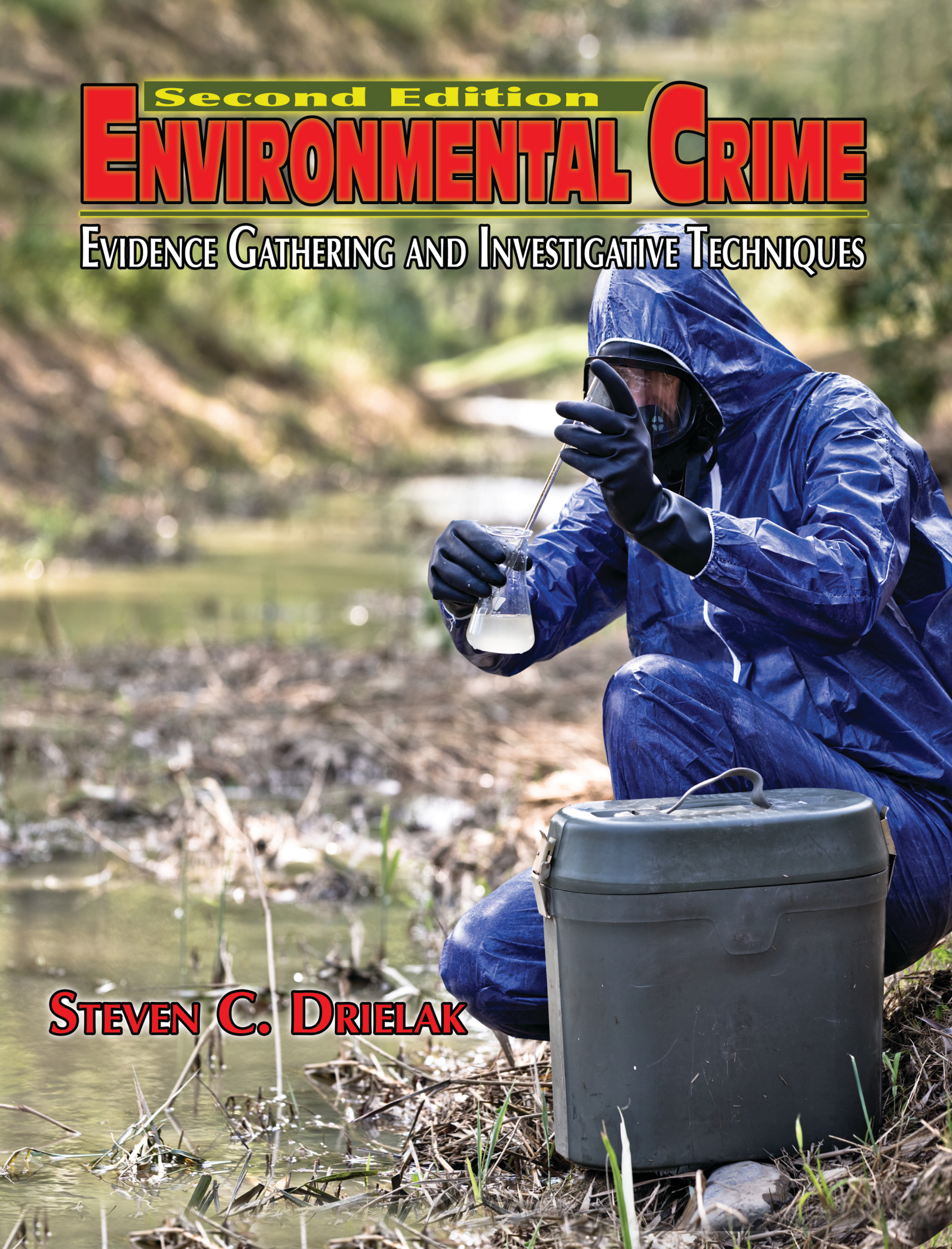
Second Edition

Environmental Crime

Evidence Gathering and Investigative Techniques



Steven C. Drielak

ENVIRONMENTAL CRIME

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Biography

Steven C. Drielak is an internationally recognized expert in the area of environmental forensic attribution. He received his Master degree from John Jay College of Criminal Justice in New York City. He has more than 30 years of law enforcement experience. Steven was responsible for the establishment of the Suffolk County *Environmental Crime Unit* in New York and commanded that unit for 16 years. Beginning in 2003, Steven served as a Director within the EPA's Office of Criminal Enforcement, Forensics and Training in both the Homeland Security and Criminal Enforcement national programs. As the Director of the EPA's *National Criminal Enforcement Response Team* he was responsible for deploying environmental forensic evidence collection teams to BP Alaska's Prudhoe Bay oil pipeline failures, the BP Deepwater Horizon incident and the West Texas Fertilizer Company explosion.

