

The United States Department of Justice



AMERITHRAX INVESTIGATIVE SUMMARY

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This Investigative Summary sets forth much of the evidence that was developed in the Amerithrax investigation.¹ In the fall of 2001, the anthrax letter attacks killed five people and sickened 17 others. Upon the death of the first victim of that attack, agents from the Federal Bureau of Investigation (“FBI”) and the United States Postal Inspection Service (“USPIS”) immediately formed a Task Force and spent seven years investigating the crime.

The Amerithrax investigation is described below. In its early stages, despite the enormous amount of evidence gathered through traditional law enforcement techniques, limitations on scientific methods prevented law enforcement from determining who was responsible for the attacks. Eventually, traditional law enforcement techniques were combined with groundbreaking scientific analysis that was developed specifically for the case to trace the anthrax used in the attacks to a particular flask of material. By 2007, investigators conclusively determined that a single spore-batch created and maintained by Dr. Bruce E. Ivins at the United States Army Medical Research Institute of Infectious Diseases (“USAMRIID”) was the parent material for the letter spores. An intensive investigation of individuals with access to that material ensued. Evidence developed from that investigation established that Dr. Ivins, alone, mailed the anthrax letters.

By the summer of 2008, the United States Attorney’s Office for the District of Columbia was preparing to seek authorization to ask a federal grand jury to return an indictment charging Dr. Ivins with Use of a Weapon of Mass Destruction, in violation of Title 18, United States Code, Section 2332a, and related charges. However, before that process was completed, he committed suicide. Aware of the FBI investigation and the prospect of being indicted, Dr. Ivins took an overdose of over-the-counter medications on or about July 26, 2008, and died on July 29, 2008. Administrative and investigative steps taken in the past year toward closure of the investigation confirm the conclusion that Dr. Ivins perpetrated the anthrax letter attacks.

I. THE ANTHRAX LETTER ATTACKS

In September and October 2001, at least five envelopes containing significant quantities of *Bacillus anthracis* (also referred to as “*Ba*”) were mailed to United States Senators Patrick Leahy and Thomas Daschle in the District of Columbia, and to media organizations located in New York City and Boca Raton, Florida. Each of the envelopes contained a photocopy of the following handwritten note:

¹ Information derived from sources such as the federal grand jury investigation, sealed court orders, and an “off-the-record” interview of Dr. Bruce E. Ivins, while contributing to the overall investigation, is omitted from this Investigative Summary.

Letters to “Tom Brokaw NBC TV” and “Editor New York Post”

09-11-01

THIS IS NEXT
TAKE PENACILIN NOW

DEATH TO AMERICA
DEATH TO ISRAEL

ALLAH IS GREAT

Letters to “Senator Leahy” and “Senator Daschle”

09-11-01

YOU CAN NOT STOP US.
WE HAVE THIS ANTHRAX.
YOU DIE NOW.
ARE YOU AFRAID?

DEATH TO AMERICA.
DEATH TO ISRAEL.
ALLAH IS GREAT.

(See Attachments A and B.)

The two letters addressed to Senators Leahy and Daschle had the same, later determined to be fictitious, return address: “4TH GRADE, GREENDALE SCHOOL, FRANKLIN PARK NJ 08852.” See Attachment C. The letters addressed to the New York Post and Tom Brokaw contained no return address. See Attachment D. It appears that at least one more envelope was sent to the American Media, Inc. (“AMI”) building, located in Boca Raton, Florida. A contemporaneous anthrax outbreak occurred in that facility, as well as contamination at the postal facilities serving AMI; however, no envelope was ever recovered from AMI.

At least 22 victims contracted anthrax as a result of the mailings. Eleven individuals contracted inhalational anthrax by inhaling *Bacillus anthracis* spores and another 11 suffered cutaneous anthrax by absorbing it through the skin. Five of the inhalational victims died from their infections: (1) Robert Stevens, 63, photo editor, AMI, Boca Raton, Florida, died on October 5, 2001; (2) Thomas L. Morris, Jr., 55, postal worker, Brentwood Post Office, Washington, D.C., died on October 21, 2001; (3) Joseph P. Curseen, Jr., 47, postal worker, Brentwood Post Office, Washington, D.C., died on October 22, 2001; (4) Kathy T. Nguyen, 61, hospital employee, New York City, died on October 31, 2001; and (5) Otilie Lundgren, 94,

Oxford, Connecticut, died on November 21, 2001. Another 31 people tested positive for exposure to anthrax spores. Ten thousand more people, deemed “at risk” from possible exposure, underwent antibiotic prophylaxis.

Thirty-five postal facilities and commercial mailrooms were contaminated. The presence of *Bacillus anthracis* was detected in seven of 26 buildings tested on Capitol Hill. From October through December 2001, the Laboratory Response Network tested more than 120,000 clinical and environmental samples for the presence of *Bacillus anthracis*. The U.S. Postal Service closed two heavily contaminated processing and distribution centers (“P&DC”): Trenton P&DC, located in Hamilton, New Jersey; and Brentwood P&DC, located in Washington, D.C. The Brentwood facility, closed on October 21, 2001, did not become operational again until December 22, 2003. The Trenton facility, which was closed on October 18, 2001, reopened on March 14, 2005. More than 1.8 million letters, packages, magazines, catalogs, and other mailed items were quarantined at these two facilities. The Environmental Protection Agency used \$27 million from its Superfund program to pay 27 contractors and three federal and state agencies for the cleanup of the Capitol Hill facilities.

All of these infections and exposures that occurred in the fall of 2001 resulted from the anthrax mailings described above. All of the anthrax was mailed over a short period of time to locations where all infected individuals were likely exposed. Many of the victims shared places of employment, and the bodies of the five deceased victims all contained the same strain of anthrax. This strain, known as “Ames,” was isolated in Texas in 1981, and then shipped to USAMRIID, where it was maintained thereafter. Another natural outbreak of Ames has never again been recorded.

The evidence (as outlined in the time line below) supports the conclusion that the mail attacks occurred on two separate occasions. The two letters used in the first attack were postmarked on September 18, 2001, and were sent to Tom Brokaw at NBC News and to the New York Post, both located in New York City. Three weeks later, two letters postmarked October 9, 2001 were mailed to Senators Daschle and Leahy at their Washington, D.C. offices. Hard evidence of the attacks surfaced on October 3, 2001, when Robert Stevens, the AMI employee who worked in Boca Raton, Florida, was diagnosed as having contracted inhalational anthrax, an infection from which he later died.

Time Line of Offense

9/17-18/01	Letters to New York Post and Brokaw mailed sometime between 5 p.m. on 9/17 and noon the following day.
9/18/01	Letters to New York Post and Brokaw postmarked in Trenton, NJ.
10/3/01	Robert Stevens (AMI employee in Boca Raton, FL) diagnosed with pneumonia; rod-shaped bacteria consistent with anthrax noted in medical report.
10/4/01	Announcement made that Stevens had contracted anthrax.
10/5/01	Stevens died from inhalational anthrax in Boca Raton, FL.
10/6-9/01	Letters to Senators Daschle and Leahy mailed sometime between 3 p.m. on 10/6 and noon three days later.
10/9/01	Letters to Senators Daschle and Leahy postmarked in Trenton, NJ.
10/12/01	Letter to Brokaw recovered by FBI.
10/15/01	Letter to Senator Daschle opened in Hart Senate Office Building.
10/19/01	Letter to New York Post discovered and recovered.
10/21/01	Thomas Morris died (Brentwood Postal Facility employee in Washington, D.C.).
10/22/01	Joseph Curseen, Jr. died (Brentwood Postal Facility employee in Washington, D.C.).
10/31/01	Kathy Nguyen died (New York City, NY).
11/16/01	Letter to Senator Leahy discovered and recovered.
11/21/01	Ottolie Lundgren died in Connecticut (believed to be the result of cross-contaminated mail).

II. EXECUTIVE SUMMARY

A. Overview of the Amerithrax Investigation

Once the first victim, Robert Stevens, was identified, and the letters were recovered from the New York and Washington crime scenes, the FBI began its investigation through its Miami, New York, Newark, New Haven, Baltimore and Washington, D.C. field offices. The Washington Field Office (“WFO”) became the lead office, and the “Amerithrax Task Force” was established, comprised of FBI Special Agents and United States Postal Inspectors, as well as various other law enforcement officers. The ensuing criminal investigation was extraordinarily complex, given the possible breadth and scope of this bioterrorism attack. In the seven years following the attack, the Amerithrax Task Force expended over 600,000 investigator work hours, involving in excess of 10,000 witness interviews conducted on six continents, the execution of 80 searches, and the recovery of over 6,000 items of potential evidence. The case involved the issuance of over 5,750 federal grand jury subpoenas and the collection of 5,730 environmental samples from 60 site locations. Several overseas site locations also were examined for relevant evidence with the cooperation of the respective host governments.

During its tenure, the Task Force generally was staffed by 25 to 30 full-time investigators from the FBI and the USPIS, as well as prosecutors from the United States Attorney's Office for the District of Columbia. The investigators scrutinized more than 1,000 individuals as possible suspects, located both at home and abroad. The investigation benefitted significantly from the assistance and cooperation of 29 government, university, and commercial laboratories, which augmented FBI Laboratory efforts to develop the physical, chemical, genetic, and forensic profiles of the anthrax spores, letters and envelopes used in the attacks.

In the early years of the investigation, the Task Force did not know whether the letters were a state-sponsored act of terrorism, the work of an international terrorist organization or a domestic-based group, or were isolated acts. Much of the early efforts focused on attempting to classify genetically the spores used in the mailings and to track the envelopes and the letters used to their source. These investigative initiatives took considerable time, as genetic laboratory tests needed to be developed and validated, and traditional forensic means of examination of the letters were significantly hampered by the fact that these items were contaminated by anthrax spores.

At the same time, investigators were culling through lists of possible suspects, based on likely profiles including: scientific ability, laboratory access to the Ames strain of *Bacillus anthracis*, proximity and other links to Princeton, NJ (from which the letters were mailed), suspicious behavior, tips from the public and the scientific community, and possible motivation or incentive to commit such a crime. Task Force agents conducted interviews, and examined business records and publicly available corporate information, such as Securities and Exchange Commission filings, to identify any business that may have been motivated to commit the anthrax attacks for financial gain. The Task Force also launched initiatives to examine industries – such as the bio-pharmaceutical, bio-pesticide and agricultural/veterinary industries – for possible suspects, given their areas of expertise and the equipment they utilized. After thorough investigation using traditional law enforcement techniques, virtually all of the identified individuals were eventually ruled out.

In 2007, after several years of scientific developments and advanced genetic testing coordinated by the FBI Laboratory, the Task Force determined that the spores in the letters were derived from a single spore-batch of Ames strain anthrax called "RMR-1029." RMR-1029 had been created and maintained by Dr. Bruce E. Ivins at USAMRIID. This was a groundbreaking development in the investigation. It allowed the investigators to reduce drastically the number of possible suspects, because only a very limited number of individuals had ever had access to this specific spore preparation that was housed at USAMRIID. The Task Force then began applying traditional law enforcement techniques to a very limited universe.

B. The Elimination of Dr. Steven J. Hatfill as a Suspect

In August 2002, it became widely known that Dr. Steven J. Hatfill was a person of interest to the Task Force. Early in the investigation, numerous individuals who suspected that he might be involved in the letter attacks contacted the FBI. While working as a researcher at USAMRIID from 1997 to 1999, Dr. Hatfill had virtually unrestricted access to the Ames strain of anthrax, the same strain used in the 2001 mailings. Dr. Hatfill also appeared to know the intricacies of conducting a successful anthrax dissemination by mail, although it was not uncommon for those in the bio-defense community to develop such scenarios for training exercises. In addition, he had filled multiple prescriptions for the antibiotic Cipro[®] in 2001, which was the only drug approved by the Food and Drug Administration for the treatment of inhalational anthrax; however, its use also was consistent with treatment for a persistent infection from which Dr. Hatfill was suffering at the time.

Ultimately, the FBI's genetic analysis of the organism used in the attacks led investigators to exclude him conclusively as a suspect. Early in the investigation, it was assumed that isolates of the Ames strain were accessible to any individual at USAMRIID with access to the bio-containment labs. Later in the investigation, when scientific breakthroughs led investigators to conclude that RMR-1029 was the parent material to the anthrax powder used in the mailings, it was determined that Dr. Hatfill could not have been the mailer because he never had access to the particular bio-containment suites at USAMRIID that held the RMR-1029. In other words, although Dr. Hatfill had access to Ames strain anthrax while at USAMRIID, he never had access to the particular spore-batch used in the mailings.

C. Summary of the Investigation of Dr. Bruce E. Ivins

Armed with new evidence from the scientific breakthroughs, the Task Force focused its investigation on those researchers who had access to the lab at USAMRIID where RMR-1029 was being stored between September 11 and 18, 2001, and again between October 1 and 8, 2001 – the windows of opportunity to have processed and mailed the anthrax used to commit the crime. All of these individuals were interviewed and, when appropriate, polygraphed. The Task Force checked out alibis and examined laboratory notebooks and other records. For each of these individuals, an assessment was made of whether each possessed the requisite skill to produce and dry such concentrated, pure *anthracis* spores. The Task Force conducted searches of home and work computers and examined e-mails. Evidence obtained from these and several other investigative efforts helped rule out all of the other persons with access to RMR-1029, and demonstrated that Dr. Bruce Ivins committed the crime.²

² Dr. Ivins had transferred small quantities of live, virulent RMR-1029 to two other domestic labs between the time of its creation in October 1997 and the 2001 mailings. Any individual with potential access to those samples during that time also was thoroughly investigated and ruled out using these same methods.

Investigators learned that Dr. Ivins was alone late at night and on the weekend in the lab where RMR-1029 was stored in the days immediately preceding the dates on which the anthrax could have been mailed. Before the anthrax mailings, Dr. Ivins had never exhibited that pattern of working alone in the lab extensively during non-business hours, and he never did so after the anthrax attacks. When confronted, he was unable to give a legitimate explanation for keeping these unusual and, in the context of the investigation, suspicious hours.

As investigators reviewed Dr. Ivins's voluminous e-mails, including e-mails during the time frame of the anthrax attacks, it became clear that he was suffering from significant psychological problems, which not only further concerned the investigators, but also contributed to their increasing scrutiny and monitoring of him. Investigators obtained authorization to place pen registers³ on Dr. Ivins's home and work telephones and e-mail accounts, and obtained consent to analyze his home computer hard drives. The Task Force examined his Internet searches and postings and reviewed his e-mail communications from both his personal and USAMRIID computer (with the approval of the Commander at USAMRIID). A GPS device was installed on his car, interviews with his associates were conducted, his trash was regularly searched, and confidential sources were used to gather further information.

