



Coffee Break Training - Fire Investigation Series

Fire/Arson and Explosion Investigation Curriculum: Cell Phones - An Evidentiary Gold Mine for Investigators

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Learning Objective: The student shall be able to identify the evidentiary value that cell phone data can provide in an arson investigation.

Cell phones are commonplace in our society and used daily by millions of people, including criminals. Most cell phones have a basic set of comparable features and capabilities. Often, cell phone records are used in court to establish people's movements. Cell phone data may answer the who, what, where, how, and when questions. First and foremost, the first nugget of gold is the phone itself. Cell phones are constantly communicating with a network, sending pings to the nearest transmission tower, which allows telephone calls to be routed correctly. Multiple antennas are tracking the phone's signal since each tower only covers a few square miles. The cell phone service provider keeps records of which towers the phone has contacted or pinged, and when. This information can prove invaluable to investigators to assist them in the successful investigation and prosecution of arson cases.

Best Practices for Collecting Forensic Evidence From a Cell Phone

Because cell phones today can quickly become an evidentiary gold mine, best practices should be adhered to when collecting forensic evidence from a cell phone. These best practices include

- Before handling, consider what other types of evidence, such as deoxyribonucleic acid (DNA) or fingerprints, are needed from the phone and follow the appropriate handling procedures.
- Turn the phone off to prevent the loss of data as the battery may expire or network activity may occur.
- If the phone remains on, it should be kept charged and not tampered with. It should be turned off before transport.
- While the phone is on, make all efforts to remove the phone from the network; this includes putting it into airplane mode or wrapping it in several layers of aluminum foil to prevent alteration or deletion of data.
- The cell phone should be placed into an evidence bag, sealed to restrict access, and the labeling procedures completed for the item to maintain a chain of custody.

This model and evidentiary principles discussed above contain important points that should be considered when dealing with cell phones.

Because each investigation is distinct, with its own unique set of circumstances, a definitive approach is difficult to prescribe. Investigators need to carefully analyze all of the case facts and identify those pieces of information that will provide valuable investigative leads that will help to solve cases in a timely manner.

Conclusion

Cell phones are very personal items and may contain data that could be relevant in a civil or criminal investigation. Using cell phone forensics may provide you with key information that will help you win your case.

Additional information on the proper procedures to collect cell phone and other electronic evidence can be found at www.forwardedge2.com/pdf/bestpractices.pdf



Because cell phone data may answer the who, what, where, how, and when questions, records are often used in court to establish the movements of defendants.