

BOOK REVIEW

Douglas J. Klapec,¹ B.S.

Review of: *Practical Bomb Scene Investigation*

REFERENCE: Thurman JT. *Practical bomb scene investigation*. Boca Raton, FL: CRC Taylor & Francis Group, 2006, 465 pp.

James T. Thurman's book, *Practical Bomb Scene Investigation*, is a well written preparatory text for those who will be engaged in postblast scene investigations. There is plenty of technical information detailing what explosives and explosions are, and plenty of technical detail on classification systems of items like military and traditional weapons of mass destruction. Mr. Thurman is also thorough in his descriptions of the various differing roles of a postblast investigative team. That said, it would be a bit of a stretch to label this book as a comprehensive step by step investigative guide to postblast investigations. There are three areas worth mentioning; some minor technical flaws, a somewhat cursory look at comprehensive investigative techniques (although this may be left for another book), and an FBI perspective to these types of investigations.

The minor technical flaws are not numerous, but some do need to be addressed. The author states (page 6) that "Low explosives are solid mixtures of chemicals, which under any conditions cannot support a detonation wave." Double base smokeless powder is typically classified as a "low" explosives, and under most conditions behaves as such. However, research has shown that double base smokeless powder will not only detonate when confined to a pipe and initiated with a detonator, but will do so unconfined as well. The author states (page 8) that "Dynamite, water gels, and emulsions may or may not be compounds." By definition these explosives contain multicomponents (compounds). The description of figure 1.2 is the exact opposite as the actual figure. The inclusion of Hodgdon "777" (triple seven) as a black powder substitute on page 51 is recommended. Contrary to the author's statements, postburn pyrotechnic fuses can still yield valuable information through analysis of the ash, if properly collected, and the microscopic analysis of fuse insertion points for coatings and perhaps fibers (page 133).

The author twice refers to the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) as classifying larger explosive/pyrotechnic devices as "Destructive Devices" under Federal law (pages 53, 137). This is not quite true. These large pyrotechnic (mostly flash powder) devices are generally illegal to sell, but under Federal Law, may be legal to possess, and therefore are usually not classified as "Destructive Devices" unless modified, or are used in the destruction of property or in causing injury.

Placing one of these devices in someone's mailbox, for example, is possibly a "Destructive Device" under Federal Law. Two other minor technical errors include addressing Composition

C-4 as "Composition 4 (C-4)" (page 92), and stating that TWA Flight 800 exploded at 4,000 ft, when best estimates were around approximately 13,700 ft.

The detail provided on investigating leads is not quite as comprehensive as I would have liked here. For one, there was little attention devoted to actual forensic examinations, especially in the area of explosives examinations. Although a multiauthored book edited by Alexander Beveridge (*Forensic Investigations of Explosions*, Taylor & Francis Ltd., 1998) already exists, it would have been helpful to have a rundown of the state of the art in explosives analysis for this endeavor. Along these same lines, it would have been helpful to see more actual postblast cases, and how the forensic aspects of the investigation actually led to an arrest or conviction. Another related area which could have been more comprehensively addressed is component tracing, especially in the area of useful internet sites. Even trained investigators or laboratory personnel can be overwhelmed with the task of identifying all of the components that can make up a device.

Mr. Thurman is one of the most recognizable FBI names in postblast investigations, and the FBI is one of the world's best. But they are not the only ones doing these types of investigations. ATF, U.S. Postal Service, other Federal and International Agencies, and a host of state and local law enforcement agencies also do postblast investigations on a regular basis with varying degrees of success. In general, there is a reliance in this book on the FBI perspective. For example, in its scene organization of duties, a forensic chemist is conspicuously absent. It also continually references the FBI Bomb Data Center. Although FBI was the primary U.S. collector of bomb data, ATF was authorized in 1996 and again in 2004 to be the primary agency to collect U.S. domestic bomb data. The author recommends the use of thermal imaging in order to locate bomb fragments by first responders (page 184). This seems to this reviewer to be an expensive tool with limited use. The FBI viewpoint is most poignantly revealed by the author's classification of "fire or incendiary and explosives as new additions to these mass destruction materials ..." (page 277). I am not sure from where this "new" classification of any fire or explosion as a possible WMD came. Strictly speaking, WMD would probably best remain classified under those weapons that are chemical, biological, or nuclear in nature. Additionally, Mr. Thurman relies upon swabbing for "... items too large or numerous to transport to the laboratory" (page 241) and even includes the entire make-up of the FBI swabbing kit as an appendix. This kit would be great for most laboratories themselves but the majority of explosives laboratories generally discourage investigators swabbing unless there is absolutely no practical way

¹Arson and Explosives I, ATF National Laboratory, Washington, DC.

to remove the item, and even then recommend limited dry swabbing. If the items are collected into one exhibit (for items “too numerous”) or cut out (for items “too large”) you give the forensic chemist a better shot at finding unadulterated explosive residue samples.

Now, for some of the many positives of this book. It gives the neophyte explosives investigator a great deal of background information on the types of explosives (the chapter on military ordnance was a very good primer). The appendices, especially the ones on names of explosives in many languages and uses of

common explosives, are fantastic references for any level of investigator. There are also many practical examples of what a thorough bomb scene sketch looks like. Additionally, the section on searching and what to take (and leave) at the bomb scene is excellent.

In summary, this book is a must-have for both forensic chemists and bomb scene investigators as a solid reference, and for new investigators and first responders to understand what they are getting into when they approach a postblast scene. The few minor issues in the book are easily overwhelmed by the practical material provided.