By the fall of 2007, agents and prosecutors concluded that they had exhausted the results that could be obtained from using covert investigative tools. Increasingly persuaded that Dr. Ivins was involved in the anthrax attacks, agents obtained search warrants for his residence in Frederick, Maryland, his cars, and his office at USAMRIID, mindful that this would confirm for Dr. Ivins that he was a subject of the investigation. On November 1, 2007, the Task Force executed these search warrants, which resulted in the recovery of numerous items of interest, including a large collection of letters that Dr. Ivins had sent to members of Congress and the news media over the previous 20 years – including one sent to NBC News in 1987 at the same address for NBC used on the Brokaw letter. They also recovered three handguns, two stun guns, a taser, an electronic detection device, computer snooping software, and evidence that portions of the basement were being used as a firing range.

The link between the intended recipients of the seized letters and the recipients of the anthrax attack letters – members of Congress and the news media – was further evidence implicating Dr. Ivins in the anthrax attacks. Searches of his trash and e-mail accounts in the spring of 2008 produced additional evidence linking Dr. Ivins to the anthrax letters. Task Force agents and prosecutors also conducted three interviews with Dr. Ivins with his lawyers present: the first two were “on-the-record” interviews that took place in January and February 2008, and the last was an “off-the-record” debriefing that occurred in June 2008. On July 12, 2008, Task Force agents again searched the Ivins residence, based on new evidence that he had made specific

³ A pen-register, along with a trap-and-trace, allows law enforcement to monitor which phone numbers are being dialed by a particular phone line, as well as which numbers are calling into that phone line. For e-mail accounts, it provides the e-mail accounts that are in communication with the target e-mail account.

threats in a group therapy session on July 9, 2008. During the search of his residence they recovered a bullet-proof vest, together with a homemade reinforced body armor plate, hundreds of rounds of ammunition, and smokeless handgun powder. Agents also interviewed counselors who had treated Dr. Ivins, including the two therapists present during the group therapy session, in an effort to assess the seriousness of his threats to harm individuals involved in the investigation.

In the months that followed the suicide of Dr. Ivins, investigators continued their review of thousands of e-mails going back ten years, and examined additional evidence that developed in the aftermath of his death. In addition, investigators sought and obtained court orders authorizing access to his mental health records, and interviews of various mental health providers who had treated Dr. Ivins in the past.⁴

D. Summary of Evidence from the Investigation Implicating Dr. Ivins

1. Opportunity. After a time-consuming process, the scientific analysis coordinated by the FBI Laboratory determined that RMR-1029, a spore-batch created and maintained at USAMRIID by Dr. Ivins, was the parent material for the anthrax used in the mailings. Further, in the days leading up to each of the mailings, Dr. Ivins, without any apparent legitimate purpose or explanation, was alone late at night in the lab where RMR-1029 was stored, together with the highly sophisticated lab equipment needed to grow, harvest, and store the anthrax used in the mailings, as well as the equipment capable of performing the forbidden function of drying it. Dr. Ivins was never in the habit of working excessive late night hours in the lab, either prior to or after the mailings. In addition, Dr. Ivins was among the very few anthrax researchers nationwide with the knowledge and ability to create the highly purified spores used in the mailings. Finally, everyone else who had access to RMR-1029 was ruled out as the mailer because, among other reasons, they lacked the ability and/or opportunity to prepare and store the material.

2. Motive. According to his e-mails and statements to friends, in the months leading up to the anthrax attacks in the fall of 2001, Dr. Ivins was under intense personal and professional pressure. The anthrax vaccine program to which he had devoted his entire career of more than 20 years was failing. The anthrax vaccines were receiving criticism in several scientific circles, because of both potency problems and allegations that the anthrax vaccine contributed to Gulf War Syndrome. Short of some major breakthrough or intervention, he feared that the vaccine research program was going to be discontinued. Following the anthrax attacks, however, his program was suddenly rejuvenated.

3. Mental Health Struggles. Dr. Ivins's profound mental health struggles provide both a context for his motive to commit the crime and an explanation for how this person could commit such a horrific and tragic offense. Information from his own e-mails and his statements

⁴ The results of that record collection and follow-up interviews remain under seal at this time.

to investigators and others show a man driven by obsessions. In the month before his suicide, his homicidal tendencies became more pronounced, as he posted violent messages on the Internet regarding a reality TV star and made death threats during a group therapy session. One of the mental health providers who was present when Dr. Ivins made these threats noted in publicly filed court papers that Dr. Ivins had “a history dating to his graduate days of homicidal threats, actions, [and] plans,” and that a prior psychiatrist “called him homicidal [and] sociopathic with clear intentions.”

4. Proximity to source of the envelopes. Scientific analysis by the USPIS, FBI, and United States Secret Service (“USSS”) revealed that the envelopes used in the attacks were part of a batch distributed in bulk to post offices in Maryland and Virginia, and envelopes from this same batch were sold at post offices in Frederick, Maryland, and surrounding communities. USSS experts identified certain exploitable print defects in the envelopes used in the mailings and compared these defects to envelopes collected from identified post offices throughout the country. They concluded that the envelopes most similar to those used in the attacks were also distributed to the Frederick, Maryland post office, which was located just a few blocks from the home of Dr. Ivins, and where Dr. Ivins maintained a post office box at the time of the mailings.

5. Language used in the letters. An analysis of the language used in the anthrax letters linked them to Dr. Ivins. In an e-mail he sent to a colleague on September 26, 2001 – *i.e.*, after the first anthrax letters were mailed, but before they had been discovered – Dr. Ivins wrote: “I just heard tonight that the Bin Laden terrorists for sure have anthrax and sarin gas” and “Osama Bin Laden has just decreed death to all Jews and all Americans.” In the anthrax letters themselves, all of which displayed the date “09-11-01” and were written in a manner to suggest that they were from someone associated with al Qaeda or other similar extremists, the following parallel language was used: “We have this anthrax” and “Death to America, Death to Israel.” Also, within the text of the anthrax letters, there were instances where the letters “A” and “T” were bolded, suggesting that the letters contained a hidden code. Dr. Ivins was fascinated with similar codes and hidden messages. Dr. Ivins was particularly fond of a book dealing extensively with coded messages, including codes conveyed in bolded letters and codes involving the letters “A” and “T” – both of which letters are significant in genetics. Dr. Ivins made efforts to hide this book from investigators, as discussed below.

6. Consciousness of guilt. Dr. Ivins engaged in a series of actions and made several statements that were evidence of a guilty conscience. In the immediate aftermath of the anthrax attacks, he – one of the nation’s leading experts in anthrax – sent an e-mail to the Centers for Disease Control and Prevention (“CDC”) suggesting nonsensical explanations for why the first victim might have contracted inhalation anthrax. A few months after the anthrax attacks, he took environmental samplings for anthrax contamination in the building where he worked – an unauthorized procedure – and found it only in the area where he himself worked. He then decontaminated his office and his lab, and failed to report it. In the spring of 2002, when the Task Force undertook efforts to link known cultures of Ames anthrax to the mailed material, he submitted questionable samples of RMR-1029 to the FBI Repository.

In the week after the first search of his residence in connection with the anthrax investigation, he threw out in the trash a book about secret codes that included a passage about using a series of bolded letters to disguise a message, which was strikingly similar to the technique used in the attack letters. The night he threw out the book, he went out into the street in the middle of the night in his long underwear, immediately after the garbage truck came at about 1:00 a.m., and confirmed that his trash had been picked up.

As the investigation began to focus on him, Dr. Ivins made threatening statements related to the anthrax investigation to another scientist. Later, shortly before his suicide, he revealed in a group therapy session his anger at those who were investigating him and his plans to kill co-workers and others who had wronged him. Also shortly before his suicide, when an acquaintance gently confronted him with the possibility that he might be the anthrax mailer, he equivocated in his response. In the course of that conversation, while rejecting the idea of undergoing hypnosis, he worried aloud about what would happen “[i]f I found out I was involved in some way.”

Dr. Ivins also sent a provocative e-mail about the anthrax case to himself from an account he established in such a way that it would appear as though the e-mail was being sent by him to a friend, in an effort to see whether investigators were reading his e-mail.

Throughout the investigation, he repeatedly made efforts to shift the blame for the mailings to both dear friends and professional colleagues through fanciful, far-reaching theories of responsibility. At one point, he sent an e-mail to himself documenting 12 reasons why two of his former colleagues, who were also his two best friends, likely committed the anthrax attacks.

7. History of disguising identity. Dr. Ivins had a number of habits and strange proclivities consistent with the *modus operandi* of the anthrax mailer. He had a penchant for going on long drives to mail letters and packages from distant post offices, often using a pseudonym when doing so, thereby disguising his identity as the mailer. Similarly, the attack letters were mailed under a fictitious name in Princeton, New Jersey. Dr. Ivins used over a dozen pseudonyms over the years to mask his identity when communicating with others, often for illegitimate purposes.

8. Obsessive behavior. The anthrax letters were mailed from a collection box outside of an office building that housed a particular sorority with which Dr. Ivins was admittedly obsessed. Dating back 40 years to his college days, Dr. Ivins had been obsessed with the sorority Kappa Kappa Gamma (“KKG”). By his own account, many times over the years, he would drive three hours or more to visit various KKG sorority chapter houses. Once he arrived, he would look at the house for approximately ten minutes and then turn around and drive home for another three hours or more. On two occasions, he actually burglarized the chapter houses and stole secret ritual material, including a cipher used by the KKG sorority to decode the secret rituals. The anthrax letters were mailed from a mailbox outside the Princeton University chapter of this sorority, located approximately three hours from his house in Frederick, Maryland.

9. Inability to explain his own behavior. Whenever Dr. Ivins was confronted with the evidence against him, he was unable to provide reasonable or consistent explanations for his behavior. Two important examples were his inability to provide any reasonable explanation for his increased after-hours time in the lab in the days preceding both anthrax mailings and his inability to explain how and why he ended up submitting questionable samples of RMR-1029 to the FBI Repository.

III. THE AMERITHRAX INVESTIGATION

A. Introduction

The spore powder, letters, and envelopes recovered during the investigation were exhaustively examined using traditional forensic methods, including hair, fiber, fingerprint, DNA, and handwriting analysis. In addition, Task Force agents interviewed witnesses, and later obtained pen-registers, executed search warrants, and engaged confidential sources. Using these tools, Task Force agents conducted preliminary investigations of 1,040 individuals and in-depth investigations of over 400 of them. In 2007, all of this evidence was supplemented with the groundbreaking scientific genetic analyses that conclusively identified the murder weapon. This revelation, and the investigation that followed, led to the conclusion that Dr. Ivins mailed the anthrax letters.

A bio-terrorism attack presents inherent challenges for criminal investigators. Before any crime is identified, the situation is treated as a public health crisis. In the initial aftermath of the letter attacks, law enforcement authorities were not sure that a crime had even been committed until the first victims of the attack became symptomatic, which occurred weeks after the letters were mailed. The first victims who sought medical care for cutaneous anthrax were misdiagnosed as having contracted common infections from spider bites or other benign causes. It was only when victims Robert Stevens and Ernesto Blanco, both employed by AMI in Boca Raton, Florida, happened to be admitted to the same Florida hospital for pneumonia-like symptoms and were diagnosed with inhalation anthrax, that investigators had reason to suspect that an act of terrorism had occurred. Following Mr. Stevens's death on October 5, 2001, the first two anthrax-laden envelopes were discovered at the offices of the NBC studios in New York City (on Friday, October 12th) and the Capitol Hill office of Senator Thomas Daschle in Washington, D.C. (on Monday, October 15th).

The FBI and USPIS then officially opened their joint investigation. Within 24 hours, scientists assisting the Task Force confirmed that the anthrax powder in the letters to Senator Daschle and the New York Post matched the same strain of anthrax found in the clinical isolates of bacteria removed from Mr. Stevens's blood, thereby linking the three events in Florida, New York, and Washington, D.C. However, many questions remained unanswered. Investigators did not know whether an anthrax letter had passed through AMI in Florida or how many other letters might have been sent. They did not know the location from which the letters had been mailed. Nor did investigators at the time have any idea whether the letters were part of a state-sponsored

act of terrorism, the work of an international terrorist organization or a domestic-based group, or were isolated acts.

B. The Investigation Prior to the Scientific Conclusions in 2007

1. Early investigation of the letters and envelopes

It took nearly a year before Amerithrax investigators identified the location from which the lethal anthrax letters were mailed. The four envelopes recovered from Capitol Hill, the New York Post, and NBC each contained a Trenton, New Jersey postmark, but investigators learned that 48 postal offices and 625 street mail collection boxes fed into the Trenton mail processing facility. Each one of those mailboxes had to be swabbed for the presence of anthrax contamination to identify the specific box from which the letters originated. FBI Laboratory and Field operational response personnel swabbed 621 mailboxes. Analysis of those swabbings allowed investigators to identify a heavily contaminated blue street-side box located across the street from the main entrance to Princeton University, at 10 Nassau Street, Princeton, New Jersey 08542. After several months of investigation, investigators concluded in August 2002 that this was the box from which all of the attack letters were mailed.

Meanwhile, the four recovered anthrax letters and envelopes were subjected to a multitude of forensic analyses by the FBI Laboratory, the FBI Critical Incident Response Group, and the USPIS Forensic Laboratory. Ink samples from the handwritten addresses on the front of the envelopes were analyzed via solubility testing and thin-layer chromatography. These techniques confirmed that the type of pen or writing instrument used for the envelopes mailed to Brokaw and the New York Post was likely the same, but different from the writing instrument used for the envelopes mailed to Senators Daschle and Leahy, which also matched each other. None of the envelopes exhibited indented writing, watermarks, hair, or latent fingerprints. All envelopes were sealed with moisture activation of the manufacturer adhesive and reinforced with strips of transparent tape, both along the closure strip and the folds of the envelopes. Five to nine pieces of tape were affixed to each of the four envelopes.

Fibers were also collected from the envelopes. Eight different types of fibers were either affixed to the tape or found on or in three of the four envelopes; however, none of the fibers matched each other. In addition, none of the fibers matched any of the items of clothing or other fabric collected during any of the searches. A minute quantity of human DNA was detected on the envelope mailed to Senator Leahy, but laboratory analysis revealed that this DNA was inadvertently contributed by the FBI Laboratory technician who conducted the initial DNA analysis. The FBI Behavioral Analysis Unit (“BAU”) found that “there is a high probability, bordering on certainty, that the letters and envelopes were authored by the same person” based on the observed linguistic similarities among the letters.

All four of the recovered anthrax envelopes contained a white, photocopied letter on paper cut to irregular size by trimming one to three edges of the page. The letters to the New York Post and Brokaw contain identical handwritten text, and the letters to Senators Daschle and Leahy likewise contain the same handprinted text. Three “trash marks,” or copy imperfections, of forensic value were found on the letters to Senators Daschle and Leahy, but not on the letters to the New York Post and Brokaw. These trash markings were compared to letters maintained in the FBI Anonymous Threat Letter File and to 1,014 photocopier exemplar sets collected from copy machines located inside or near the vicinity of every known biological laboratory that possessed virulent Ames anthrax in 2001. No matches were found.