Steven has served as a senior forensic attribution instructor and program developer for the Department of Homeland Security, Federal Law Enforcement Training Center in Glynco, GA and has served for 17 years as a National Academy Instructor for the EPA's criminal enforcement program. He has also provided environmental forensic attribution training for the FBI's *Hazardous Materials Response Unit.* He has also provided international training to numerous countries within the European Union. He has authored and co-authored five text books in the areas of *Environmental Crimes*, *Weapons of Mass Destruction* and *Forensic Attribution*. Steven has served as an appointed member of the International Association of Chiefs of Police *Environmental Crimes Committee* and has served on President's *Interagency Microbial Forensics Advisory Board.* Steven has provided expert testimony at numerous state and federal criminal trials involving releases of hazardous substances to the environment.

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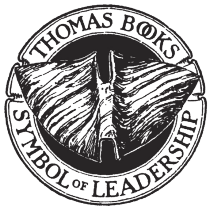
By

STEVEN C. DRIELAK

With a Foreword by Stacey H. Mitchell



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This book is dedicated to

"All Those Who Have Served"

From the criminal investigator's perspective environmental crime is no different than any other crime, with the exception that the evidence you gather may kill you.

Steven C. Drielak

FOREWORD

I first met Steven Drielak in 2016 while I was serving as Deputy General Counsel at the Environmental Protection Agency. Unbeknownst to him, he had long served as a mentor to me. To understand this apparent contradiction, we need to take a step back in time.

Nearly two decades earlier, I started my career as an Assistant District Attorney in the New York County District Attorney's Office, run by Robert Morgenthau.[1] There was no better place to learn the basics of trial skills straight out of law school than in the criminal courts in Manhattan. In my short tenure, I tried dozens of cases, including a double-execution-style homicide (miraculously resulting in only one death) and was a member of the Sex Crimes Prosecution Unit. For many, this might be the job of a lifetime. And yet, having studied environmental law at Tulane School of Law, and participated in the storied Tulane Environmental Law Clinic, I longed for a career in environmental criminal enforcement. In the summer of 1998, I packed my bags and moved from New York City to Washington D.C., to take my dream job as a trial attorney in the prestigious Environmental Crimes Section in the U.S. Department of Justice. While I had a strong foundation in environmental law and newly developed trial skills, I had a glaring gap when it came to ensuring success in my new role: experience and knowledge to manage the investigatory phase of an environmental crimes case.

As luck would have it, that same summer Steven Drielak, a nationally recognized environmental crimes investigator and instructor at the Federal Law Enforcement Training Center and the EPA National Academy, published the first version of this book. From my days as a trial attorney through my tenure as Chief of the Environmental Crimes Section, *Environmental Crime: Evidence Gathering and Investigative Techniques 1st Edition* was my guidebook. In my early years, I frequented the pages of *my guidebook* on a routine basis as I worked complex cases alongside criminal investigative agents from the Environmental Protection Agency, the Federal Bureau of Investigation and the Department of Transportation Inspector General's Office. The dog-earing on the pages revealed that I routinely "checked in" with Steve, asking him critical questions such as "are the agents gathering evidence correctly?", "are we preparing adequately for a search warrant?", "am I overlooking any critical detail?" Not once did Steve let me down.

Fortunately, *Environmental Crime: Evidence Gathering and Investigative Techniques 2nd Edition* is now available. It has been updated to capture changes in the law, advances in science and technology, and Steve's experience gleaned over an additional 20 years of law enforcement and forensic evidence collection, including as the Director of the EPA's National Counter Terrorism Evidence Response Team and in response to numerous catastrophic incidents, including Hurricane Katrina and the Deepwater Horizon incident. And not a moment too soon. The landscape of how environmental crimes enforcement is undertaken and who enforces it is

1. In an odd coincidence, Steve stated his career as a Criminal Investigator with that same office.

changing, and new participants will be entering the field. The EPA is looking more and more to state and local agencies to be the primary enforcers of environmental laws. While many robust environmental crimes enforcement units exist at the state and local levels across the country, there are many that do not have such units. In those locations, investigators and prosecutors with little or no prior environmental crimes investigation experience will be taking the lead on these cases. With this book, they will have an up-to-date how-to manual to ensure that they conduct their investigations in a safe, thorough and reliable manner. Steve's vast experience will give those teams a strategic advantage when building cases.

