene. An assistant is helpful here, since the assistant can record information regarding the photos as the investigator is taking them. Appendix D displays a copy of the photo log format. Keep a packet of forms in the investigation kit or in an attaché case and carry them with you on an investigation.

C. PHOTOGRAPHIC MEDIUM

Digital photography is quickly becoming the standard and replacing film cameras in the investigation process. Digital photography gives the investigator the ability to check the photos immediately to ensure that the photos contain the information the investigator was attempting to capture and that the photo is in focus, properly lit, etc.

If digital photography is not used, there are many types of film available on the market today. The best choice is a brand of film you are familiar with and like to use. USE ONLY COLOR PRINT FILM for investigation purposes. Slides are not to be used. If slides are needed, they can be made from the prints or print negatives.

It will be important to familiarize yourself with film "speed." Slow and fast speed films are available. Generally speaking, film speeds from 100 ISO to 400 ISO are preferred. There may be occasions where film speeds as high as 1000 ISO will be useful, depending upon lighting conditions. Experiment with each speed to become familiar with each film's capabilities prior to using them during an investigation. Keep a supply of film on hand during the burning and fire seasons to help facilitate your dispatch to a fire. Film should be refrigerated during storage. Process the roll immediately after exposure.

D. USE OF FLASH

A good quality flash is a useful device to have for fire investigation photography. A flash can be used to highlight areas and to reveal details which may be hidden or not so obvious in natural light. As an example, when photographing a tire track or human footprint it is best to use a flash unit held off to the side and slightly above the imprint. The light from the flash will create shadows, which will reveal details of the imprint such as tread design or gouges, and other identifying marks in a tire or shoe imprint. Tread depth will also be more pronounced. Flash shots should be taken from several angles.

To show a fire's intensity by the alligatoring effect on a structure wall or a tree stump, you would use a flash aimed at the wall or stump, from a slight angle. The flash will accent high and low areas of the char pattern and will reveal the

"alligator" pattern created by an intense fire.
Finally, burned material is usually quite dark in color, and it is difficult to see detail due to lack of contrast. A flash is used as fill-in light to help reveal items in a corner in a burned out structure or to flood an otherwise dark (charred) area with light to make detail more visible.

Practice with a flash prior to using one during an actual investigation. The suggested aperture settings and recommended distances on flash units are usually quite accurate.

E. HANDLING, LABELING AND STORAGE OF IMAGES

1. **Digital Photos**

All digital photographs taken at the fire scene will be downloaded to the investigator's computer hard drive and stored there until the investigation is complete. Two digital copies of the original photographs will be burned to compact disk or other permanent storage device; one copy will be stored in the investigator's file, and the other will be part of the official investigation report.

In order for photographs to be admissible in court they must be relevant, authentic, and a fair and accurate representation of the evidence at the scene. This does not mean that digital images cannot be manipulated to enhance clarity, contrast etc. But the original image must be maintained in its original state; any manipulations or adjustments must only occur with copies, not the original. Save enhanced or manipulated copies under a file name that indicates that the image is a copy. For instance, if enhancements are made to an original image named "evidence 23.jpg," the enhanced version might be "copy evidence 23.jpg" or "copy contrast evidence 23.jpg."

2. **Film Photos**

When using film, develop your photos as soon as possible. When you have the photos in hand, you will want to sort through them to decide which ones will be included in your case report. Select those photos that best portray the subjects or areas you are trying to show.

In order for photographs to be admissible in court they must be relevant, authentic, and a fair and accurate representation of the evidence at the scene. This does not mean that photographs cannot be enlarged or scanned into digital form and manipulated to enhance clarity, contrast etc. But the original image must be maintained in its original state; any manipulations or adjustments must only occur with copies, not the original. File enhanced or manipulated photos with a label noting that this is a copy that

has been altered. This must also be reflected in the file names of scanned photos that have been altered (see the example under **Digital Photos**, above.)