2. Preliminary scientific testing of the *Bacillus anthracis* spore powder

The anthrax powder used in the attacks was forensically examined. At the outset of the investigation, three panels comprised of 33 of the nation’s leading authorities in bioweapons development from the former offensive bioweapons program, microbiology, chemistry, and microscopy were convened to assist the FBI in developing a comprehensive analytical framework to evaluate the anthrax powders recovered from the envelopes and the contamination found in the AMI Building. Twenty-nine government, university, and commercial laboratories assisted the FBI in implementing the panels’ recommendations. Consistent with these recommendations, scientists analyzed the anthrax powder contained in the envelopes utilizing many different techniques, including the following:

1. Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), Light Microscopy (LM), and High Resolution SEM/Energy-Dispersive X-Ray Microanalysis (EDX) to identify spore size, spore shape, spore quality, and the spacial profile of elements within the spore;
2. Inductively Coupled Plasma - Optical Emission Spectroscopy (ICP-OES) to provide information regarding the elemental composition of the anthrax spore powders from the letters;
3. Gas Chromatography Mass Spectrometry (GC/MS) to characterize the anthrax spore powders with regard to the presence of agar (a growth medium);
4. Accelerator Mass Spectrometry to identify the relative age of the material using C^{12}/C^{14} isotope ratios; and
5. Stable Isotope Ratio Analysis to provide information potentially probative of geographic attribution.

3. Early scientific findings and conclusions

These tests and techniques allowed scientists to make several physical findings regarding the *Bacillus anthracis* spores used in the letter attacks. The spore particles had a mass median diameter between 22 and 38 microns. They exhibited an electrostatic charge, showed no signs of genetic engineering, and were non-hemolytic, gamma-phage susceptible, antibiotic and vaccine sensitive, and devoid of aerosolizing enhancers (*e.g.*, fumed silica, bentonite, or other inert material). These characteristics were and are inconsistent with weapons-grade *anthracis* produced by offensive, state-sponsored biological weapons programs.⁵

Spore powder concentrations ranged from 4.60×10^{10} to 2.10×10^{12} colony-forming units per gram, an extraordinarily high concentration. In addition, the spores in the Washington, D.C. letters were of exceptional purity. Spores of such high concentration and purity indicate that they were derived from high quality spore preparations. Spores of this quality are often used in bio-defense research, including vaccine development. It is important to have highly concentrated spores to challenge most effectively the vaccine being tested. Similarly, highly purified spores are necessary to prevent obstruction of the machinery used in those experiments.⁶ These findings meant that the anthrax mailer must have possessed significant technical skill.

⁵ Throughout the course of the investigation, repeated challenges have been raised to this finding that the spores were not weaponized. The challenges have their root in an initial finding by the Armed Forces Institute of Pathology (“AFIP”) that, upon gross examination, the spores exhibited a silicon and oxygen signal. However, subsequent analysis of the spores by Sandia National Laboratories, using a more sensitive technology called transmission electron microscopy (“TEM”) – which enabled material characterization experts to focus its probe of the spores to the nanometer scale – determined that the silica was localized to the spore coat within the exosporium, an area inside the spore. In other words, it was incorporated into the cell as a natural part of the cell formation process. “The spores we examined lacked that fuzzy outer coating that would indicate they’d been weaponized,” stated Dr. Paul Kotula of Sandia, who personally examined the spores from the 2001 attacks. When presented with these results, Dr. Peter Jahrling, a USAMRIID scientist who had reviewed the initial AFIP results and stated publicly in late 2001 that the spores had been weaponized, retracted his earlier statement, telling the Los Angeles Times on September 16, 2008, “I believe I made an honest mistake.”

⁶ In an aerosol challenge to a particular vaccine, spores in liquid suspension are placed into a nebulizer, also known as a collision, which is used to generate aerosolized particles of the challenge-agent, such as *Bacillus anthracis*. Once the air flows from the nebulizer through the aerosol chamber, it is recaptured in an all-glass impinger (“AGI”). The AGI is used to force the submersion of the air flow through water, for the effective impingement of the particles into solution. Excessive cellular debris or remnants of growth media in less-pure spore preparations could clog these mechanisms and inhibit the effectiveness of the vaccine challenge.

These tests led to the conclusion that two separate production batches of anthrax were used for the New York and Washington, D.C. mailings because each contained differences in spore concentrations, color, contaminants, texture, growth media remnants, and observed debris. When coupled with the genetic analysis discussed in Section B, *infra*, investigators were able to conclude that the two distinct batches of anthrax used in the 2001 attacks shared a common origin.

Elemental mapping, using electron microscopy, detected an amorphous layer of silicon and oxygen below the exosporium, which was localized to the spore coat. This layer was present in the spores mailed to New York and the spores mailed to Washington, D.C., albeit in slightly different quantities.

The scientific review panels also assisted investigators in reaching three key conclusions. First, the perpetrator of the 2001 anthrax mailings acquired the Ames strain of anthrax from a laboratory, rather than from a new sample collected from a naturally occurring outbreak. The Ames strain has been isolated only once in nature, that being from a dead cow in Sarita, Texas in 1981. A second natural occurrence of the Ames strain in the environment has not been reported. Only 15 U.S. and three foreign laboratories were known to possess the Ames strain of anthrax prior to the attacks.

Second, the evidence demonstrated that the perpetrator was familiar with key items of laboratory equipment used in microbiology research. All of the Ames anthrax existing in the 15 U.S. labs prior to the attacks was in liquid slurry form or on vegetative cell slants, rather than in powder form. Consequently, it was not possible for the perpetrator to merely steal an existing quantity of Ames spore powder “off the shelf,” because none was known to exist in the holdings of any laboratory. Even if the perpetrator stole a quantity of liquid Ames anthrax slurry, it would still have been necessary to dry the anthrax in order to produce a product like the one recovered from the envelopes. This drying procedure would have required either the type of laboratory equipment, such as a lyophilizer or speed-vac system, that was present in each of the 15 labs, or considerable time and space to air-dry. Alternatively, if the perpetrator stole only vegetative cells or a small quantity of spores to use as seed stock, not only would the perpetrator have to dry the anthrax, he would also have to subject the anthrax to two separate culturing and washing operations using an incubator and centrifuge.

Third, the perpetrator almost certainly came into contact with aerosolized anthrax spores in committing the crime, and was probably protected against an anthrax infection by vaccination and/or antibiotics. One point of contact between the perpetrator and the anthrax spores occurred as the anthrax-laden envelopes were deposited into the mailbox. According to scientists, even assuming that the letters were transported to the mailbox in a sealed plastic bag or other containment device, the act of removing them from the bag or letting them drop from a bag into the mailbox would have generated sufficient kinetic energy to aerosolize some spores through the pores in the envelopes. A second likely point of exposure occurred as the perpetrator loaded the letters and envelopes with anthrax powder. Even if a sophisticated or improvised containment

device such as a glove box was used for this purpose, the subsequent decontamination and/or disposal of the device likewise would have aerosolized some spores. Both of these potential instances of contact put the perpetrator at risk of contracting inhalational anthrax. A prudent perpetrator would have certainly practiced some form of prophylaxis, either through anthrax vaccination and/or an antibiotic regimen, to protect himself from an anthrax infection. When a noted bioweaponeer from the U.S. offensive bio-weapons program of the 1960s learned that the spores were dried to the concentration of 2.10×10^{12} colony-forming units per gram, he observed, "NOW the price of poker just went up."

4. Continuing investigative efforts

While the scientific analysis and forensic examinations described above were moving forward, Task Force agents pursued all the traditional investigative techniques that law enforcement organizations utilize in any other murder investigation. In the early years of the investigation, before genetic analysis led to the conclusion that RMR-1029, located at USAMRIID, was the parent material to the mailed spores, over 17,000 investigative leads and citizen tips were run down and eventually eliminated. A reward of one million dollars was offered by the FBI and USPIIS for information leading to the arrest and conviction of the perpetrator, which was subsequently increased to \$2.5 million. During the first four years of this investigation, the Amerithrax Task Force received 192 tip letters from the general public, each of which was reviewed for potential leads.

For example, Task Force agents vigorously pursued the possibility that the letters were the result of a state-sponsored attack, and specifically focused on those governments known to have, or have had, an offensive biological weapons program. Task Force investigators also exhaustively explored the possibility that al Qaeda or another international terrorist organization may have been responsible for the 2001 attacks, conducting witness interviews and evidence collection efforts on six continents with its liaison partners overseas. While it is undoubtedly true that al Qaeda was seeking to establish an offensive bioweapons program in 2001 (*see The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States*, Chapter 5.1, at p. 151), Task Force agents were unable to find any link between al Qaeda and the letter attacks in the United States, or even that, at the time of the attacks, any al Qaeda operatives had access to the type and quality of anthrax pathogen used in the 2001 attacks.

Amerithrax investigators also pursued every lead that could be derived from the text of the anthrax letters and envelopes. On the envelopes addressed to the two U.S. Senators was written the fictitious return address of "4TH GRADE, GREENDALE SCHOOL, FRANKLIN PARK NJ 08852." There is no Greendale School in Franklin Park, New Jersey, and the zip code 08852 is assigned to the neighboring town of Monmouth Junction, not Franklin Park. Investigators tried to identify a connection between potential perpetrators and any U.S. locale or Internet website using any aspect of this return address, including the name Greendale, Franklin Park, or 08852, but nothing conclusive was found.

A victimology assessment revealed few themes of commonality among the targeted victims. Three of the five known targeted victims were media/press entities: Tom Brokaw/NBC, the New York Post, and the National Enquirer/AMI. The remaining two targeted victims were United States Senators. Senators Daschle and Leahy and Tom Brokaw all were middle-aged white males who held positions of leadership in their respective fields at the time of the attacks. Investigators focused on identifying every publication and Internet website containing the exact mailing address and nine-digit zip code used on two of the four envelopes that were recovered, but no clear links were established to any persons with access to laboratories containing the anthrax pathogen, or to other potential perpetrators identified over the course of this investigation.

Once the anthrax used in the attacks was positively identified as the Ames strain, Task Force investigators set out to identify every laboratory, both domestically and internationally, that possessed the Ames strain prior to the letter attacks. Although the CDC provided a listing of all laboratories registered to work with *Bacillus anthracis*, there was no guarantee that the resulting list would be complete. Investigators therefore created their own list based on CDC Select Agent transfer records documenting every transfer of anthrax between 1997 and 2001, and based on anthrax inventory records that were subpoenaed from over 100 Bio Safety Level 3 ("BSL-3") laboratories in the United States. These records were supplemented by information culled from FBI interviews of scientists working at each of these labs, and through FBI reviews of relevant scientific publications mentioning the Ames strain. In the end, 15 domestic laboratories and three foreign laboratories were identified as repositories of Ames-strain anthrax at the time of the letter attacks. Electronic and paper access records collected from each of those laboratories were then compiled. Task Force agents were able to identify to a reasonable degree of certainty every person who had access to the containment suites at each of these labs (and the Ames strain anthrax maintained at these labs) at any time prior to the date of the 2001 attacks.

5. Assessing individual suspects

Armed with this information, the Amerithrax Task Force focused its investigation on certain individuals based on the following criteria: (1) access to the Ames strain of anthrax; (2) knowledge of *Bacillus anthracis* production protocols; (3) laboratory experience and capabilities related to microbiology; (4) allegations of wrongdoing; and (5) motivation to perpetrate the attacks. Based on this suspicion metric, certain individuals were scrutinized even further to determine their whereabouts during the windows of opportunity for the mailings, their handwriting characteristics (for comparison to the printing on the attack letters/envelopes), and to determine to what extent they had protected themselves from anthrax infection at the time of the mailings.

This process led to the identification of hundreds of individuals who satisfied one or more of the above criteria, and each one was thoroughly and discretely investigated for any possible nexus to the anthrax mailings. In the four years before genetic analysis permitted the Task Force to begin to focus its investigation on RMR-1029, the list of individuals who received

investigative scrutiny included:

* A physician who told associates that s/he was one of the few people who could have prepared and mailed the anthrax letters. A preliminary investigation suggested that this individual possessed a financial motive for committing the crime and possessed knowledge of anthrax dispersal techniques.

* A scientist, although deceased for more than a year prior to the mailing of the anthrax letters, reported to have possessed chemical and biological materials of interest, and who may have been closely associated with key figures from a biological weapons program in a foreign country.

* A researcher with access to the Ames strain who possessed a keen interest in the weapons application of the Ames strain, biological terrorism scenarios, and biological warfare in general.

* A researcher with access to the Ames strain who possessed particular expertise in the fermentation production of bacteria.

* A scientist with an arguable financial motive to commit the attacks, who traveled to New Jersey at or near the time of the New York and Washington, D.C. anthrax mailings.

* A scientist with access to the Ames strain who trained others in the refinement and weaponization of biological agents.

* A foreign-born researcher who worked at a facility maintaining the Ames strain and against whom an anonymous letter had been sent to law enforcement alleging that s/he had strong anti-American sentiments and may have had access to “biological poisons.”

* A foreign-born scientist with particular expertise working with a *Bacillus anthracis* simulant known as *Bacillus subtilis*, and against whom there were allegations that s/he had connections with several individuals affiliated with the al-Qaeda and Ansar al-Islam terrorist networks.

* A microbiology student who allegedly had associations with al-Qaeda’s anthrax program.

* A foreign-born scientist who published certain microbiology articles that were found at an al-Qaeda training facility in a foreign country.

* A foreign-born microbiologist in New Jersey who had allegedly made certain anti-American statements, and who lived and worked in close proximity to Princeton.

* A Postal Service employee at the Hamilton Township Plant and Distribution Center in Hamilton, New Jersey, who resigned shortly before the mailings, and whom a witness alleged was associated with a U.S.-based al-Qaeda laboratory involved in anthrax production.

* A scientist who allegedly had the capability and disposition to use anthrax as a weapon.

* A researcher whose unusual behavior prompted a former colleague to contact the FBI, and who was described as a freelance scientist who would sell her/his services if the price was right.

* A researcher against whom the FBI received several tips that s/he fit the publicized profile of the anthrax terrorist, and who reportedly had a grudge against the United States.

* A microbiologist whose suicide after the attacks was coupled with allegations that s/he might have some association with the anthrax attacks.

* A scientist with extensive knowledge of the production of weaponized anthrax, and who arguably had a financial motive for committing the attacks.

* A disgruntled foreign scientist who allegedly had reason to take revenge against her/his former employer, and about whom other co-workers had expressed concerns.

Each of these individuals was ultimately excluded as a suspect based on a number of factors, including alibi, insufficient ability, and lack of access to RMR-1029.

6. Dr. Steven J. Hatfill

One individual who became widely known in August 2002 as a person of investigative interest was Dr. Steven Hatfill, a former researcher at USAMRIID. In the first four months of the investigation, eight individuals brought Dr. Hatfill's name to the attention of the FBI as someone suspected of being involved in the attacks. Dr. Hatfill had in the past boasted to USAMRIID co-workers that he knew how to weaponize anthrax, quizzed colleagues on their knowledge of the topic, and repeatedly stopped people in the hallways to warn them about the dangers of anthrax as a biological weapon. In a June 2002 search of Dr. Hatfill's apartment in Frederick, Maryland, investigators discovered detailed anthrax production protocols, some of which matched techniques used by the United States Army to produce anthrax for the now defunct U.S. Offensive Weapons Program. Also recovered from Dr. Hatfill's apartment was an anthrax simulant powder.