Steve's meticulously organized, yet easily readable and accessible *1st Edition* helped a generation of environmental crimes prosecutors and agents secure convictions by ensuring that they had the proper training, knew how to develop legal support to collect evidence of an environmental crime and knew the protocols to safely and effectively collect that evidence. Without the benefit of his years of experience and training, numerous cases would have been compromised if not lost. While Steve expresses concern about the forward momentum in environmental criminal enforcement, and the loss of expertise due to retirements of seasoned investigators and prosecutors who led the charge in the early days, I remain steadfastly optimistic that it will continue apace. This is, however, in no small part due to the dedication of Steven Drielak in writing this book, and its companions, including *Environmental Crime Trials: The Road to Reasonable Doubt*. Decades of experience are documented, updated and here to guide the next generation and beyond.

Stacey H. Mitchell

Washington, D.C.

November 2018

PREFACE

The art of criminal environmental investigation has seen many changes since the publication of this text's first edition in 1998. It has been said that the 1980s and 1990s were truly the premiere years for many criminal environmental enforcement programs throughout the United States. Criminal enforcement budgets that provided for adequate equipment, personnel and training were prevalent throughout the country and at many different levels of government. In addition, new and improved methods for collecting samples of hazardous substances were constantly being developed and published which greatly aided the efforts of the various criminal environmental enforcement programs. Unfortunately, it appears that the forward momentum for criminal environmental enforcement has proven to be unsustainable. As local, state and federal environmental criminal enforcement budgets began to shrink, so did the criminal enforcement efforts and capabilities at all levels of government. In many instances, active criminal environmental enforcement programs saw large reductions in staffing of both seasoned environmental crime prosecutors and properly trained criminal environmental investigators. Many of those prosecutors and criminal investigators that remained in these primarily state and local criminal environmental enforcement programs were often given "other" additional criminal prosecutorial and investigative duties and were eventually regulated to a "part time" criminal environmental enforcement role. With few new individuals being added to these programs, and with the eventual retirements of many of the seasoned prosecutors and criminal investigators, there has been a large loss of both prosecutorial and investigative environmental enforcement expertise over the past decade. With no one to pass this knowledge base onto, a great many of the lessons learned in the initial two decades of criminal environmental enforcement are on the verge of being lost.

Federal criminal environmental enforcement programs have not been exempt from these changes. The number of EPA Special Agents nationwide that were to investigate environmental crimes was set by Congress at "200 Special Agents" in 1990. Seventeen years later the number of Special Agents working within the EPA's Office of Criminal Enforcement, Forensics and Training stood at 147. Unfortunately, even this number is misleading. The actual number of Special Agents actively pursuing criminal environmental investigations is even further reduced when you subtract the number of Special Agents assigned to the *Administrators Protection Detail*, *intelligence positions*, *internal affairs investigations* and *supervisory positions.*

The reduction in commitment to criminal environmental enforcement has also caused many state and local criminal environmental enforcement programs to abandon their "proactive" enforcement efforts and instead move to a program of "reactive" enforcement that frequently responds to environmental crime cases that have achieved prominent local media attention. As training and equipment budgets decrease, so does the ability to effectively investigate and prosecute even these few prominent cases.

Prosecutors are again, as they did in the early 1980s, finding themselves turning to both regulatory personnel and private environmental contractors to fill the

void created by the diminishment of trained criminal investigative resources. Many environmental prosecutors are now routinely forced to utilize non-law enforcement trained regulatory personnel and private contractors to both collect and analyze criminal evidence. Even when criminal evidence collection activities are conducted under the direct supervision of law enforcement personnel, a lack of environmental crime specific training may produce questionable practices that may impact on the thoroughness of the investigation and may consequentially undermine the foundation of the prosecution's case.