2. **Photo Log and Labeling – Digital and Film Photos**

Once you have selected your photos, go to the photo log and transfer the information from the log to the particular photo. DO NOT write on the back of the photo, as writing almost always shows through to the image side of the photo. Instead, record the information on a gum label and attach the label to the photo back. Mount the photos one to two to a page for the case report. Below the mounted photo, write a short caption explaining what the photo is intended to show. The information on the photo back may prove essential, or it may simply help to return the photo to the proper case report should it become detached. This information is essential for proper documentation, as the photos are now evidence. There is no limit as to how many photos may be included in the case report. Use a number sufficient to clarify all of the relevant information.

The remaining photos and all negatives should be stored, especially if the case will go to court. Plastic filing indexes made for photos and negatives are probably best for storage. These filing indexes may be kept in a binder or placed in an envelope and filed with your copy of the case report. Reference each index of photos with the case number (State fire number). Regardless of what filing system used, reference the extra photos and negatives so they can be found if they are needed. For active cases it is best to keep all photos in a lock-up file with the case report. Keep photos and negatives out of the sun and away from heat. Once the case is closed the "extra" photos may be discarded. Negatives should be retained for three years.

511 FIRE INVESTIGATION KIT

The Fire Investigation Kit consists of a number of items which will assist the investigator in determining fire cause or in the collection and documentation of evidence. For a suggested investigation kit complement, see **Fire Investigation Kit**, page 15. You may want to add or remove items depending upon your particular needs or method of investigation.

A. OTHER RESOURCES AVAILABLE

The DNRC has a number of investigative resources available, primarily through other agencies. Level III Investigators will want to familiarize themselves with local resources, contacts and procedures for gaining access to certain personnel and equipment. For instance, it may be necessary to seek the assistance of a structural fire investigator from your county or city fire department. Or you may

want the assistance of a Forest Service investigator on a fire that has crossed jurisdictional or fire protection boundaries. Know who to contact.

Other types of specialized equipment that may be available include hydrocarbon detectors, metal detectors, remote trespass detectors, and remote surveillance devices. Much of this equipment is available from the Forest Service Regional Office in Missoula.

Other specialized equipment such as latent fingerprint equipment, fuel tracer compound and marking inks, powders and pens to be used in conjunction with an ultraviolet light in cases of theft may be available from state, federal, and local law enforcement. We also have access to the State Crime Lab and its facilities for the examination of evidence. We can also access the FBI Crime Lab through the State Crime Lab, which is located in Missoula.

512 VIOLATION OF LAW ON STATE OR NATIONAL FOREST LAND

A. WITNESS TO A CRIMINAL ACT OR ILLEGAL ACTIVITY AND ARREST

As firewardens we are required by law (77-5-105(1) MCA) to report any criminal act or illegal activity we may happen to witness while in the performance of our official duties. Legally, we have the power of arrest for illegal acts committed in our presence. However, as was mentioned previously, we will not exercise this authority. Instead, we will contact local law enforcement authorities, i.e., the sheriff's office, and provide them with what information we have. As firewardens, we may serve as witnesses to an act or assist a competent law enforcement officer with an arrest. The Department has adopted this position due to the complicated nature of arrests. An illegal or improperly conducted arrest is very risky business and may expose the firewarden to physical harm or legal action resulting from the arrest itself.

As an example, a typical situation in the past has consisted of a fire crew being stopped at gunpoint by a landowner who refuses to let the crew proceed despite the fact that they are simply trying to reach a fire. In such a situation, the crew should leave the site and make radio contact with their dispatch center. The dispatch center will contact the sheriff's office to obtain an escort for the fire crew. This is standard operational procedure; FOLLOW IT. Know where you stand legally, but let trained people do the enforcement work. Please refer to 77-5-105 MCA, 77-5-106 MCA and 77-1-114 MCA for clarification of your powers and responsibilities and the responsibility of the County Attorney in these matters.