While working as a researcher at USAMRIID from 1997 to 1999, Dr. Hatfill also had virtually unrestricted access to the same strain of anthrax (Ames) used in the 2001 mailings, although the FBI's genetic analysis of the organism used in the attacks eventually led investigators to exclude him as a suspect. Dr. Hatfill also appeared to know the intricacies of

conducting a successful anthrax dissemination by mail, having commissioned a “risk assessment” report from a renowned bioweaponer which describes in detail the tactical effectiveness of an anthrax letter sent through the U.S. mail, including the specific quantity of anthrax that can be packed into an envelope without arousing suspicion. Multiple PowerPoint presentations used by Dr. Hatfill prior to the attacks specifically depicted an anthrax letter attack scenario, one of which contained a slide entitled “Multiple Hoax Mailing Trends” that referenced: “Single letter containing WMD threat sent to multiple targets. Letters similar in content and point of origin. Letters delivered to . . . Government Agencies . . . News Agencies.”

Dr. Hatfill also aroused suspicion early in the case because pharmacy records from Frederick, Maryland revealed that he filled multiple prescriptions for the antibiotic Cipro® in January, July, September, October, and November of 2001, including refills of the antibiotic two days before each of the anthrax mailings. This was significant because Cipro® was the only drug approved by the Food and Drug Administration for the treatment of inhalational anthrax. Dr. Hatfill obtained some of these prescriptions by calling a doctor acquaintance, complaining that he was sick and specifically asking for a Cipro® prescription. The prescribing physician, who telephoned in the prescriptions to Dr. Hatfill’s pharmacy, never examined Dr. Hatfill to confirm his claimed illness.

In addition to these facts, the early investigation in this case developed other information relating to Dr. Hatfill that appeared suspicious at the time. For example, a search of a pond near Frederick, Maryland, associated with Dr. Hatfill, contained a suspicious plastic container that arguably could have been modified to assemble the anthrax letters and appeared to be deposited intentionally in the pond.

Ultimately, Amerithrax investigators concluded that Dr. Hatfill’s antibiotic usage was explained in part as a self-prescribed therapy for a persistent sinus and bronchial infection. Further, Dr. Hatfill’s work product (PowerPoint presentations and training exercises) that addressed various bio-threats, including the use of the mail, were commonly used in the bio-defense community. Finally, there was no evidence linking Dr. Hatfill to the plastic container located in the pond, nor was there any evidence that it had been used in for any illicit purpose.

Most important regarding the ultimate exclusion of Dr. Hatfill were the later scientific breakthroughs. Early in the investigation, agents determined that isolates of the Ames strain were accessible to any individual at USAMRIID with access to the bio-containment or “hot” side of Building 1412, including Dr. Hatfill. Later in the investigation, RMR-1029 was conclusively identified as the parent material to the anthrax powder used in the mailings. Because Dr. Hatfill – who left USAMRIID two years before the anthrax attacks – never had access to the area in which RMR-1029 was stored at the time it was stored there, he was ultimately eliminated as a suspect.

7. Simultaneous investigative initiatives

With a relatively large complement of 30 agents and inspectors from the FBI and USPIS, the Task Force never faced a significant shortage of resources that would force investigators to focus on one subject to the exclusion of all others. Even while Dr. Hatfill was a subject of the investigation, Task Force investigators continued to pursue scientific leads that ultimately led to Dr. Hatfill's exoneration. Investigators also continued to examine other researchers that surfaced under the four investigatory criteria: access, knowledge, experience, and motivation.

For example, while investigators were executing search warrants at the home of Dr. Hatfill in August 2002, and pursuing other investigative leads relating to other persons of investigative interest, the FBI and USPIS were also devoting considerable resources to several other important investigative initiatives in an attempt to identify the anthrax mailer:

* *Profit Motive Initiative*: Task Force agents analyzed interviews, obtained business records, and examined publicly available corporate information, such as Securities and Exchange Commission filings, to identify any business that may have been motivated to commit the anthrax attacks for financial gain. Investigators looked at companies that had received the benefits of increased publicity or heightened demand for their products or services as a result of the anthrax mailings, and then examined decisions made by management as a result of the event.

* *Anthrax vaccine production*: At the time of the anthrax mailings in 2001, a bio-pharmaceutical company headquartered in Michigan was the sole provider of anthrax vaccine to the U.S. Department of Defense ("DOD"). The company's vaccine was the only anthrax vaccine licensed by the U.S. Food and Drug Administration ("FDA") for human use in the United States. In the aftermath of the 2001 anthrax mailings, the FDA granted this company long-sought approval to continue production of its vaccine, which had previously been suspended for the company's violation of Good Manufacturing Practices. This approval positioned the company to reap substantial profits from the increased demand for its vaccine generated by the anthrax attacks. Accordingly, the FBI investigated this company, its employees, officers, and shareholders to identify any indications of their involvement in the anthrax mailings.

* *Agriculture Veterinary Industry*: In the early stages of the investigation, a national initiative was undertaken to identify individuals and groups within the agricultural and veterinary community ("Ag/Vet") who had access to live Ames strain *Bacillus anthracis* cultures. The objective of the Ag/Vet initiative was to compile a list of such persons and determine whether they exhibited any of the other indicia that suggested involvement in the attacks. More than 200 entities in the Ag/Vet community were investigated to determine if any strains of *Bacillus anthracis* had been collected at the facility, and, if so, who at that facility had access to those strains.

* *Bio-pharmaceutical Industry*: At the urging of a panel of forensic experts, in January 2002, investigators looked into the possibility that the production infrastructures in the bio-pharmaceutical industry may have been exploited to make the spore powder used in the anthrax mailings. This initiative, titled the Bio-pharmaceutical National Initiative (“BNI”), sought to identify those commercial entities with the technical skills and necessary equipment to produce the type of refined spore powder recovered from the anthrax mailings. The BNI gathered information about individual companies, their laboratories and production facilities, and their employees’ access to the Ames strain of *Bacillus anthracis*. The BNI placed particular emphasis on those bio-pharmaceutical companies located in the greater New Jersey area, and those using containment facilities, because work with *Ba* is usually done in a BSL-3 laboratory.

* *Bio-pesticide Industry*: The most widely used microbial pesticides incorporate strains of *Bacillus thuringiensis* (“*Bt*”), a spore-forming bacterium which is very similar to anthrax but harmless to humans. For this reason, *Bt* is sometimes used in the military and weapons of mass destruction defense community as a simulant for anthrax, both in laboratory research and in field training exercises. Many commercially available bio-pesticides use an aerosol delivery system to effect application of the product to the infested area. Consequently, investigators theorized that the same skill sets, manufacturing equipment, and production facilities used to make *Bt* pesticides also could be used to produce an anthrax spore powder like the one present in the anthrax mailings. Investigators identified the companies that produced *Bt* pesticides and the individuals there with expertise in the production of *Bt*. They also examined the equipment and procedures used by the companies to produce *Bt*.

* *Laboratory Equipment Initiative*: Assuming that the perpetrator must have used some type of containment device to produce the anthrax powder and load the envelopes, the Task Force sought to identify the laboratory equipment used to do so. Investigators collected environmental samples from biological “glove boxes,” or containment devices, located near Trenton, New Jersey, where the anthrax letters were postmarked. They also canvassed companies that serviced and maintained glove boxes, and they visited a resupplier of used and surplus laboratory equipment. From July 29, 2002 through December 16, 2002, 125 glove boxes were swabbed at 24 facilities in a five-state area encompassing New York, New Jersey, Maryland, Pennsylvania, and Washington, D.C. All collected samples were submitted for testing to the CDC in Atlanta, Georgia. This initiative did not produce anything of value to the investigation.

* *Review of Correspondence to Senators Daschle and Leahy*: Amerithrax investigators interviewed Senators Daschle and Leahy to see if they had any inkling as to why they had been specifically targeted. Their staff members and interns were also interviewed regarding any previous threats or suspicious contacts made to either Senator. In addition, investigators reviewed the files of the U.S. Capitol Police, the U.S. Secret Service, and other pertinent files for instances of threats made against either Senator. Investigators determined that none of these had any ostensible connection to the anthrax mailings.

* *Greenbrook Elementary School Records Review*: Investigators took an interest in the Greenbrook Elementary School, located approximately 11 miles north of the contaminated mail collection box in Princeton, New Jersey, from which the anthrax letters entered the mail stream. The school's name is similar to the fictitious "Greendale Elementary School," used in the return address on the Washington, D.C. anthrax envelopes.⁷ The investigation reviewed student records dating back several decades and cross-referenced those records to Amerithrax investigation databases.

* *Analysis of Internet Queries of Targeted Victims' Websites*: Task Force agents collected the web logs for all Internet traffic accessing the contact or mailing address pages of nbc.com, nypost.com, pagesix.com, congress.org, senate.gov, msnbc.com, cbsnews.com, and websites maintained by AMI, focusing on the 90-day time period prior to October 15, 2001. The collected logs were consolidated into a database of 10.4 million records, from which 234,827 distinct IP addresses were identified. The database was searched for IP addresses that viewed the contact pages at all of the relevant websites prior to the postmark date on the envelopes. While the database search did eventually yield two statically-assigned IP addresses which met the predetermined criteria, both were found to be web crawlers. Web crawlers are set to touch every page on the web to capture material for search engines and archiving services.

* *Investigation of Suspicious Deaths Following Anthrax Mailings*: Working on the theory that the person who deposited the anthrax letters in the mailbox in Princeton may have become infected and died in a manner that escaped the attention of authorities, investigators conducted a review of suspicious deaths and deaths from unknown causes that occurred in Mercer County, New Jersey, during the period of October 2001 through February 2002. Mercer County reported that there were 77 deaths of individuals who did not have prior known life threatening illnesses, and the names and identifiers of these individuals were checked against a series of databases, including the Amerithrax Major Case Database and the FBI's Automated Case Support System. Of the 77 deaths, none was found to have a significant nexus to any facet of the investigation.

⁷ The school is located in Kendall Park, New Jersey, a town bordered by both Franklin Park and Monmouth Junction, New Jersey. The anthrax letters mailed to Senators Leahy and Daschle contained the return address of 4th Grade, Greendale School, Franklin Park, New Jersey 08852. The zip code 08852 is assigned not to Franklin Park, but rather to the adjacent town of Monmouth Junction, while the correct zip code for Franklin Park is 08823. Three towns in that area are adjacent to each other – Franklin Park, Monmouth Junction, and Kendall Park – and at one time or another certain addresses within these towns were reassigned to another of the three towns. Investigators pursued numerous leads and theories involving these circumstances. The Greenbrook School records review is an example of one of them.

C. The Genetic Analysis

By late November 2001, investigators knew that there were variants, or mutations, in the evidentiary material, based on phenotypic observation (*i.e.*, by the naked eye), that might be explained through genetics. When a lab technician grew the spores from the letters over an extended period of time, the growth revealed a small percentage of colonies that were noticeably different – they exhibited different textures, colors, and growth patterns. Based on this discovery, investigators and FBI scientists began to evaluate whether they could identify and classify these mutations genetically, thus potentially identifying a single source of the material used in the attacks.

There were many in the scientific community who were not convinced that this endeavor would prove fruitful. They argued that it was by no means clear that the phenotypic variations observed actually had a genetic basis. In addition, even if there were a genetic basis for the variations observed phenotypically, actually identifying, classifying, and testing for the corresponding genetic mutation had never before been accomplished with this bacterium. In fact, the tests needed to conduct such an analysis of *Bacillus anthracis* did not even exist in 2001. It was, as one world-renowned expert in *Bacillus anthracis* later called it, “Star Wars stuff.” As a leading FBI scientist involved in the investigation at the time stated, “It was like looking for a needle in a haystack.” Notwithstanding these challenges, the Task Force, with the assistance of a number of outside labs, opted to pursue this avenue of investigation.

Over the next five months, investigators endeavored to build a database of Ames samples for genetic comparison to the evidentiary material. The Grand Jury issued subpoenas to those 15 domestic and three foreign labs that investigators had determined possessed the Ames strain of *Bacillus anthracis*. The subpoena requested samples of each batch of the Ames strain held in a lab. It set forth the protocol to be used in taking those representative samples in order to ensure uniformity among submissions to what would become known as the FBI Repository (“FBIR”). Consent searches were also conducted at both USAMRIID and Dugway Proving Ground in Utah (“Dugway”), and a search warrant was executed at a private company in the midwest in 2004, to ensure that samples were taken from each stock of Ames in those facilities. In addition, a detailed review of laboratory notebooks, the genealogy of the Ames strain, and transfers was conducted to capture any unreported transfers of RMR-1029 – and none was discovered. A total of 1,070 samples were ultimately submitted, which represents a sample from every Ames culture at every laboratory identified by the FBI as having the Ames strain.

A number of mutations were ultimately selected that were determined to be the most suitable for comparison to the FBIR samples. Beginning in May 2002, the FBI contracted with an outside lab, The Institute for Genomic Research, to perform genetic sequence analyses of the Ames strain of *Bacillus anthracis*. The genetic analyses included the original Ames isolate, known as the “wildtype,” to be used as a baseline for comparison to the mutant organisms identified within the evidentiary material. Genetic analysis of morphological variants identified mutations which were later exploited to develop specific assays to identify the presence of

identical mutations in evidence collected during the investigation. The purpose of these analyses was to classify any genetic mutations found among the morphological variants identified within the spore powder, and then compare these mutations to the repository of Ames samples, in an effort to identify the source material of the letter spore powders. This effort led to the identification of four mutations that passed validation and were deemed suitable for further analysis.

Once the genome of the wildtype and the specified mutations were mapped, the next step was for other outside laboratories, Commonwealth Biotechnologies Incorporated, the Midwest Research Institute, and the Illinois Institute of Technology and Research Institute, to develop assays to test for the presence of these mutations in the FBIR. Upon development, the assays were validated by the FBI Laboratory, and were approved for use in the Repository project – Morph A1, Morph A3, Morph D, and Morph E.

Over the ensuing years, each of the 1,070 FBIR submissions was compared to the evidentiary material using four genetic assays. The first genetic assays developed and validated were the assays to detect the mutations designated A1 and A3. Subsequently, these were the first assays applied to the examination of the FBIR. Thereafter, genetic assays for the detection of mutations D and E were developed, validated, and applied to the examination of the FBIR. By the spring of 2005, there were indications that RMR-1029 was a likely candidate as the parent material. However, the assays for Morph D and Morph E had not yet been applied to the repository, so these early results were speculative. However, by early 2007, the results of FBIR examinations indicated eight FBIR submissions were positive for the mutations originally found in the anthrax letter evidence. Using submission records, investigators determined that these eight samples were derived from a single source identified as RMR-1029.