It is the hope of the author that this text will help preserve some of the accumulated knowledge base discussed above and perhaps offer the new criminal environmental investigator a few tried and proven environmental evidence collection and investigative techniques which may be applied to a variety of environmental crime investigations. Each of the evidence gathering procedures and investigative techniques described in this text have been successfully used in past criminal environmental investigations and their subsequent criminal prosecutions. This text also attempts to enlighten the new criminal environmental investigator as to the consequences to both the investigation and the individual's personal safety when "short cuts" and "compromises" are undertaken during the course of hazardous evidence collection activities. This will be accomplished by thoroughly examining the numerous issues surrounding the OSHA safety mandates which must be followed in order to safely, legally and properly gather physical evidence at an environmental crime scene.

Finally, this text includes several hundred actual environmental crime related photographs. These include surveillance photographs, search warrant photographs, evidence collection related photographs and photographs taken at hazardous waste abandonment crime scenes. Each photograph has been chosen to best illustrate the investigative and/or forensic issue being described in its accompanying text. It should also be noted that each chapter has been specifically designed as a stand-alone reference subject in order to better assist the new criminal environmental investigator with the individual investigative tasks he or she may face while investigating this most unique type of criminal activity.

S.C.D.

INTRODUCTION

Crimes against the environment may take many different forms. Environment-based criminal activity may range from the smuggling of banned hydrochlorofluorocarbons (CFCs) to the smuggling of endangered wildlife. They may also include the illegal filling in of wetlands, illegal deforestation and the illicit trading of carbon credits. From the criminal investigative prospective, each of these subject areas deserves their own treatise that specifically addresses the various investigative techniques that may be utilized in these unique types of criminal investigations. However, this text will focus primarily on the investigative techniques and evidence collection issues involving the illegal release to the environment of *hazardous substances* and the illegal treatment, storage and disposal of *hazardous wastes*. Many state and federal criminal environmental laws refer to these specific terms and demand that the presence of these substances be proven beyond a reasonable doubt in order to obtain a criminal conviction. Those new to the realm of criminal environmental enforcement should be aware that the generally accepted legal definition of a hazardous substance is quite expansive and may include:

- Any substance defined under Section 101(14) of the *Comprehensive Environmental Response, Compensation and Liability Act* (CERCLA);
- Any biological agent and other disease-causing agent that after release into the environment and upon exposure will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions or physical deformations in such person or their offspring;
- Any substance listed by the U.S. Department of Transportation as a hazardous material under 49 CFR 172.101;
- Any hazardous waste as defined in 40 CFR 261.3 or 49 CFR 171.8.[1]

It is unlikely that there would be an environmental criminal charge involving a release of a toxic or infectious substance that did not appear on at least one of these extensive lists of hazardous substances, extremely hazardous substances, hazardous waste and/or acutely hazardous wastes.[2] When combined, these lists total in excessive of 5000 *pages* of specific substances.

When investigating the "release to the environment" of a hazardous substance, criminal environmental investigators will find themselves facing a myriad of situations. These may involve hazardous waste generators that have illegally installed *point sources*; have hidden leaching pools; have ongoing illegal discharges to publicly owned treatment works (POTW) and other forms of on-site illegal discharges (see Figure I.1).

Criminal Environmental Investigators may also find themselves investigating allegations that a particular manufacturing facility is "treating" its hazardous waste products in an illegal manner. These allegations may involve the falsification of laboratory analysis reports or false representations made

Figure I.1: This aerial surveillance image clearly shows that some form of "release to the environment" has taken place at this sanitary waste handling facility.

to a regulatory agency regarding a facility's ability to perform on-site treatment of its hazardous wastes (see Figures I.2 and I.3).

Figure I.2: Representations made to the local regulatory agency by this hazardous waste generator indicated that the treatment system above was used daily. A close inspection of the exterior of the unit during the execution of a search warrant found thick layers of dust and other evidence of non-use.

Figure I.3: A Hazardous Waste Treatment Tank in name only. Once loaded with hazardous waste, the tank's untreated contents were immediately drained into a discharge line connected to the POTW.

Another issue that may be faced by criminal investigators is the issue of illegal hazardous waste storage. It is an old environmental enforcement adage that *today's illegally stored hazardous waste is tomorrow's Superfund site.* Many companies choose to continue to store their hazardous waste rather than pay the costs of proper treatment and/or disposal. Various excuses are provided to the regulatory agencies including denial that the stored material is a hazardous waste. Some companies have taken the position that the stored waste material may be reclaimed in the future and may be used again in their manufacturing process. Others may state that waste material will be treated on-site and will eventually be rendered non-hazardous. In many instances the regulatory process of *Notices of Violations* (NOVs), fines and hearings will continue for years and will invariably result in a criminal investigation that will require the difficult and potentially dangerous forensic examination and sampling of numerous deteriorated drums of hazardous waste (see Figures I.4 and I.5).

