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PERSPECTIVES

Proper Collection, Handling, Storage & Disposal of Physical Evidence

Our perspectives feature the viewpoints of our subject matter experts on current topics and emerging trends.

OVERVIEW

Whether a property damage loss involves vehicle impact, structural collapse, construction defect, equipment failure, fire or explosion, hail, lightning, storm, animal activity, or water, at some point the expert may need to collect evidence as part of their investigation.

Admissibility of any recovered evidence requires proper protocols and procedures to be followed when collecting, handling, storing, and disposing of physical evidence. Failure to adhere to applicable standards can compromise the client's ability to recover money from a responsible party through subrogation and may lead to lawsuits against involved parties for spoliation.

WHAT IS EVIDENCE & WHEN SHOULD IT BE COLLECTED?

Evidence is defined as anything that helps to prove or disprove a particular fact or issue[1]. Forensic evidence is further defined as evidence that is used during litigation.

According to NFPA 921, evidence can be categorized into four groups[2]:

1. Physical Evidence
2. Demonstrative Evidence
3. Documentary Evidence
4. Testimonial Evidence

Examples of Physical Evidence

These may include a burst hose or fitting for a water loss, a space heater from a fire loss, a piece of EIFS (Exterior Insulation Finishing System) on a construction defect loss, fuel samples on a furnace puffback claim, or water samples from an environmental hazard loss.

Before the collector takes any such evidence from a loss site, they need to ask themselves: "Does this help me prove or disprove my theory?"

- **If the answer is "no," don't collect the item.** Do not recover "evidence" on a file just to show to a colleague, just because you haven't seen anything like it before, or just to take a closer look at it unless it will help you prove or disprove your theory as to the cause or responsibility of the loss.

- **If the answer is "yes," consider collecting the item.**

Some factors to assess before collecting evidence may include:

- Whether the item is safer in your possession than at the site.

- Whether the item could be damaged during removal, causing it to be less effective or even nullified as evidence

- Whether the relative position or placement of the item is more important than the item itself.

The collector should also ask themselves, "What could someone else blame?" Sometimes proving that something else didn't cause the loss is more valuable than proving what did cause the loss. The evaluation of the full scope of the loss is essential to effective evidence recovery.

IS YOUR EVIDENCE BEING PROPERLY COLLECTED?

According to the NFPA, the collection of physical evidence is an integral part of a properly conducted investigation. The method of collection of the physical evidence is determined by many factors, including the following[1]:

- **Physical State** – whether the evidence is a solid, liquid, or gas.

- **Physical Characteristics** – the size, shape, and weight of the physical evidence.

- **Fragility** – how easily the physical evidence may be broken, damaged, or altered.

- **Volatility** – how easily the physical evidence may evaporate, freeze, melt, or otherwise change.

Best Practices for Evidence Collection & Handling

According to ASTM (formerly American Society for Testing and Materials) Standards, each item of evidence will be assigned a unique numeric or alphanumeric designator by the investigator who collects the evidence or by someone designated to assign item numbers. The system used should ensure that items cannot be confused physically and cannot be confused when referred to in records or other documents3. Proper evidence item numbering and handling helps minimize any potential contamination issues.

The location and condition of each item should be documented prior to collection3. This should be done with photographs and diagrams and, additionally, should be documented in the field notes or evidence list. Denoting the item number, using evidence tents or note cards, helps clearly document the numbering process in the collector's photographs. The collector should continue to document the evidence throughout the entire recovery process.

Figure 1 *- Example of evidence tents used to help number and identify evidence in photographs.*

The collector will need to think carefully about what specific aspects of the evidence are important and be just as careful to safeguard those aspects. If it is important to show that a valve is closed, for instance, the collector needs to make sure it stays closed, remembering not to move the position of something in order to "see what it is doing." The movement of switches or valves may cause them to break or become impossible to return to their original post-loss condition.

If items involved in the incident must be disassembled in any way in order to be collected, each step of the disassembly should be documented by contemporaneous photographs or videotaping4. It is important that individuals who are not present at the time of collection be given enough information to understand the origin of the evidence.