IV. THE EVIDENCE AGAINST DR. BRUCE E. IVINS

A. Introduction

The evidence gathered in this seven-year investigation establishes that Dr. Bruce Ivins was the anthrax mailer – both direct evidence that anthrax spores under his sole and exclusive control were the parent material to the anthrax spores used in the attack and compelling circumstantial evidence set forth below.

B. Background of Dr. Ivins

Dr. Bruce Edwards Ivins was a senior microbiologist in the Bacteriology Division of USAMRIID. At the time of his suicide, he had been employed there for the prior 27 years. He was considered one of the nation's leading experts in the growth, sporulation, and purification of *Bacillus anthracis*. Dr. Ivins obtained a Bachelor of Science degree in Bacteriology in 1968, a Master of Science degree in Microbiology in 1971, and a Doctorate of Philosophy (Ph.D.) degree in Microbiology in 1976, all from the University of Cincinnati. Dr. Ivins then completed a two-

year post-doctoral fellowship at the University of North Carolina (“UNC”), Chapel Hill.

Dr. Ivins began his work with *Bacillus anthracis* at USAMRIID in 1980. According to leading scientists throughout the country, Dr. Ivins was one of the nation’s foremost experts in the production and purification of *Bacillus anthracis*. This assessment was confirmed by USAMRIID records, laboratory notebooks, written protocols, and his more than 50 professional publications regarding anthrax. From these sources, as well as from Dr. Ivins himself, investigators learned that he personally conducted and supervised Ames anthrax spore productions for over two decades. At the time of the anthrax mailings, Dr. Ivins possessed extensive knowledge of various anthrax production protocols, and was particularly adept at manipulating anthrax production and purification variables to maximize sporulation and improve the quality of anthrax spore preparations. He also understood anthrax aerosolization dosage rates and the importance of purity, consistency, and spore particle size, given his responsibility for providing liquid anthrax spore preparations for animal aerosol challenges. Dr. Ivins produced large batches of *Bacillus anthracis* to conduct these tests on vaccinated animals, during which they would inhale pre-defined doses of anthrax spores to assess the efficacy of the anthrax vaccine. Throughout his career at USAMRIID, he also supervised others involved in spore production.

C. Opportunity, Access and Ability

As explained in the discussion of the genetic analyses, *supra*, a single spore-batch called RMR-1029 is the parent material to the spores used in the anthrax attacks. Distilled to its essence, this means that whoever mailed the letters had access at some point to RMR-1029. That person must have either had direct access to the source flask, created and controlled by Dr. Ivins and maintained in the walk-in refrigerator in his lab, or to a sample of RMR-1029 provided by Dr. Ivins. In this section, first the origins of RMR-1029 are traced, followed by a review of the scientific analysis that led to the conclusion that RMR-1029 is the parent material. Next is a discussion of Dr. Ivins’s suspicious hours in the lab housing RMR-1029 just before each of the mailings, followed by a discussion of others with access to RMR-1029, with a focus on those who had the ability to create the highly concentrated and purified spores used in the attacks. The section concludes with a more detailed discussion of Dr. Ivins’s considerable skill in anthrax spore production and purification.

1. The creation of RMR-1029 – Dr. Ivins’s flask

In 1997, USAMRIID commissioned another Army research facility, Dugway, to prepare large batches of *Bacillus anthracis* spores for an upcoming series of studies testing the anthrax vaccine, because USAMRIID lacked the capacity to do so. By the fall of 1997, Dr. Ivins received from Dugway seven shipments containing the concentrated product of 12 ten-liter, fermenter-grown lots of *Bacillus anthracis* – the “Dugway Spores.” By Dr. Ivins’s own account, these spores were not in perfect shape, so he had to “clean them up.” Indeed, he even discarded the seventh shipment because he deemed it to be inadequate. He noted in his lab notebooks the

process that he used to clean them, and also sent e-mails to various people noting his frustration that he had to wash them. To the Dugway Spores, Dr. Ivins added concentrates of 22 two-liter batches of spores which he himself prepared with the help of a laboratory technician. He combined his spores with those from Dugway, and put them in two flasks, labeled “GLP [Good Laboratory Practices] Spores.”⁸ In addition, he created a Reference Material Receipt record on which he made the following notation: “Dugway Proving Ground + USAMRIID Bact’D – highly purified, 95% unclumped, single refractile spores.”⁹ Finally, in his laboratory notebook 4010, page 074, he described the end-product of these efforts as “RMR-1029: ≥99% refractile spores; < 1% vegetative cells; < 1% non-refractile spores; ≤ 1% debris.” See Attachment F.

According to a copy of the Reference Material Receipt record, these new spores were to be stored in Building 1412; however, at some point, Dr. Ivins used “white out” to delete that entry on the sheet and wrote in Building 1425 – where his office and lab were located. This notation is consistent with his laboratory notebooks, which show that he created RMR-1029 in Building 1425 and never actually sent the flasks to Building 1412, as apparently was originally planned. Over the course of the ensuing years, Dr. Ivins recorded the transfer of spores from the RMR-1029 flasks, including date, recipient, and quantity. There are some problems with his record-keeping, primarily in that he failed to record consistently all the transfers, and he made a math error, resulting in a 100 ml deficit of the material on his log sheet.¹⁰ However, investigators

⁸ Although he received 164 liters in total, once combined, the spores themselves were harvested and resuspended in a total of approximately one liter of liquid, divided into two one-liter flasks. At some point, when the volume was sufficiently depleted, Dr. Ivins combined the spores into one flask. See Attachment E.

⁹ During his many interviews with various agents in the early few years of the case, Dr. Ivins never mentioned his own spore contributions to RMR-1029, stating only that these spores came from Dugway. On June 29, 2004, Dr. Ivins was informed that the FBI was tracking the history, including the genealogy and usage of *Ba* isolates, requiring access to all of his laboratory notebooks – which contained the information detailing his 15% contribution to the “Dugway Spores.” In July 2004, the FBI began reviewing these laboratory notebooks. In an FBI interview on September 8, 2004, Dr. Ivins first acknowledged that he contributed some of the spores to RMR-1029.

¹⁰ Investigators attempted to account for the 100 ml math error identified in Dr. Ivins’s RMR-1029 Receipt Log, scrutinizing each entry by reviewing the associated laboratory notebooks, and interviewing each of the researchers to whom the material was transferred. In addition, investigators reviewed every lab notebook associated with aerosol challenges and vaccine research in general, looking for work using RMR-1029 that was not recorded. Investigators identified 14 unrecorded “withdrawals” from RMR-1029 prior to the mailings, including usages by Dr. Ivins himself and transfers to other researchers, each of whom was investigated. According to this review, there was approximately 220 ml of RMR-1029 that was unaccounted for on Dr. Ivins’s Reference Material Receipt record prior to the mailings in 2001.

have been able to trace the path of the samples through the other researchers to whom he gave material, both within USAMRIID and to outside labs.

During the time that Dr. Ivins was transferring quantities of spores to, for example, aerobiology for animal challenges and outside labs for their research, lab technicians continued to make spores at the behest of Dr. Ivins, thinking that the spores were needed to go into RMR-1029. His junior lab technician thought that the “Dugway Spores” were exhausted, so she needed to make spores for the animal challenges. In fact, she was under the impression that she was hired expressly for this purpose. His senior lab technician, on the other hand, thought that she was continuously making spores to add to the existing stock of “Dugway Spores.” In fact, the investigation revealed that there were never any additions to RMR-1029 after its creation in October 1997.¹¹

2. RMR-1029 is the source of the murder weapon

As noted above, based on advanced genetic testing combined with rigorous investigation, the FBI concluded that RMR-1029 is the parent material of the evidentiary anthrax spore powder, *i.e.*, the evidentiary material came from a derivative growth of RMR-1029. There are a number of investigative and scientific factors that play into the strength of the evidence that RMR-1029 is the parental material of the evidence. First, the collection of Ames isolates from laboratories both from the United States and abroad that constitute the FBIR are a comprehensive representation of the Ames strain. Contrary to widely-held perceptions in the anthrax community, Ames is a unique strain, first discovered in 1981 in Sarita, Texas, and is not known to have appeared anywhere else in nature since.¹² Through extensive interviews and reviews of all relevant documentation, investigators have determined the historical distribution of the Ames strain since its isolation in 1981 and subsequent transfer to USAMRIID. The investigation also revealed that all subsequent derivations obtained from the 15 domestic and three international laboratories that possessed the Ames strain have USAMRIID as their origin, either directly or indirectly. Second, the FBI determined that of the 1,070 FBIR samples screened for the morphological variants, only eight samples contained the four genetic mutations found in the anthrax letter spores. Finally, investigative findings through interviews of scientists and an

¹¹ Investigators unsuccessfully attempted to determine what happened to these spores. However, there is no evidence that RMR-1029 was the parent material to these new spores, as the laboratory technicians were utilizing frozen stock of *Bacillus anthracis* – and not liquid suspension such as RMR-1029 – as the parent material for their new spore preparations. In addition, the technique they used to grow new spores, known as a “single-colony pick,” would not produce genetically identical material to the parent material, making it extremely unlikely that these missing spores were utilized in the anthrax attacks.

¹² Once the blood from the cow was isolated, it was shipped from Texas to USAMRIID in a tube labeled “USDA, Ames, Iowa” – hence the “Ames strain.” USAMRIID maintained the original slant of the Ames strain in Dr. Ivins’s walk-in cold room in Suite B-3 of Building 1425 until its seizure by the FBI in 2005.

exhaustive search of laboratory records determined that the eight genetically identical samples found in the FBIR were solely related to RMR-1029. In other words, the only complete genetic match to the evidence comes from RMR-1029 and its offspring.

Questions have been raised publicly challenging the validity of the science underlying this genetic match. As was described more fully in the Genetic Analysis section, *supra*, a genetic mapping and comparison project such as the one successfully achieved here had never been undertaken. These doubts about the potential reliability of genetic testing of anthrax were rebutted both by the fact that extensive validation studies were conducted prior to the examination of the evidence, and by the fact that there was so much consistency identified across the RMR-1029-related samples.¹³

3. Dr. Ivins's suspicious lab hours just before each mailing

Dr. Ivins created RMR-1029 in his lab, B-313 in Building 1425 (also referred to as “B3” or the “hot suites”), and stored the flasks in the walk-in cold-room there, among hundreds of other flasks. By all accounts, Dr. Ivins was the sole custodian of this material. Investigators interviewed every co-worker of Dr. Ivins and every researcher at USAMRIID with access to the cold-room in which RMR-1029 was stored, and everyone agreed that no one at USAMRIID legitimately used quantities of RMR-1029 without the authorization and knowledge of Dr. Ivins.¹⁴

In order to be able to grow the amount of material needed to fill the attack letters, especially at the level of purity and concentration observed in the evidentiary material, the mailer would have needed access to sophisticated lab equipment such as that housed in B-313. Otherwise, he would not have been in a position to grow and store the material without being noticed or raising concerns.¹⁵ Dr. Ivins's own comments upon examining the evidentiary material support the conclusion that the anthrax spores used in the attack letters were not created

¹³ In the summer of 2009, the National Academy of Sciences began an 18-month study to review the scientific conclusions in the case.

¹⁴ When investigators pressed Dr. Ivins's two lab technicians to describe what RMR-1029 looked like, neither of them could do so. They were aware that Dr. Ivins had created a spore-preparation called the “Dugway Spores” – which Dr. Ivins explained to the prosecution team was another name for RMR-1029. However, neither lab technician was aware that the “Dugway Spores” were contained in two flasks, eventually reduced to one flask, and neither knew what any flask containing the “Dugway Spores” looked like.

¹⁵ A leading anthrax researcher who assisted the investigation expressed his expert opinion that 100 ml would have been required to create sufficient material to be used in one letter, for a total of 500 ml for the five letters. Nonetheless, we cannot say with certainty how much material was used in the letters.

in someone's garage, but rather in a high-tech lab by someone with knowledge and experience:

If this is a preparation of bacterial spores, it is an extremely pure preparation, and an extremely high concentration. These are not "garage" spores. The nature of the spore preparation suggests very highly that professional manufacturing techniques were used in the production and purification of the spores, as well as in converting the spores into a very fine powder.

*See Attachment G.*¹⁶

Drying the spores likely would have attracted attention unless the perpetrator accessed the equipment at night. Drying anthrax spores requires either a sophisticated drying machine called a lyophilizer, a speed-vac, or a great deal of time and space to let the spores air-dry – that is, to allow the water to evaporate – in the lab. Because drying anthrax is expressly forbidden by various treaties, overt use of any of these methods, if noticed, would have raised considerable alarm and scrutiny.

A detailed review was conducted of off-hours access by USAMRIID researchers to B-313 during the time frame leading up to the mailings – August through October 2001 – and then generally over the preceding two years for which lab access records were available, and again for the year that followed. It was clear that, from time to time, Dr. Ivins would enter the lab during evening and weekend off-hours. These entries generally can be supported by his lab notebooks, and those of the other researchers he was assisting, which detail the experiments he was working on that would require this off-hour lab time. However, beginning in the middle of August 2001, there was a noticeable spike in his evening and weekend access to B-313, which continued in spurts through October 2001, and then trailed off to his typical pattern. The data for 2001 revealed the following: January through July: eight hours and 48 minutes total in B-313 during off-hours; August: 11 hours, 15 minutes; September 2001: 31 hours, 28 minutes; October: 16 hours, 13 minutes; November: six hours, 20 minutes; December: three hours, four minutes. (*See Attachment H; see also Attachment I, depicting Dr. Ivins's off-hours lab access over four years*). There was no big experiment or project going on in September/October 2001 that would justify all of the time in the hot suites. Even Dr. Ivins could not explain this extraordinary change in his work schedule.

Dr. Ivins's specific off-hours times and dates in the hot suites are listed below. It is important to note that entering and leaving B-313 is a time-consuming process. One must disrobe and change into lab attire on the way in, and then, on the way out, change out of the lab-wear, shower, and get dressed. For each of the following times in the hot suites, Dr. Ivins was

¹⁶ Such observations were repeated by Dr. Ivins in interviews on October 18, 2001, and again on February 18, 2008. Given his expertise, Dr. Ivins played an integral role in the early stages of the investigation into the anthrax attacks.

completely alone. He had unfettered access to the necessary tools to grow, harvest, and purify the anthrax, as well as to the equipment capable of performing the forbidden function of drying the anthrax. Similarly, he could have easily loaded the anthrax into the letters without being seen or noticed during these times. Recall that the mailing window for the letters to the New York Post and Brokaw was between 5:00 p.m. on Monday, September 17, 2001, and noon on Tuesday, September 18, 2001.