In addition to the issues surrounding the illegal treatment and storage of hazardous waste is the issue of its illegal disposal. Illegal disposal of hazardous waste can occur at the point of generation (e.g. on-site) or the hazardous waste may be transported and then illegally disposed of at some off-site location. When disposed of at an off-site location the hazardous waste will normally be transported to the illegal disposal site in 55-gallon drums or tanker trucks. In some instances the hazardous waste may be illegally combined with a non-hazardous waste stream and

Figure I.4: Many facilities will store their hazardous waste in on-site trailers. This type of illegal long-term storage will require a well-planned crime scene investigation to safely collect the hazardous criminal evidence.

Figure I.5: There are many hazards created with the long-term illegal storage of hazardous waste. In this case, the white crystalline substance formed on the walls and floor is sodium cyanide.

Figure I.6: This simple illegal hazardous waste discharge system employed a buried drum with multiple holes punched through its sides and bottom. A 4-inch PVC buried pipe carried the waste out of the facility.

then removed from the generator's facility (e.g. solid waste or waste oil stream). Hazardous waste disposed of illegally at the point of generation is normally accomplished through some form of underground release or container burial (see Figures I.6 and I.7).

Each of the above described types of environmental crimes has a singular investigative commonality. That commonality resides in the need to safely

Figure I.7: In this instance, the hazardous waste is mixed with waste oil, transported to an off-site oil/water separation unit and discharged into the separator. The oil was removed from the final effluent. The hazardous waste remained.

and effectively gather sufficient criminal evidence to prove the required elements of the hazardous waste or substance statute that is suspected of being violated. In most instances that criminal evidence will be contained within an environmental crime scene. With on-site release cases, a criminal search warrant may be required to establish that environmental crime scene. With off-site disposal cases, a timely and effective crime scene must be established using many of the same environmental crime scene protocols that would be used during the execution of an environmental criminal search warrant.

The purpose of this text is to provide the criminal environmental investigator with the investigative techniques needed to establish probable cause for obtaining an environmental crime search warrant. It is also this text's purpose to provide the criminal environmental investigator with the protocols necessary to safely and effectively collect the various types of hazardous and non-hazardous evidence that may be present at an environmental crime scene.

NOTES

1. US Occupational Safety and Health Administration, Hazardous Waste Operations and Emergency Response, 29 C.F.R. 1910.120 (a) (3) Definitions, Hazardous Substances 2009.
2. US Environmental Protection Agency, *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA)*, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Section 112® of the Clean Air Act, EPA 550-B-15-001 2105.

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ENVIRONMENTAL CRIME

Chapter 1

THE CRIMINAL ENVIRONMENTAL INVESTIGATOR

The environmental crime investigator is no different from the arson, narcotics or homicide criminal investigator. Each will have received extensive training in the basics of criminal investigations and further specialized training in their particular assignment area. At the completion of this extensive training, each will have obtained the necessary knowledge and skills to complete a successful criminal investigation and to prepare that investigation for a subsequent criminal trial. Each will understand the consequences, should they fail to follow the sometimes intricate evidence collection and handling protocols required by our adversarial-based criminal justice system. Effective and continued training is the key to successful criminal investigations and subsequent prosecutions. Most criminal investigators and prosecutors would agree that taking a photograph of a dead body and then collecting a sample of the dried blood from the floor does not make a person a homicide investigator. Similarly, taking a photograph of a suspected point source and collecting a sample from the suspected contaminated ground does not make a person a criminal environmental investigator. As an example, the Environmental Protection Agency's (EPA) Special Agents receive a minimum of 8 weeks of basic federal law enforcement and criminal investigator training at the Federal Law Enforcement Training Center located in Glynco, Georgia. In addition to the basic law enforcement training, an EPA Special Agent receives an additional 8 weeks of training in conducting investigations of the criminal provisions of various federal environmental statutes. At the completion of this training, each new Special Agent is assigned to work with a training officer and receives periodic in-service training, as well as advanced training in various investigative techniques.[1] Even with this extensive training regime, there may easily be a prolonged period of time before a new Special Agent is fully capable of conducting a thorough criminal environmental investigation (see Figure 1.1).