B. SEARCH AND SEIZURE

As a rule, with the type of law enforcement you are concerned with as a DNRC employee, you should not become involved with a search; however, you should

be at least familiar with the general requirements for a lawful search. Remember, that if an arrest or search is illegal, anything found as a result of the search won't be admitted as evidence. If you must conduct a search, try to get a law enforcement officer to help and keep you out of trouble.

Like arrests, search and seizure is a very complicated legal matter. Statutory law dealing with search and seizure can be found in Title 46, Chapter 5, of the Montana Codes Annotated. Statute 46-5-101 MCA discusses legal or authorized searches. The Firewarden/Investigator will probably become involved in only two types of searches:

1. **Incident to a Lawful Arrest**

   If a law enforcement officer arrests your suspect, the suspect may reasonably be searched and the area within the suspect's immediate presence may also be searched. This type of search is permitted under State Statute 46-5-102 MCA for the purpose of:

   a. Protecting the officer from attack;

   b. Preventing the person from escaping;

   c. Discovering and seizing the fruits of the crime; or

   d. Discovering and seizing any persons, instruments, articles, or things which may have been used in the commission of or which may constitute evidence of the offense.

2. **With the Consent of the Accused**

   Before this type of search will be upheld, it must be established that consent was freely and voluntarily given. For this reason, it is best to have a witness and/or a written statement showing voluntary consent to search (see Form 1016, Owner's Consent to Search, Appendix D).

   One exception to the rule requiring consent to search one's premises are those areas of private property beyond the curtilage described as "open fields."

   Firewardens acting within the scope of their authority may search farmland, woods, or pastures related to a rural dwelling. Though it is a technical trespass, your presence is legally protected, even where such areas are surrounded by a boundary fence. Example: A firewarden could search woods surrounding a dwelling, use evidence found as probable cause for a search warrant to search the dwelling. This exception also applies to unoccupied buildings, i.e., sheds or other outbuildings not

normally used as private residences, abandoned dwellings, and fields used for a commercial enterprise, such as an open air nursery for plants and shrubs. No consent is required for this type of search.

Consent for a search may be given by the accused or a person lawfully in possession of the premises to be searched.

Finally, mention will be made regarding searches in an automobile. All the rules for searches covered above apply to a search of an automobile. Warrant less searches of automobiles are often illegal, unless they fall under the "automobile exception." This exception authorizes a warrantless search under "exigent circumstances" (when the vehicle could be quickly moved and the evidence lost) and upon probable cause. Given these limitations on automobile searches, searches should not be undertaken without a warrant. Although a warrantless search may be necessary to prevent destruction of the evidence of a crime, automobile searches are strongly countered by the right to privacy and the search and seizure provisions of the Montana Constitution, and there is a possibility that evidence seized from such a search will be excluded. Of course, a motor vehicle may be searched if consent is given. Also, if an automobile is stopped and articles of contraband or fruits of a crime are noticed in plain view in a motor vehicle, it may be seized. However, the "plain view" doctrine may not be used to extend a general exploratory search from one object to another until something incriminating emerges. Plain view alone is never sufficient to justify a warrantless seizure of evidence; there must also be adequate probable cause to arrest and search an individual.

If items are removed to be held as evidence, they must be receipted. Use Form 1017 (see Receipt, Appendix D) when this is necessary. Be certain to leave a copy of the receipt for the owner.

C. WARRANTS AND SUBPOENAS

During the course of an ongoing fire investigation, a fire investigator may have probable cause to obtain a warrant for some specific purpose, such as a search warrant or a warrant to record a phone. The investigator may, at times, require an investigative subpoena to obtain information from a telephone company or utility company, etc., regarding information pertinent to the investigation. These investigative warrants and subpoenas are relatively easy to obtain provided the investigator can satisfactorily outline his reasons for seeking them.