Date	Time in Building 1425	Total Time in B3
Friday, September 14	8:54 p.m. - 12:22 a.m.	2 hours, 15 minutes
Saturday, September 15	8:05 p.m. - 11:59 p.m.	2 hours, 15 minutes
Sunday, September 16	6:38 p.m. - 9:52 p.m.	2 hours, 37 minutes ¹⁷

After Sunday night, September 16, 2001, Dr. Ivins did not again enter Suite B3 in the evening hours until September 25, 2001, nine days later. However, he took annual leave for four hours on September 17, 2001 – the first day of the mailing window – returning to his office (not the hot suites) at 7:00 p.m. that evening, for only 13 minutes, and then left for the evening. He was back at USAMRIID by 7:02 a.m. on Tuesday, September 18, 2001, and traveled with his lab technicians to Covance in Denver, Pennsylvania, to deliver vaccine. Dr. Ivins had no alibi for this first window of opportunity.¹⁸

With respect to the window of opportunity for the letters to Senators Daschle and Leahy to be mailed – beginning at 3:00 p.m. on Saturday, October 6, 2001, through noon on Tuesday, October 9, 2001 – Dr. Ivins worked eight consecutive nights:

Date	Time in Building 1425	Total Time in B3
Friday, September 28	7:16 p.m. - 10:59 p.m.	1 hour, 42 minutes
Saturday, September 29	8:02 p.m. - 11:18 p.m.	1 hour, 20 minutes
Sunday, September 30	9:53 p.m. - 12:04 a.m.	1 hour, 18 minutes
Monday, October 1	9:14 p.m. - 10:43 p.m.	20 minutes
Tuesday, October 2	7:24 p.m. - 9:39 p.m.	23 minutes
Wednesday, October 3	7:25 p.m. - 10:55 p.m.	2 hours, 59 minutes
Thursday, October 4	6:10 p.m. - 10:12 p.m.	3 hours, 33 minutes
Friday, October 5	7:40 p.m. - 12:43 a.m. (Oct. 6)	3 hours, 42 minutes
Sunday, October 7	2:34 p.m. - 3:26 p.m.	21 minutes

¹⁷ Numerous microbiologists have concurred that two hours and 15 minutes would be enough time to dry *Ba* spores, depending on factors such as the quantity of starting material, the volume of liquid in which it was suspended, and whether a centrifuge was used to eliminate most of the water, leaving behind a pellet, or paste, capable of being dried in well under two hours.

¹⁸ Dr. Ivins's own statements to investigators precluded any possibility that his wife could have provided him an alibi. For example, on February 18, 2008, Dr. Ivins stated that his wife never knew where he was, nor did she ever question him about his nocturnal wanderings.

After he left on the afternoon of Sunday, October 7, 2001, Dr. Ivins did not enter B3 again until the evening of October 9, for just 15 minutes, and then again on October 14, for one hour and 26 minutes. The scientists who evaluated the material in the letters to Senators Daschle and Leahy (*i.e.*, the second round) found it to be far cleaner and more refined than the material in the earlier letters, which according to these experts would have required additional lab hours to create. In the 69-hour window in which the second mailings could have been made, Dr. Ivins could account for only a few hours that weekend. He had no alibi for the remaining time.¹⁹

An expert microbiologist from Dugway stated that these hours were consistent with someone preparing the anthrax letters. He specifically noted that the spore-washing process would take some time, especially if the mailer were not using a density gradient to clean the spores.²⁰ This is significant because there are no traces of renografin on the mailing material, which means that the spores could have simply been water-purified, as opposed to this other measure. The expert noted that with respect to the material in the first mailings, he would have been “embarrassed to send that out” because it was so granular – further support for the notion that the additional time expended in preparing the second round of materials may have been due to further washing/purifying of the spores.

When confronted with his suspicious pattern of hours worked in the lab, Dr. Ivins’s only explanation was that he “liked to go there to get away from a difficult home life.” He could not give a legitimate, science-related reason for being there during these hours, and none was documented in any of his lab notebooks.²¹ Also, source information, including from Dr. Ivins’s

¹⁹ In addition, during these same few weeks, Dr. Ivins exhibited an unusual pattern of access to the USAMRIID Library, where there was a photocopying machine. On Sunday, September 16, he was in the library from 2:11 p.m. through 2:25 p.m. According to lab access records, also present were two other USAMRIID employees. On Saturday, September 22, he was present in the library from 8:22 p.m. through 8:36 p.m., with no other researchers present. Finally, on Friday, September 28, he was in the library from 10:42 p.m. through 10:55 p.m., again with no other researchers present. Each of the anthrax-laden letters was a photocopy of originals which have never been found.

²⁰ When spores of *Bacillus anthracis* are cultured, the natural growth process leaves behind residual growth media, vegetative cells, and cellular debris along with the spores. In order for these spores to be used in experiments, they need to be washed clean, or close-to-clean, either by passing them through a gradient or filter – such as renografin – or washing them repeatedly with water, which takes considerably more time.

²¹ It bears mention that during the first five days of this second phase, Dr. Ivins did make notations regarding the health of some mice involved in a study being conducted by another colleague – thus justifying his presence in the lab for a short time on each of those days (Friday, September 28 through Tuesday, October 2). However, the first three of those days, he was in the hot suites for well over an hour, far longer than necessary to check to see if any mice were dead. And for the three nights before each mailing window, Dr. Ivins was in the hot suites for between two and four hours each night, with absolutely no explanation.

own e-mails and his prescription records, reveals that there were other times in those same years when he was experiencing personal difficulties. However, during none of those other time periods were his off-hours in the lab anywhere near the hours he spent there in the weeks leading up to the mailings. Further, his e-mails written contemporaneously with the mailings indicate that the circumstances surrounding his home life were improving. For example, in an e-mail to a former colleague, dated September 17, 2001, on the day before the first letters were postmarked, Dr. Ivins discussed his improving home life. In another e-mail to this former colleague, dated September 19, 2001, the day after the first letters were postmarked, Dr. Ivins reported that he had exercised for the first time in months and that he “felt good.”

Dr. Ivins also told investigators that he went into the lab, rather than just his office, because he was trying to get away from a security guard who used to harass him. However, a careful review of the access records to Building 1425 demonstrates that there were only rare occasions when this guard was even on the same side of the building as Dr. Ivins.

The picture that remains is that Dr. Ivins was alone in his lab for long stretches of time in the evenings and on the weekends leading up to the anthrax mailing events. This picture is in stark contrast to his behavior before and after the mailings.

4. Others with access to RMR-1029 have been ruled out

The efforts to identify and further investigate those individuals with access to RMR-1029 was a continuation of the Task Force’s strategy from the earliest days of the investigation: identify individuals with access to the Ames strain – now the specific culture of Ames – who were capable of creating spores of the high quality used in the mailings, and perform a more in-depth investigation of those individuals. As described more fully in the Traditional Investigation section, *supra*, by the time that RMR-1029 was identified as a focal point of the investigation, investigators had already established a pool of individuals who had access to *Bacillus anthracis* and the subset of those with access to the Ames strain. The Task Force had performed background investigations on those individuals to identify those with a motive to commit the crime, those who were in some way associated with an element of the offense, or those who had otherwise aroused suspicion. These early efforts provided a head start to investigators as they intensified their probe of those closest to RMR-1029.²²

²² Agents utilized a number of techniques to determine who had access to RMR-1029. They reviewed USAMRIID access control records to see who was in the laboratory housing RMR-1029 at various times. These access control records were invaluable, but contained one limitation: the records were available for the time period beginning in August 1998. Because RMR-1029 was formulated in October 1997, investigators had to use alternate methods to identify those with access in the window between October 1997 and August 1998. For this reason, they also reviewed laboratory notebooks and publications of all the researchers with authorization to enter the lab where RMR-1029 was stored, looking for references to work with the Ames strain, and RMR-1029 in particular, and interviewed researchers regarding their time in

Aside from Dr. Ivins, determining who else had access to RMR-1029 was complicated by the fact that there were a handful of times that small portions of RMR-1029 (aliquots) were sent over to Building 1412 the night prior to a scheduled aerosol challenge, leaving open the possibility, however remote, that some researcher in 1412 skimmed a small sample. The same argument could be made regarding two other institutions where other samples of RMR-1029 were stored prior to the mailings. However, the investigation and analysis undertaken by the Task Force, as discussed below, ruled out these other individuals.

- Building 1425: There were 14 people who had access to the hot suites where RMR-1029 was created and stored in September and October 2001 – the relevant time period leading up to the mailings. Except for Dr. Ivins, all of these individuals visited the lab only during standard works hours, with a few limited exceptions. Each person who went into the lab at off-hours had legitimate and demonstrable reasons to be in the hot suites at the times they were there. None of these people was alone in the lab for the lengthy period of time required to grow, harvest, purify, and dry the spores and to load the letters under a protective hood. A comparison of the off-hours of Dr. Ivins to those of these other researchers reinforces the conclusion that Dr. Ivins's hours were suspicious.²³
- Aerosol challenges in Building 1412: Dr. Ivins kept a record of the times that he sent RMR-1029 over to Building 1412 for aerosol challenges. Agents thoroughly investigated each of these transfers via interviews with the recipients and a review of their laboratory notebooks and confirmed that all of the material was used in experiments, with any residual material autoclaved. Dr. Ivins's Reference Material Receipt record supported the investigators' findings. There were times, however, that Dr. Ivins sent the tubes of RMR-1029 over to Building 1412 the night before the experiment, so there were a handful of occasions when an isolate of RMR-1029 was left in the hot suites of Building 1412

the laboratory. Finally, they cross-referenced this list against a list of researchers with up-to-date vaccinations, which are required before lab access will be authorized, in order to produce a complete list of all individuals with theoretical access to RMR-1029 prior to the mailings.

²³ Given the reference in the attack letters to 9-11-01 and the fact that there was an appreciable increase in the quality of the spores from the first mailings to the second, the likely pool of potential mailers would be those who had real-time access to RMR-1029 in September and October 2001. Nonetheless, the investigation did not ignore anyone with potential access to RMR-1029 since its creation on October 22, 1997. This pool included 131 individuals with hot suite access in Building 1425, and another 246 individuals with hot suite access in Building 1412, though these numbers may include some duplication, as some individuals had access to both hot suites. Investigators included Building 1412 in this analysis out of an abundance of caution because there was one notation on an early version of Dr. Ivins's Reference Material Receipt record indicating that RMR-1029 was initially stored in Building 1412, though Dr. Ivins later denied this, and his laboratory notebooks supported him. An investigation was conducted on each of these people as well, with unremarkable results.

overnight. Thus, another scientist could theoretically have stolen a small amount from the tube. However, since they were working with such small quantities for these challenges, researchers likely would have noticed if even a small sample was missing – something no one recalls. Finally, when RMR-1029 was sent over for the aerosol challenges, it was frequently diluted substantially, usually 1,000-fold. Given the highly concentrated material used in the mailings, experts consulted have stated that it is extremely unlikely that such diluted material could have been used in the mailings.

- A commercial laboratory in the midwest: In May and June 2001, Dr. Ivins sent some RMR-1029 spores to a commercial laboratory located in the midwest. However, a careful review of access records at that institution showed that only 42 people physically accessed the lab where RMR-1029 was stored from the time the first shipment arrived on May 9, 2001, until after the second anthrax mailing had occurred. This list was quickly culled to fewer than 20 individuals who had the scientific and technical ability to manipulate *Ba* – the rest were administrators, animal handlers, maintenance workers, and quality assurance workers. There are a number of other factors that militated strongly against the notion that anthrax coming from this institution was the source of the attacks. It would be nearly impossible for someone to be able to manipulate the spores or take any of the many steps required to produce the highly concentrated, pure anthrax used in the mailings because this is a commercial lab, where every minute spent in the lab was accounted for and billed to some contract. During standard lab hours (7:30 a.m. to 4:30 p.m.), researchers were working side-by-side in the lab, and no researcher was ever alone in the lab. There was only one occasion on which employees were in the lab after normal business hours: a consecutive four-night period from June 13 through 16, 2001. During that time, there were always two employees in the suite where RMR-1029 was stored, and each night it was a different set of employees who worked late. Background investigations were conducted on all 42 people with access to RMR-1029 at this facility, including those who lacked the technical ability to do the mailings. The results were unremarkable. These factors, together with the fact that, as discussed *infra*, the envelopes came from somewhere in the Maryland/Virginia area, and the great distance between the location of this lab and Princeton, New Jersey, preclude any reasonable possibility that the mailings came from there.²⁴

²⁴ An in-depth review of lab records revealed that, of these 42 people who accessed the lab where RMR-1029 was stored, 37 worked a full eight-hour shift on both September 17 and September 18, 2001 – making the 16-hour round-trip drive from that facility to Princeton an impossibility. Of the remaining five individuals, one was on administrative leave and the others were animal handlers without the requisite skills to be the mailer. Similarly, during the background checks on these 42 individuals, commercial flight records were checked and none of them flew east from that area on those days.

- A university in the southwest: Dr. Ivins sent a sample of what may have been RMR-1029 to a microbiologist at a university in the southwest in March 2001. He added that transfer to his Reference Material Receipt record more than three years after he actually sent the spores, based on information on a shipment request form dated March 2, 2001. The microbiologist opened it up, plated it out, and confirmed that it was viable (known as “checking CFUs”). This sample did not have the mutations that appear in the material used in the attacks. There are two possible explanations for this apparent discrepancy: (1) The anthrax that Dr. Ivins sent was not RMR-1029 at all, but rather some other *Ba* preparation, of which Dr. Ivins had perhaps a half-dozen in his collection. This explanation is supported by the fact that the concentration on the shipment request form did not match RMR-1029. In addition, on the day the material was sent out of his lab to this other facility, Dr. Ivins did not access B3 at all, making it possible that one of his lab technicians, who was in B3 that day, prepared the material to be sent to this facility, and drew it from another source at Dr. Ivins’s request. (2) The RMR-1029 that was sent to this facility was so diluted that the morphs fell below the level of detection of the current assays – which means that, while they may be there, they cannot be seen. When asked about this discrepancy in a later interview, Dr. Ivins claimed that he diluted RMR-1029 prior to shipping it to this facility.

5. Dr. Ivins’s considerable skill and familiarity with the necessary equipment

As discussed above, the spores used in the mailings were of a very high quality, very pure, and very concentrated. The production of spores of such quality would require both appropriate laboratory equipment – the kind found at universities, military research facilities, or other research institutions – and extensive experience in the purification process. Culturing anthrax and working safely with dried anthrax spores requires specific training and expertise in technical fields such as biochemistry or microbiology. It also requires access to particular laboratory equipment such as a biological safety cabinet or other containment device, an incubator, a centrifuge, a fermentor or a shaker with appropriate flasks, a lyophilizer or other drying device, and various personal protective gear, all of which Dr. Ivins had readily accessible to him through his employment at USAMRIID.²⁵ Further, in order to be permitted key-card

²⁵ Each of these various devices plays a particular and critical role in the production of *Ba* spores. As a general matter, work on a pathogen of this type must be performed in a laboratory equipped with special safety devices and negative air pressure, so that any spills can be contained. With respect to spore production, generally speaking, a researcher would obtain a very small sample of spores from another source and transfer this sample to a growth medium, such as a Sheep’s Blood Agar (“SBA”) plate or a liquid preparation, that contained a nutrient source for the spores. An SBA plate could then be incubated to foster growth of spores. After an appropriate period of time, 12 to 18 hours was the standard protocol, the newly-grown spores would be harvested through an elaborate process, washed, and then spun down in a centrifuge to concentrate the spores. A fermentor can be used to grow large quantities of spores in a liquid preparation. Finally, as set forth *supra* in the Opportunity and Access section, a lyophilizer can be used to dry spores once they have been washed.

access to a hot suite where *Ba* is stored, a researcher must have up-to-date vaccinations or personal protective equipment.