There is little doubt that over the past several decades, there has been a continued propensity on the part of environmental crime prosecutors to utilize non-law enforcement trained personnel to conduct key aspects of environmental crime scene investigations, which includes the collection of criminal evidence. For the purposes of this text, non-law enforcement trained personnel is further defined as meaning regulatory personnel and private contractors. The hazardous criminal evidence that they have been asked to collect at environmental crime scenes during this time period has been in the form of observations, photographs, drawings, interviews, records and/or *environmental sampling*. Environmental

Figure 1.1: Collecting evidence at a crime scene can be difficult. Collecting hazardous evidence while wearing a Level "A" suit in a cyanide-contaminated confined space takes extensive training and practice.

sampling at an environmental crime scene normally refers to the collection of hazardous chemical, biological and/or radiological criminal evidence in its various matrixes (e.g. liquids, solids, surfaces, air and dermal). The use of non-law enforcement trained personnel to collect criminal evidence and its potential detrimental impact upon a successful criminal prosecution has been previously examined in specific texts devoted to the subject.[2] However, it is clear that environmental prosecutors today are facing a significant dilemma. If law enforcement officers, with limited environmental crime training, collect the hazardous criminal evidence they will, in all likelihood, lack the proper knowledge and skills to fully comply with all of the underlying regulations, protocols and procedures as described later in this text. If regulatory or contract personnel collect the hazardous criminal evidence, they will, in all likelihood, lack the proper knowledge and skills to comply with the most basic crime scene investigation and evidence collection standards required by our criminal justice system. It has been the practice over the past several decades for criminal environmental enforcement programs, on all levels of government, to attempt to meld these diverse groups into effective environmental enforcement teams. However, without consistent, effective and continuous cross-discipline training and dedicated funding resources, serious evidence collection errors must be expected to occur at environmental crimes scenes. One thing is clear: such consistent and extensive cross-discipline training in the criminal environmental enforcement arena is both rare and expensive.

Crime scene investigation and criminal evidence collection training designed specifically for environmental regulatory personnel has been very limited in availability over the last few decades. Although few selected individuals may receive this type of training from local and state police departments, few hands-on courses are offered each year and those courses are normally limited in their class size. This has resulted in regulatory personnel receiving, at best, a minimal amount of crime scene investigation and criminal evidence collection training over the course of their careers. One of the few courses offered for environmental regulatory personnel is the *Advanced Environmental Crimes Training Program* offered by the California Specialized Training Institute.[3] A similar course had been offered in the past by the US EPA at the Federal Law Enforcement Training Center in Georgia. However, due to budgetary constraints, the course offering to local and state enforcement personnel has been discontinued. In addition, the *Sam Houston State University, Bill Blackwood Law Enforcement Management Institute of Texas* has recently offered a computer-based on-line training course covering certain aspects of environmental crime scene investigation.[4]

Fortunately, *traditional* crime scene investigations guidance and training courses are much more readily available and can greatly prepare those individuals who are expected to collect criminal evidence at environmental crime scenes. Although there are numerous criminal evidence collection certifications available, one of the oldest and largest is the *Crime Scene Certification Board of the International Association for Identification* (IAI).[5] Their crime scene certification program has four distinct levels that include *Certified Crime Scene Investigator, Certified Crime Scene Analyst, Certified Crime Scene Reconstructionist* and *Certified Senior Crime Scene Analyst*. The Certified Crime Scene Investigator is their lowest certification. This certification requires a minimum of 1 year of related crime scene experience and the completion of a 48-hour *Crime Scene Certification Board*-approved instruction in crime scene-related courses within the previous 5 years. Such courses may be offered on a local or state level. This type of course is also offered at the *Federal Law Enforcement Training Center* in Georgia.[6] These courses consist of lectures and practical exercises in various crime scene disciplines including crime scene photography, latent fingerprint development and crime scene documentation. In addition to the experience and specific training requirements, each candidate must also successfully pass a written, timed and proctored examination which consists of approximately 200 crime scene investigation and evidence collection related questions. It is considered best practice to have, at a minimum, one crime scene investigation-certified criminal investigator at an environmental crime scene. This one individual may then oversee the activities of others who are involved with the evidence collection process.