To obtain an investigative warrant or subpoena, the investigator need only outline his reasons to seek such an instrument to the County Attorney, or Deputy County Attorney, and provide the information the attorney requires for the document (i.e., the persons involved, their addresses, the exact information required and the name

and address of the person who is to be served with the document). The County Attorney will present the document to a judge for the judge's review and signature.

Warrants and/or subpoenas are to be served by law enforcement officers, not by investigators. Do not include copies of warrants and subpoenas in the case report.

D. USE OF BADGE AND I.D.

Use of State identification cards, badges, etc. for anything other than official State business is prohibited. Firefighters and certain other state, county and federal employees are issued firewarden cards for the purpose of identification in the field.

Present your I.D. upon request. Firefighters generally have few problems gaining access to an area because their engines and clothing speak for them. Investigators attempting to interview someone may be requested to present identification. Generally speaking, people will believe you when you identify yourself verbally but a valid form of identification should be handy. Proper identification can open doors for you.

513 STATE FORESTRY AND THE MONTANA LEGAL SYSTEM

Section 513 of this manual deals with criminal law and its application to the Montana DNRC and the Firewarden/Investigator.

A. SOURCES OF LAW

The first and primary source of law is the Constitution of the United States. It is here that the basic concepts of governmental and lawful procedures as well as basic concepts of justice, which we refer to as rights, are promulgated.

Next is the State Constitution, which sets down these same basic ideas for Montana. State Constitutions must be written within the parameters of the U.S. Constitution and may not override the U.S. Constitution. State Constitutions may, however, grant individuals more rights and privileges than provided for in the U.S. Constitution. The United States Constitution is the minimum standard for individual rights. Finally, it should be noted that Federal Statutes are superior to State Constitutions.

Besides these primary sources of law there is a body of Administrative Law with which the DNRC is primarily concerned. Administrative law consists of the rules and regulations promulgated by an administrative body pursuant to statutory authority. An example of an administrative body would be the Board of Land Commissioners. Any rule or regulation promulgated by such an authorized administrative body has the force of law, if reasonable, in light of the situation to

be remedied. Penalties for violation of a rule or regulation are established by the Legislature.

An example of Administrative Laws is Forest Fire Regulations. These regulations exist under authority of 76-13-109 MCA. The statute authorizing penalties for violation of these regulations is 76-13-112 MCA.

Those sources of law which affect us most in regards to State Forestry and Fire Investigation are the U.S. and State Constitutions, State statutes and administrative rules and regulations.

B. TYPES OF LAW

There are basically two types of law, which concern us: Civil and Criminal.

1. **Civil Law**

Civil law is concerned with the declaration, enforcement, redresses, protection of rights and prevention of wrongs as between individuals, businesses or government agencies. Civil law is broken into many subfields such as property law, contract law, business law, etc.

2. **Criminal Law**

Criminal law derives itself from statutes, ordinances and rules and regulations, the violation of which is punishable by fine, imprisonment or death. A crime is a violation against the public, whereas a civil violation is against an individual. To prove a criminal offense, evidence must be presented to prove the offense beyond a reasonable doubt.

Although criminal law is not derived from the U.S. or State Constitutions, constitutional provisions provide for many important rights which are guaranteed protection. These rights have an important influence over the Division's fire investigation program. Examples would be an individual's rights regarding search and seizure, arrest, and self-incrimination.

By far the most important body of law prescribing penal laws are the statutes adopted by the State Legislature. These laws are contained within the Montana Codes Annotated (MCA), which are published after each legislative session.

A crime is an act committed or omitted that is in violation of a law or State statute and is punishable by fine, imprisonment or death. A violation of any law constitutes a criminal violation; hence, a homicide and "running a stop sign" are both criminal acts. If a person is convicted of either, he or she has a "criminal record." Obviously, there is a great deal

of difference in the severity of the two crimes, and this fact is recognized in the judicial system.