Each item should be properly protected in an appropriate manner. This should involve being placed in a sealed bag, can, jar, or box that will prevent contamination or loss of evidence. The evidence must also be protected against damage during transport. According to ASTM Standards, each item or its proximal container shall be marked or tagged with the following information[3]:

- Item number
- Case or incident number
- Identification of person who collected item
- Date of item collection
- Brief description of the item

Figure 2 *- Example of cans used to securely seal and transport collected evidence.*

If the evidence requires specific handling for preservation, such as temperature control, this needs to be clearly described in the evidence log or directly on the tag itself4. The value of physical evidence relies on the evidence collector's ability to maintain the security and integrity of the evidence from the time of its discovery and collection to its subsequent examination and testing to its ultimate disposal. Once an item is collected, it should be stored in a secure location while at the site of the loss. The ideal location would be in the collector's locked vehicle until the scene examination is complete.

A chain of custody documents who-did-what (and when) with a particular piece of evidence. A strong chain of custody starts with the collection of the evidence at the loss site. All evidence recovery should be approved by the owner of the property. If you are recovering evidence without permission, it is considered theft. Always start by getting the approval of all parties before recovering the evidence.

The chain of custody must document the initial recovery, where it was securely stored, when and where it was transferred for testing, and, ultimately, who disposed of the evidence and when. It demonstrates to the client and to the court that the evidence was not tampered with, misplaced, or mishandled at any point.

IS YOUR EVIDENCE BEING PROPERLY TRANSFERRED?

When it is necessary to pass chain of custody from one person to another, it should be done using a form which the receiving person signs when receiving the physical evidence. This can be done using a copy of the chain of custody or by using a separate document called a transfer form. The most recommended way to transfer evidence is by hand. Hand delivery minimizes the potential of the physical evidence to become damaged, misplaced, or stolen[1].

Sometimes it may be necessary to ship physical evidence to a laboratory or testing facility. When shipping becomes necessary, the evidence collector should take every precaution to preserve the integrity of the physical evidence[1].

The evidence collector should choose a container of sufficient size to adequately hold all of the individual evidence containers from a single investigation. Physical evidence from more than one investigation should not be placed in the same shipment[1].

The individual evidence container should also be packed securely within the shipping container1. The container should only be shipped using registered United States mail or by any commercial courier service if hand delivery is not possible. The best practice is to utilize a shipping service with tracking so that the location of the evidence can be documented through the shipping process.

IS YOUR EVIDENCE BEING PROPERLY PRESERVED & STORED?

The evidence collector has the responsibility to preserve the evidence from the time of collection until the time of disposal. Preservation means the evidence is not allowed to change by evaporating, breaking, spoiling, being contaminated, or being lost.

After the time of discovery and collection, physical evidence should be stored in a secured location that is designed and designated for this purpose. Access to this storage location should be restricted in order to limit the chain of custody to as few persons as possible. Evidence shall be stored in an orderly, traceable, and retrievable fashion so that the integrity and physical characteristics are maintained.

The storage facility needs to prevent further damage to the retained evidence. Heat, sunlight, and moisture are the chief sources of degradation of most kinds of evidence. Opening of sealed evidence bags containing evidence not intended for accelerant testing will allow moisture to evaporate, will better preserve metallic items, and can prevent molding of organic items such as wet clothing[1]. Water-filled containers must be stored in an area where the water will not freeze and cause damage to the evidence.

IS YOUR EVIDENCE BEING PROPERLY DISPOSED?

The evidence collector will ultimately be responsible for the disposal of the retained evidence. A written record of authorization to dispose of the evidence must be received from the client and any other interested parties, including the property owner, and must kept as part of the chain of custody. The final step of the chain of custody is for the personnel to sign and date when the evidence was disposed of and should be followed by a witness signature.

Evidence should be destroyed in a manner rendering its condition to be unusable and disposed of in a way such that its reuse could not possibly be performed.

CONCLUSION

There are many steps that need to be followed and recorded while identifying and collecting evidence. It is the responsibility of the evidence collector to follow the most current evidence handling guidelines and procedures outlined by ASTM Standards. All evidence must be properly documented and maintained to ensure its validity.

The chain of custody must be maintained throughout the entire lifespan of the evidence from collection to disposal. Any break in the chain of custody could compromise the client's ability to recover money from a responsible party through subrogation. The evidence could be inadmissible in court, potentially leading to lawsuits against the parties involved for spoliation. As such, it is imperative that the client chooses an expert they can trust with their evidence collection needs.

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