Additionally, the *National Institute of Justice* has established the base line standards for those individuals tasked with managing and collecting evidence at crime scenes.[7] It must be fully understood that these crime scene investigation standards are applicable to all individuals charged with collecting evidence at a

crime scene. Although many environmental enforcement managers and environmental prosecutors have attempted to ignore this issue, it is abundantly clear that there are no exceptions for those individuals charged with searching for and collecting hazardous evidence at an environmental crime scene. Such elementary investigative law enforcement subject areas as crime scene arrival procedures, scene assessments, note-taking, crime scene logs, sketching, photography, videography, search methods, evidence collection, evidence preservation, fingerprints and crime scene documentation are all examined and requirements fully established. As evidenced by the above discussed training requirements established for EPA Special Agents, these are not skills that can be learned and mastered in 1-week annual training event.

These basic investigative law enforcement tenets are applicable to all crime scenes including those involving assault, sexual assault, burglary, robbery, narcotics, arson and homicide. However, in many instances involving environmental crimes, the regulatory and/or contract personnel being utilized by certain law enforcement managers and prosecutors will have received little or no training in the subject areas emphasized by the National Institute of Justice. What is truly astonishing is that many of these law enforcement managers and prosecutors have seen little need for such training. Many of these ill-informed individuals are convinced that the procedures and protocols that are normally adhered to the *regulatory enforcement regime* are sufficient to meet the needs and standards of our adversarial-based criminal justice system. By doing this, these individuals have inadvertently created the false perception that criminal evidence collected at an environmental crime scene will be held to a lower standard than other forms of criminal evidence used in the prosecution of other types of crimes. Unfortunately, this will result in many well-meaning regulatory and contract personnel being woefully unprepared for what they will be forced to endure once they are compelled to explain their actions and inactions under cross examination at a criminal trial. Due to their lack of training, they will be blindly entering a criminal justice system whose norm is the *adversarial adjudication* of assault, burglary, robbery, narcotics, arson, sexual assault and homicide cases. It is the protocols, methods and standards used in *these cases* that will ultimately be applied to their actions during the course of an environmental crime prosecution.

It is important to note that some of the responsibility for the current deteriorated state of our nationwide criminal environmental enforcement programs rests upon those criminal investigators who have been charged with conducting these types of investigations. In many instances, over the past several decades, environmental crimes investigators have chosen to defer many of the issues regarding hazardous evidence collection and analysis to civilian technical experts. In many instances, these technical experts are the very same regulatory and/or contract personnel discussed above. It is not uncommon for a criminal environmental investigator on a local or state level to have little or no knowledge as to the techniques and protocols required to safely and effectively collect hazardous evidence located within an environmental crime scene. Without this knowledge base, the criminal environmental investigator will be *oblivious* to any and all errors made by regulatory or contract personnel during the hazardous evidence collection process. These are errors that may not be exposed until the cross examination of critical prosecution witnesses during the course of the criminal trial. This deficiency may be easily overcome by the environmental criminal investigator: (1) Attending formal sample collection training; (2) Apprenticing under the tutelage of an experience regulatory technical expert; (3) Applying criminal evidence collection standards to all of the new skills obtained.

Today's criminal environmental investigators need to ask a simple question regarding their criminal environmental investigations. That question is: "*If this were a homicide investigation, would the conduct of the investigation, including the procedures and protocols utilized in the collection of the physical evidence, be sufficient to obtain a criminal conviction?*" This is a "standards" question that is critically important to be asked by the criminal environmental investigator. It is based upon the simple truth that evidence found and collected at an environmental crime scene is *no different* than the evidence found and collected at a homicide crime scene. Should a criminal environmental investigator decide, due to the availability of regulatory and contract personnel, that there is no need to personally obtain the knowledge and skills necessary to collect hazardous evidence, he or she should then ask themselves the following two questions:

"*Do proper homicide investigations routinely use* non-law enforcement trained government employees *to collect evidence at homicide crime scenes?*" and "*Do proper homicide investigations routinely* use private contractors, with no law enforcement experience, *to collect evidence at homicide crime scenes?*". The answer to these two questions is a resounding "no."

NOTES

1. www.epa.gov/enforcement/criminal-enforcement-special-agents, Criminal Enforcement: Special Agents.
2. Steven C. Drielak, *Environmental Crime Trials: The Road to Reasonable Doubt* (Springfield: Charles C. Thomas, 2017), 11.
3. www.caloes.ca.gov/CSTI, California Specialized Training Institute, Advanced Environmental Crimes Training Program.
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