Law enforcement officials interviewed a number of biological experts with knowledge and training in the field of infectious diseases, including anthrax. According to these experts, Dr. Ivins was generally regarded by everyone in the anthrax community as one of the preeminent anthrax researchers in the country. His own writings support this conclusion. He told others that when he was creating RMR-1029, he felt he had to “clean up” several of the spore batches sent to him by the microbiologist from Dugway, who was another highly-regarded anthrax researcher. Dr. Ivins actually discarded a batch sent by Dugway because it did not meet his exacting standards, and he felt that he could not rehabilitate it. Another example of his expertise involved a commercial lab in the midwest with hundreds of scientists on its staff, but whose staff had to call Dr. Ivins for advice at times regarding anthrax issues because there was no one in-house who could answer their questions.

There were very few microbiologists in the fall of 2001 who were known to have created such pure, concentrated spores. Those who had this skill primarily conducted vaccine work, but some were also found in diagnostic research. A microbiologist at Dugway was capable of doing so, and he sent investigators a list of approximately 12 researchers whom he knew also might have the skill-set and access to necessary equipment. While this list was necessarily under-inclusive, because he did not know all of the employees at each lab (*e.g.*, a former USAMRIID scientist was not on the list, but when asked whether or not s/he thought s/he could create spores of the quality used in the mailing, s/he agreed that s/he could), it is illustrative of the very narrow universe of those with the highly-specialized skill required to create the mailing material. As Dr. Martin Hugh-Jones, another renowned anthrax expert, told the Wall Street Journal in December 2001, “We know this guy. One of us knows him.”

Dr. Ivins seemed to try to downplay his skill-set in ways that were wholly inconsistent with reality. He repeatedly and adamantly denied that he could make spores of this quality. For example, shortly after the anthrax mailings, he told his post-doctoral fellowship advisor from the University of North Carolina that for the first time in his 20 years working at USAMRIID, he was actually scared because the letter spores were the purest and cleanest he had ever seen. He added that nothing he had ever made was as good. However, Dr. Ivins unwittingly contradicted himself in his laboratory notebook, where he described the RMR-1029 that he had created as: “RMR-1029: $\geq 99\%$ refractile spores; $< 1\%$ vegetative cells; $< 1\%$ non-refractile spores; $\leq 1\%$ debris.” (Laboratory notebook 1040, page 074, Attachment F.) This is evidence that he could, and did, create spores of the concentration and purity of the mailed spores, which he described as “99% refractile with no debris and some clumping” in a report dated March 12, 2002. In contrast, when the microbiologist from Dugway and this former USAMRIID scientist were asked, they readily agreed to having the ability to produce spores of this quality.

Dr. Ivins gave conflicting statements over time regarding whether he knew how to use a lyophilizer – a sophisticated drying machine that may have been used to dry the spores used in the mailings. In early post-mailing statements, he claimed a lack of knowledge of how to make dried spores. For example, in an interview on January 29, 2002, Dr. Ivins said he had no involvement in the anthrax mailings and had no training in how to make powders. Similarly, in an e-mail to an international anthrax expert, dated February 7, 2002, he stated: “We work with anthrax spore suspensions here and have neither the expertise nor the equipment for generating ‘spore powder.’” When asked about the lyophilizer again a year later, in April 2003, Dr. Ivins stated that he had been trained on how to use it, but had not actually done so since the mid-1990s.

In truth, not only had Dr. Ivins used it, but he also was the actual custodian of the B-5 lyophilizer, as noted on his hand-receipt. In addition, “Property of Dr. Ivins” was written on the front of the document folder and on the manual and supporting documentation inside the storage compartment of the lyophilizer. He also was relied upon to train those who had no experience with it. For example, in an e-mail to Dr. Ivins on August 21, 2000, a microbiologist at USAMRIID wrote: “Bruce, [another researcher] told me you are the one to see about using a lyophilizer in B-5. Can you show me how to use it or tell me who else knows.” Dr. Ivins responded the next day: “Absolutely . . . anytime is fine. Come by in the morning and we’ll get it set up.” Indeed, Dr. Ivins was the researcher who actually ordered the machine. In an undated document, Dr. Ivins wrote to a supervisor: “Here is a very close estimate of price for the Virtis lyophilizer.” Finally, Dr. Ivins attended a two-day course in 1996 entitled, “Lyophilization: a short course.” On a DD Form 1556-1, Dr. Ivins noted the following course strengths and weaknesses: “The only weakness was that the course occasionally get [sic] very mathematically detailed. The course strength was the amount of practical knowledge it imparted.”

D. Motive

Based on his e-mails to two former colleagues (hereinafter “Former Colleague #1 and Former Colleague #2), and from his own statements to investigators, it is clear that by the summer of 2001, Dr. Ivins was under an extraordinary amount of stress in his professional life. The anthrax vaccine research program that Dr. Ivins had invested essentially his entire career of more than 20 years was in jeopardy of failure. The anthrax vaccine with which he was assisting was failing to meet potency standards and, absent some major breakthrough, may have been eliminated. Also, the military anthrax vaccine, and Dr. Ivins, in particular, were the subject of increasingly vocal criticism by those who associated the vaccine with “Gulf War Syndrome.” Finally, the rPA, or Next Generation Anthrax Vaccine, on which he was also working, had run its course at USAMRIID, leaving him potentially without anthrax research to do. According to Former Colleague #1 and others, Dr. Ivins not only took great pride in his work, but also he could not stand to be criticized. Under extreme pressure from so many different assaults on his career and life’s work, Dr. Ivins had a motive to commit the crime.

1. Dr. Ivins's life's work appeared destined for failure, absent an unexpected event.

Beginning as far back as 2000, Dr. Ivins was sending e-mails to Former Colleague #1 expressing his increasing concern and eventual frustration that a private company tasked with producing the anthrax vaccine, was unable to produce anthrax vaccine that met the required potency standard, even though he and other USAMRIID researchers were spending an increasingly large percentage of their time trying to help that company fix it. As the Office for the Assistant Secretary of Defense for Public Affairs stated in a news release on June 11, 2001, the Anthrax Vaccine Immunization Program was being slowed due to a shortage of that vaccine. Vaccination would continue for special mission units and research purposes only. "This slowdown provides for a small reserve of FDA-released vaccine in the event of an emergency. Actions are being taken to ensure that personnel deployed to high-threat areas have sufficient antibiotics on hand for post-exposure treatment in case of an attack."

Pressure on the project increased throughout the summer. By the first week of September 2001, Dr. Ivins was sending Former Colleague #1 e-mails stating that USAMRIID was down to its last approved lot of the vaccine, after which – if the company could not get FDA approval to resume production or make available lots meet current potency standards – the vaccine would be completely depleted. This would have been a major problem, not only because the vaccine was needed for the soldiers out in the field, but also because it was needed for the researchers themselves, including Dr. Ivins, who would not be permitted to enter the hot suites and work with anthrax unless their vaccinations were up-to-date. Unless this company could fix the problem, Dr. Ivins himself in short order would have had a very difficult time continuing his anthrax research because he would have lacked the vaccinations to do so.²⁶

However, within a few months of the anthrax attacks, the FDA fast-tracked the approval process and approved the Anthrax Vaccine Adsorbed ("AVA"), even though it didn't meet the original potency standards. This was a significant development for the anthrax researchers.

²⁶ In addition, during the summer of 2001, Dr. Ivins was being considered by management at USAMRIID for a move to an entirely new area of research, that of *Burkholderia mallei*, also known as Glanders. There was a general push by the Medical Research Material Command at USAMRIID to get out of the anthrax vaccine research business entirely. In discussions at Bacteriology Division meetings among the management, the thinking was that the anthrax research had matured beyond its mission. They began to consider shifting resources and research emphasis to other priorities. Because the remaining work on the "next generation vaccine," known as rPA, was viewed as menial in nature and a waste of Dr. Ivins's considerable talents, there was a suggestion that he should begin work on Glanders research. One of these managers recalled that when Dr. Ivins learned that he might transition to Glanders work, he became upset and said things like: "I am an anthrax researcher! This is what I do."

Similarly, in September 2001, there also were problems with another vaccine, the next generation anthrax vaccine (rPA), on which Dr. Ivins was working. As he noted in an e-mail to Former Colleague #1:

[The Division Chief] has been having us have biweekly meetings on the rPA vaccine progress, and on August 29, I went to the Pentagon – first time there – to go to a meeting in his place on the vaccine. There’s a real bag of worms with the new lot of rPA produced by [name redacted] a private company, for [another private company], who is under contract to USAMRIID. . . . If we don’t get the rPA, we will have to go somewhere else, which will be a terrible thing; it will postpone all sorts of things.

These statements by Dr. Ivins demonstrate that immediately prior to the anthrax letter attacks, his life’s work was in jeopardy. In contrast, immediately following the attacks, his career seemingly got back on track. He even received the Exceptional Civilian Service Award for his work on anthrax – although he hardly could have expected that to happen.

2. Dr. Ivins was being subjected to increasing public criticism for his work.

Compounding the intense professional pressure on Dr. Ivins was the increasingly vocal chorus of critics against him. Chief among these were journalist Gary Matsumoto, scientist Meryl Nass, and lawyer Mark S. Zaid, who blamed the anthrax vaccine for causing Gulf War Syndrome – ailments suffered by veterans of the first Gulf War in the early 1990s. Through the end of the summer and into the fall of 2001, Dr. Ivins was expressing his increasing frustration with this criticism of the work he had been doing. This frustration was only compounded by demands for more information regarding the anthrax vaccine research program, largely from Matsumoto, who had written a critical article in *Vanity Fair* magazine in May 1999, and who was working on a follow-up book entitled Vaccine A (which was eventually published in 2004). Within days of reading Matsumoto’s *Vanity Fair* article, Dr. Ivins commented in an e-mail to a former colleague: “[T]hanks for passing these along to me. I wonder when the National Enquirer will come out with its headlines on ‘Guinea Pig Soldiers Get Killer Vaccine.’”

Dr. Ivins’s offense at these criticisms grew as Matsumoto was making FOIA requests for information regarding the vaccine program for use in the critical Vaccine A. For example, just before the letter attacks, in August and September 2001, Dr. Ivins sent e-mails to a co-worker and a supervisor, a sample of which included, “Tell Matsumoto to kiss my ass. We’ve got better things to do than shine his shoes and pee on command. He’s gotten everything from me he will get.” The prosecution team learned more about the depth of Dr. Ivins’s animosity towards Matsumoto in a February 13, 2008 interview, in which Dr. Ivins stated that had actually gone to a Matsumoto website in recent years under the anonymous name “Guest,” and made sarcastic, provocative postings – one of many examples of Dr. Ivins’s ability to harbor grudges and, in his

own words, “stir the pot.”

Similarly, over the years, Dr. Ivins continued to speak disparagingly of Meryl Nass, another prominent critic, in much the same vein. Those who worked for him knew that Nass was one of those topics to avoid discussing around Dr. Ivins. They also noted that Dr. Ivins took criticism, especially of his work, very personally.

Finally, lawyer Mark S. Zaid filed the greatest number of FOIA requests related to the anthrax vaccine. Zaid, Executive Director of The James Madison Project,²⁷ represented military clients who were refusing to take the anthrax vaccine. Zaid began sending e-mails to Dr. Ivins and others at USAMRIID as far back as 1999 requesting information regarding the vaccine. In addition, during the November 1, 2007 search of the Ivins residence, recovered from a black briefcase which Dr. Ivins had labeled “Attorney-Client Privilege” (but was ultimately determined by a filter team not to contain privileged material) was a laminated July 18, 2000 *Washington Post* article entitled “Anthrax Shots’ Effect Challenged (Army Disputes Expert Who Reviewed Vaccine Tests).” The article discussed a report by Dr. Ivins, dated September 23, 1991, in which he noted that “[a]lthough all vaccinated monkeys (C1-C10) survived, they appeared to be sick over the course of two weeks post-challenge.” The *Washington Post* article drew the conclusion that vaccinated soldiers would have the same symptoms: “Soldiers who are exposed to anthrax may become quite sick and be incapacitated for up to two weeks, even if they have received the full set” of anthrax vaccinations.

3. Dr. Ivins was feeling abandoned in his personal life.

At the same time that his life’s work was falling apart and he was enduring increasing public criticism, Dr. Ivins was also under significant stress and pressure in his personal life. In addition, Former Colleague #1, with whom he would become increasingly obsessed, left the lab in the summer of 1999. Former Colleague #2, on whom he was also quite reliant emotionally, began looking for a job outside USAMRIID in 2000. As time passed, he felt increasingly abandoned and his mental health deteriorated. This sentiment was evident both in statements he made and e-mails he sent at the time Former Colleague #1 left the lab in 1999, and also as late as the spring and summer of 2008.

E. Mental Health

Dr. Ivins’s suicide in late July 2008 was the result of his final downward slide into depression and other problems with which he struggled throughout his life. Dr. Ivins’s profound mental health struggles provide both a context for his motives to commit the crime and an

²⁷ According to its website, the James Madison Project was founded in 1998 to “promote governmental accountability and the reduction of secrecy, as well as to educate the public on issues relating to intelligence and national security through means of research, advocacy, and the dissemination of information.”

explanation for how he could commit such a horrific and tragic offense. The mental health information contained in this Investigative Summary derives from the following sources of information: (1) interviews of people close to Dr. Ivins; (2) interviews of Dr. Ivins himself; (3) a review of thousands of e-mail messages by Dr. Ivins and about Dr. Ivins; and (4) a review of his prescription records.²⁸ Of these, some of the most detailed information regarding his deteriorating mental health in the years leading up to the mailings came from the words of Dr. Ivins himself, either in e-mails or in interviews with investigators.

Investigators also obtained significant information regarding Dr. Ivins's mental health in the course of an investigation into threats he made in a group therapy session in early July 2008. They interviewed the provider who was present at that group therapy session. In a publicly filed application for a Peace Order, which she filed in the District Court of Maryland for Frederick County on July 24, 2008, that therapist provided the following information regarding Dr. Ivins's mental health history: "Client has a history dating to his graduate days of homicidal threats, actions, plans. . . . [another mental health professional], his psychiatrist[,] called him homicidal, [and] sociopathic with clear intentions." At a hearing on her motion for a peace order, the therapist provided more detail regarding this assessment by Dr. Ivins's psychiatrist, mentioning that as far back as 2000, Dr. Ivins had engaged in plots of revenge involving poison.

Between 2000 and his death in 2008, Dr. Ivins had been on varying doses of anti-psychotic and anti-depressant medication. He admitted to investigators and to Former Colleague #1 and Former Colleague #2 that he had a number of obsessions that dated back as far as his early childhood, which proved relevant to the investigation. In the year leading up to the mailings, Dr. Ivins's mental health troubles increased. In late June 2001, shortly before the anthrax mailings, Dr. Ivins's prescription for anti-depressant medication doubled. This evidence shows that Dr. Ivins's mental state was precarious in the months leading up to the mailings.