C. DEGREES OF CRIME

In Montana there are two degrees of crimes, misdemeanor and felony. These are defined as follows:

- 45-2-101(21) MCA - "Felony" means an offense in which the sentence imposed upon conviction is death or imprisonment in the State prison for any term exceeding one year.

- 45-2-101(36) MCA - "Misdemeanor" means an offense in which the sentence imposed upon conviction is imprisonment in the county jail for any term or a fine, or both, or the sentence imposed is imprisonment in the State prison for any term of one year or less.

A felony under Montana law usually provides for a fine of over $500.00 or imprisonment in the State prison or death. A misdemeanor carries a fine of up to $500.00, a jail or prison term of up to 6 months or both fine and jail term.

D. RULES AND REGULATIONS

A brief description of the rules and regulations process was presented under 513(A.) **Sources of Law**. In enforcement of the Forest Fire Regulations, which we as firewardens are required to enforce, we must take into consideration that they are not as strong a law to enforce as a law which is set out in a statute by itself. We must ensure that the person upon whom a regulation is enforced had notice or should have had notice of the regulation and that he or she, in fact, committed the offense.

The Forest Fire Regulations are not criminal laws, but pertain instead to civil matters. These regulations are enforced administratively (i.e., contract violations, permit violations, etc.). Violations of Administrative Regulations are misdemeanor crimes. Our responsibilities, as firewardens, pertaining to these regulations are for detection, investigation, inspection and assistance. As far as federal or Forest Service regulations are concerned we, as firewardens, should not become involved in their enforcement, but should be ready to assist a Forest Service officer if requested to do so.

E. MONTANA JUDICIAL STRUCTURE - HOW LAWS ARE ENFORCED

As was noted in the previous section, criminal law, which firewardens must enforce, evolves primarily from the State statutes. But what provisions have been made for the enforcement of these laws?

Montana, like all states, has an Attorney General who is an elected official and is the chief law enforcement officer for the state. The Attorney General has the authority to conduct investigations and to enforce laws at the State level.

The officer with whom firewarden/investigators will normally deal in criminal violations is the chief law enforcement officer for an individual county. This officer is an elected official and is the County Attorney. This officer is charged with prosecuting violations of the law in the name of the people of the state.

When an offense is committed, the firewarden/investigator, working with Department Attorneys, presents his evidence to the County Attorney and makes a formal request to have charges filed and the case brought to court. The County Attorney must then decide if the evidence warrants prosecution, the degree of the crime and how to go about getting the case into court.

Concerning the duties of the County Attorney where forestry laws are involved, the following statutes are referenced:

- 77-1-111(2) MCA Court Actions
- 77-1-114 MCA Prosecutions

The County Attorney has four methods of bringing a case into court (46-11-101 MCA):

- By complaint.
- By an information filed following a preliminary examination or waiver thereof.
- By an information after leave of court has been granted.
- By an indictment upon a finding by a grand jury.

If a crime is classified as a misdemeanor, the County Attorney can issue a complaint signed by the complaining witness and file it with the inferior court having jurisdiction. The lowest inferior court in Montana is the Justice Court or the Justice of the Peace. The Justice of the Peace is elected by popular vote and has original jurisdiction over misdemeanors. The Justice of the Peace can issue an arrest warrant or summons for the defendant in misdemeanors and can impanel a jury. If the defendant pleads guilty, either by a jury or judge, the judge will impose the sentence. Some states permit a plea of Nolo Contendere (no contest), which has the effect of a "guilty" plea but cannot be used against the defendant in a lawsuit. If the offense charged amounts to a felony, the County Attorney has two and sometimes three methods of bringing the case to court.

- He can file a complaint with the Justice of the Peace alleging the offense, and a warrant or summons will be issued causing the arrest of the suspect.

