Coffee Break Training - Fire Investigation Series

Fire/Arson and Explosion Investigation Curriculum: Types of Evidence

No. FI-2013-10 August 12, 2013

Learning Objective: *The student shall be able to identify the types of evidence and his or her role in supporting a successful arson investigation and prosecution.*

Evidence is one of the key components of any criminal investigation. Although fires often destroy, alter or severely damage evidence, investigators may still uncover valuable evidence if the scene is carefully processed. Some evidence may have been protected and survived the fire, in which case it can be collected and analyzed to provide investigative leads.

Valuable evidence can be located at fire scenes if proper scene-processing measures are instituted by investigators. *Photo courtesy of David Klitsch, Technical Fire Analysis LLC*

Evidence can be classified into two types: **direct evidence** and **circumstantial evidence**. Direct evidence includes firsthand observations such as eyewitness accounts or police dashboard video cameras. For example, a witness states that he observed an individual running out the back door of a building with a gasoline container in his hand and then saw smoke coming from the building. In court, direct evidence involves testimony by a witness about what that witness personally saw, heard or did. Confessions are also considered direct evidence.

Circumstantial evidence is indirect evidence that can be used to imply a fact but that does not directly prove it. Circumstantial evidence found at a fire scene may provide a link between the scene and a suspect. For example, finding a suspect's wallet at the site of a building fire is circumstantial evidence of the suspect's presence there at some point. In many cases, circumstantial evidence is the most common type of evidence relied upon in arson cases due to the lack of physical evidence. However, circumstantial evidence can support a conviction. Trace evidence is a type of circumstantial evidence. Examples include hair found on a brush, fingerprints on a glass, blood drops on a shirt and soil tracked into a house from shoes.

Physical evidence includes impressions such as fingerprints, footprints, shoe prints, tire impressions and tool marks. Physical evidence also includes fibers, weapons, bullets and shell casings. Biological evidence includes body fluids, hair, plant parts and natural fibers. Most physical evidence, with the exception of fingerprints, reduces the number of suspects to a specific, smaller group of individuals. Biological evidence may make the group of suspects very small, or reduce it to a likely individual, which is more persuasive in court.

Additional information on fire scene documentation can be obtained from the *Introduction to Evidence and Physical Evidence at the Fire Scene* online training modules at www.cfitrainer.net.