  The defendant appears in the Justice Court but does not enter a plea. This appearance is usually referred to as a preliminary hearing, during which the County Attorney presents facts to the Justice Court Judge in order to convince him that there is enough evidence to indicate there has been a felony committed and the suspect probably committed it. This hearing is usually conducted in open court, and the defendant must be present. He is represented by counsel and the procedure has the appearance of a trial. If the judge decides the evidence warrants it, he rules that the defendant be bound over to the next higher court for arraignment and trial (Montana permits a defendant to waive this preliminary hearing). At this point the County Attorney files an Information with the higher court alleging the offense.

  The next higher court is the District Court. This court has original jurisdiction of all felony cases. If a defendant is "bound over" to the District Court by a Justice of the Peace, he will be arraigned (i.e., informed of the charges against him) and required to enter a plea of guilty or not guilty. In some states he may enter a plea of "Nolo Contendere" which has the effect stated previously. In the event of a guilty or Nolo Contendere plea, the judge will assess the sentence. If the defendant enters a plea of "not guilty" he can choose to have a jury trial or simply a trial by the judge. After his trial, depending upon the verdict, the judge will either release or sentence the defendant.

- Another method the County Attorney can use to get a felony case into the district court is by presenting evidence directly to the District Court Judge in order to convince him that a felony has been committed and the suspect most probably has committed it. The defendant is not present during the presentation. If the District Court Judge feels the facts warrant it, he can grant the County Attorney leave to file an "information" charging the offense. At this point the procedure will assume the mechanics as after a preliminary.

- A third method the County Attorney may use to get a felony case in front of the court is by the Grand Jury system. This procedure is available in most states, even though it may not be utilized very often. A Grand Jury may be summoned by a District Court Judge whenever he feels the need, and the jurors are usually selected from the tax rolls. Impaneling a Grand Jury may be requested by the County Attorney. In felony cases, the County Attorney appears in front of the Grand Jury, sometimes with his witnesses, and presents evidence to establish that a felony has been committed and the suspect most probably committed it. The defendant is not present, and all testimony and records of the hearing are secret, with penalties provided for secrecy violation. If the majority of the Grand Jury members vote that the evidence indicates a felony has been committed and that the suspect most probably committed it, they will prepare an indictment charging the suspect with the crime. The

indictment is then filed with the District Court. At this point the defendant is brought to court for arraignment and his plea received. In the event of a "not guilty" plea, the judge will proceed with the trial as outlined previously.

The judicial procedure of the United States provides for the right of appeal of a court decision. In State systems, the appeal would be to the next higher court from the court of original jurisdiction, and thence up the ladder. If a misdemeanor is involved, the case would start in a Justice Court and the appeal would be to the District Court.

Appeals from the District Court vary slightly between states. In some states there exists a State Court of Appeals, sometimes called an Appellate Court. If such a court exists, appeals from District Courts would be to this court, then from this court to the State Supreme Court. If the state involved has no such court, as in Montana, the appeal would be direct to the State Supreme Court from the District Court. Appeals from state supreme courts would be direct to the U.S. Supreme Court. An appeal from a state supreme court to the U.S. Supreme Court will only be heard if there is a "federal question" involved (i.e., an interpretation of federal statutes, treaties or the Constitution).

514 RELEASE OF INFORMATION REGARDING HUMAN-CAUSED FIRES

Human-caused fires on State and private lands are investigated by the Department of Natural Resources and Conservation, and information regarding the investigation of such fires can only be released with the consent of the County Attorney's Office in the county in which the fire originates or by our own legal staff. No information regarding the investigation of human-caused fires on State or private lands is to be released to the media or the public by unauthorized State employees, including firefighters. Such unauthorized release of information may violate the rights of individuals involved and may jeopardize judicial procedures.

Inquiries by the media and public for information relative to the investigation of a human-caused fire should be referred to the investigator in charge or to the public information officer for that particular fire. The investigator in charge will keep the appropriate attorney and the public information officer informed of the progress of the investigation. Names of any and all persons involved with the ignition of the fire, are to be released only by the appropriate legal representative or persons designated by same.