1. Dr. Ivins's e-mail messages revealed a man increasingly struggling with mental health problems in the time leading up to the anthrax attacks.

It is clear from his e-mails dating back to 1998 (the earliest e-mails investigators were able to obtain from USAMRIID computers) that Dr. Ivins was suffering from significant mental health problems at the time of the anthrax attacks. In e-mails sent in 2000 to Former Colleague #1 and Former Colleague #2, two women on whom he was admittedly fixated and reliant, he expressed concerns about "delusional" thoughts he was having and feared that he was becoming increasingly mentally disturbed.

²⁸ Recently, pursuant to court order, Task Force agents obtained the mental health treatment records from a number of mental health providers who treated Dr. Ivins over the years, and interviewed a number of those providers. However, as that information remains under seal, nothing in this Investigative Summary is derived from those records.

Dr. Ivins's e-mails revealed that he felt unnaturally close to these former colleagues, counting them as his only real friends. Nonetheless, Dr. Ivins also went through phases where he behaved vindictively towards them, when he thought that they were neglecting him or, worse, conspiring against him. The volumes of his e-mails were replete with evidence of this juxtaposition. For example, on November 1, 1999, Dr. Ivins sent this e-mail to both former colleagues:

There is something we should probably talk about. . . . It deals with some perceived interpersonal problems and some special "sensitivities" of mine. I'm including both of you on my emails. I can give you the information in one of three forms - you decide which one you would rather have, and email back: (1) A brief synopsis, probably no more than a paragraph, talking about the problem. (2) A longer explanation, going somewhat into the family historical background of the problem, but not getting into the historical specifics. (3) The full exposition, including some VERY dark family material, and possibly a few pages long. (This would be the sort of stuff that would be talked about in a clinical psych class.) If you choose this, I would need you to agree to keep it to yourselves. There's nothing in it about any unsolved crimes or something bad about to happen to something [sic], but it's not the sort of thing I would like spread around to others

Similarly, on June 24, 2000, he sent an e-mail to Former Colleague #1:

I talked very briefly to [Former Colleague #2] yesterday about my problems, and it was a VERY hard thing to do. You two are the only two people I've told about it. I also told her that I hoped maybe the two of you could talk. I can see that such a request may be quite out of line, and I certainly don't want to burden you or her with that responsibility.

Those e-mails, in which he treated Former Colleague #1 and Former Colleague #2 as close confidantes about his mental health problems, contrasted with other e-mails, such as the one he sent to Former Colleague #1 on October 27, 1999, in which he expressed feelings that Former Colleague #2 had betrayed him:

It's getting to be lately that I've felt there's nobody in the world I can confide in. You're gone now, and one of the reasons I was so sorry to see you go was a very selfish one - I could talk to you openly and honestly, and that was in itself a great lifter of my spirits. Losing [Former Colleague #2] as someone I can spill my guts to is crushing - it would mean that I am truly alone -

completely alone. I know that you and [Former Colleague #2] are such great friends - when you two are together, I've frequently felt like I totally don't belong. . . . I have come to learn, much to my surprise and disappointment, that [Former Colleague #2] has been saying some very negative things behind my back. Apparently I am being made to appear mentally ill or just plain mean. It's hard to understand, especially since I've never spoken about her in other than glowing terms. It seems that whatever I say or do can get twisted, exaggerated or misconstrued by her, and now the bond of trust that I thought I had with her is gone. . . . Also, I know that the two of you are great friends, but please don't tell her that I told you about this. The whole thing is very disheartening.

At the time of these e-mail messages, Dr. Ivins had stolen Former Colleague #2's computer password and was reading her e-mails, something he admitted to the prosecution team in the February 2008 on-the-record interview.

In an e-mail dated June 27, 2000, shortly after he returned from a trip to visit Former Colleague #1, he wrote to her:

I apologized to [Former Colleague #2] for my behavior and paranoia - that's exactly what it was, and I have no excuse for it, only regrets and apologies - last fall. Even with the Celexa and the counseling, the depression episodes still come and go. That's unpleasant enough. What is REALLY scary is the paranoia - you saw a brief flash of it last Tuesday night when, for no reason, I acted as I did. . . . Remember when I told you about the "metallic" taste in my mouth that I got periodically? It's when I get these "paranoid" episodes. Of course I regret them thoroughly when they are over, but when I'm going through them, it's as if I am a passenger on a ride. The metallic taste was there on Tuesday night. I don't want to become mean-spirited, hateful, angry, withdrawn and paranoid, and that's why I reach out to talk to you (a lot) and [Former Colleague #2] (somewhat). . . . I think the problems started in 1997, and by the time you left, things were very bad. Your leaving then, even though we all knew it would happen, and even though we would keep in touch, was dreadfully painful. Then came the fall problems, [Former Colleague #2]'s looking for a job, and finally my going to get professional help.

In the weeks that followed this e-mail, Dr. Ivins continued to discuss his "terrifying" mental health issues, telling Former Colleague #1 in an e-mail on July 4, 2000: "The thinking now by the psychiatrist and the counselor is that my symptoms may not be those of depression or

bipolar disorder, they may be that of ‘Paranoid Personality Disorder.’”²⁹ Then two days later, again in an e-mail to Former Colleague #1, he stated: “At least I’m going for help. When I see the terrible things that some paranoid schizophrenics have done, it honestly makes me want to cry. I don’t want to be like that, and to think that I may be heading toward becoming that kind of person that is the exact antithesis of who I want to be, I can’t begin to tell you how much it hurts and scares me.” Again, the next week, he wrote Former Colleague #1: “Right now, anti-anxiety medication such as diazepam (valium) is helpful. I’ve been told that eventually, depending on the course of things, anti-psychotic drugs may be included.”

Consistent with his ongoing troubles that summer, Dr. Ivins told Former Colleague #1 in an August 12, 2000 e-mail:

This has been a week of extreme ups and downs. Last Saturday, as you probably guessed from my e-mail, was one of my worst days in months. I wish I could control the thoughts in my mind. It’s hard enough sometimes controlling my behavior. When I am being eaten alive inside, I always try to put on a good front here at work and at home, so I don’t spread the pestilence. Unfortunately, I have to talk about it to someone, so you become my “secret sharer.” I get incredible paranoid, delusional thoughts at times, and there’s nothing I can do until they go away, either by themselves or with drugs.

Two days later, he followed up with another e-mail to Former Colleague #1: “When I talk to you about paranoia, depression, etc., how it really surfaced within the last 5 years, it’s not just some abstract, detached thoughts I’m giving you. They’re things which come from the darkest recesses and which are both sad and scary to me.”

On March 4, 2001, he sent an e-mail to Former Colleague #1 revealing that:

The [therapist] I saw before I went into group wanted to get me put in jail. That wasn’t very helpful either. I’m down to a point where there are some things that are eating away that I feel I can’t tell

²⁹ The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), the leading mental health manual, defines Paranoid Personality Disorder as characterized by paranoia and a long-standing suspiciousness and generalized mistrust of others. The person must exhibit an enduring pattern of characteristic maladaptive behaviors, beginning in adolescence or early adulthood. Those with this disorder are hypersensitive, easily slighted, and constantly seek out information that validates their prejudicial ideas or biases. They are often suspicious of others and lack the capacity for meaningful social and emotional involvement. This condition differs from Paranoid Schizophrenia, which is characterized by constant feelings of being watched, followed, or persecuted.

ANYONE. You are probably the easiest for me to talk to, but it is difficult for me to ask that you not tell anyone else what I say. That is a lot to ask for, and you may feel that you need to share it with others. (Obviously if someone says that he or she is about to commit a crime, you should share it with the right people.) Confidentiality is too much to ask of you, so perhaps I should just take the Celexa and let whatever happens take its course. . . . I've already said too much. . . .

By the summer of 2001, his depression had increased. In fact, his prescription for the anti-depressant Celexa was doubled shortly before the mailings. The increasingly intractable troubles with the anthrax vaccine projects were compounded by the loss he felt with the absence of this former colleague, who, as is clear from the above e-mails, was an integral part of his mental well being. When she was responsive to his e-mails, he felt better; when she was distant, he felt worse.³⁰ As he noted to her in an e-mail on September 17, 2001 – the day the first letters were mailed – “I haven’t been feeling so good lately because of all that’s going on. I really can’t talk to [my wife], and I don’t say that much to [Former Colleague #2] or anyone else. The group I’m in is only moderately helpful. I’m glad some of us are going to Covance tomorrow with some vaccine. It will be good to get away. I wish I had someone here that I could really open up to at times like this.”

In the wake of the mailings and the onset of the investigation, Dr. Ivins continued to exhibit signs of troubled, occasionally delusional, thoughts. For example, on October 16, 2001, the day after the letter to Senator Daschle arrived at USAMRIID for processing, Former Colleague #2 sent an e-mail to Former Colleague #1, stating that “Bruce has been an absolute manic basket case these last few days.” Similarly, as the scrutiny of the letters at USAMRIID continued throughout the fall of 2001, Dr. Ivins sent an e-mail containing the following poem to Former Colleague #1 on December 15, 2001:

I made up some poems about having two people in one (me + the person in my dreams): . . .
I’m a little dream-self, short and stout.
I’m the other half of Bruce - when he lets me out.
When I get all steamed up, I don’t pout.
I push Bruce aside, then I’m Free to run about!
Hickory dickory Doc - Doc Bruce ran up the clock.
But something happened in very strange rhythm.
His other self went and exchanged places with him.

³⁰ Over the course of her first few years after she left USAMRIID, Former Colleague #1 was inundated with e-mails from Dr. Ivins, literally hundreds and hundreds of them, many of extraordinary length and detail. As she stated in numerous interviews, she frequently did not reply to those e-mails for days, and when she did it was often in a cursory fashion.

So now, please guess who
Is conversing with you.
Hickory dickory Doc!
Bruce and this other guy, sitting by some trees,
Exchanging personalities.
It's like having two in one.
Actually it's rather fun!

2. Dr. Ivins's own statements to investigators showed a man driven by obsessions.

In the course of his 2008 on-the-record interviews, Dr. Ivins provided investigators with details regarding his relationship with a woman with whom he was obsessed during graduate school (hereinafter referred to as "Graduate Colleague"). Dr. Ivins told the prosecution team that when he learned that Graduate Colleague was "a Kappa," he set out to learn everything about her and to befriend her. He paid close attention to all of the details of her life and drove past her house from time to time, just to look at it. At one point, he wrote her a note explaining his concerns that his friendship was not being reciprocated, which she misinterpreted as a romantic overture.³¹

Dr. Ivins also described specific actions he took in the course of his obsession with Graduate Colleague. For example, in 1978 or 1979, he went into her lab late at night and stole her laboratory notebooks in an effort to get back at her.³² He kept them for a short time and then dropped them into a street mailbox near the UNC campus and sent her an anonymous note letting her know where they were. A few years later, when he had moved to Maryland, he ran into a mutual acquaintance who informed him that Graduate Colleague had moved to Maryland and was living with a man, whose name the acquaintance mentioned to Dr. Ivins. Dr. Ivins used directory assistance to find Graduate Colleague's residence – the specific address which he still recalled in an interview 30 years later – and later drove to the house, and spray-painted "KKG" on the sidewalk near her car, and possibly on her car.

Shortly after this incident, in 1981, Dr. Ivins began renting a post office box in the name of the man who lived with Graduate Colleague, which Dr. Ivins maintained until 1985. He also listed a variant of that name as someone who could receive mail at that post office box. He used

³¹ Dr. Ivins described similar behavior with respect to Former Colleague #1. He focused on every detail of her life, and drove past her home from time to time just to look at it. He also wrote her numerous e-mail messages in which he voiced his concern that his friendship was not being reciprocated.

³² Dr. Ivins told investigators that the date was 1978 or 1979, however since he completed his tenure at UNC and moved to Maryland in the summer of 1978, it is likely that the date this happened was 1977 or 1978.

that variant as a pseudonym for a number of purposes, including to write a letter to the *Frederick News Post* regarding sororities, and in later years in a blog on the Internet regarding KKG, entitled “The Legend of [name variant].” Finally, in the early 1990s, Dr. Ivins opened another post office box in his own name, but listed the name of the man who lived with Graduate Colleague as someone who could receive mail there. Dr. Ivins used this post office box to receive mail pertaining to some of his other obsessions, the nature of which are irrelevant to the anthrax investigation.

3. Graduate Colleague’s statements to investigators regarding Dr. Ivins

Dr. Ivins briefly attempted to maintain contact with Graduate Colleague in the early 1980s, but she moved to the west coast. With the advent of the Internet, he began to track both her personal and professional life. According to Dr. Ivins, some time after the anthrax attacks he sent Graduate Colleague an e-mail and they became reacquainted. In fact, he sent her an e-mail on September 21, 2001 – after the first anthrax letters were mailed, but before they were discovered – describing the increased security measures at USAMRIID in the wake of 9/11, and inquiring about whether she was still active in KKG. He also included Graduate Colleague in a group e-mail he sent after the anthrax attacks, in which he stated “we were taking some photos today of blood agar cultures of the now infamous ‘Ames’ strain of *Bacillus anthracis*,” and attached a photograph of himself handling the plates in the lab.

In December 2001, Amerithrax investigators appealed to the American Society for Microbiology asking them to reach out to their members for tips regarding the case, given the skill they believed the anthrax mailer possessed. Graduate Colleague responded. In a follow-up interview in early 2002, Graduate Colleague voiced her concerns that Dr. Ivins had exhibited obsessive behavior towards her, and continued to make unsolicited contact with her over the years. She felt that he was unstable, given his obsessive behavior, and raised these concerns in response to the Society’s outreach because he worked with anthrax at Ft. Detrick. She noted in a subsequent interview that when she saw in the photos that Dr. Ivins was not wearing gloves when handling the plates, a serious breach of bio-security, she thought this was “hubris” and it fed her hunch that Dr. Ivins was the anthrax mailer.

4. Dr. Ivins’s actions in 2008

On March 19, 2008, at approximately 2:00 p.m., a 911 call was received from the Ivins residence. According to the event log for that call, Dr. Ivins’s wife had come home to find Dr. Ivins unconscious. Mrs. Ivins indicated that she thought he may have taken too many sleeping pills or Valium, and that alcohol may also be involved. She commented that he had been depressed and that she was unsure whether or not this was an overdose. She indicated that he had been taking anti-depressant medication. Dr. Ivins was transported to Frederick Memorial Hospital via ambulance.

In the two days preceding this apparent suicide attempt, Dr. Ivins sent e-mails to both Former Colleague #1 and another person whom he knew well, conveying disturbed messages indicative of the profound impact Former Colleague #1 had on his psyche. To this other person on March 17, 2008, he wrote:

[Former Colleague #1] isn't satisfied with winning. She isn't satisfied until she makes somebody lose. I've seen her. I know. I've seen her play scrabble, boggle, soccer, and wiffle ball. She has to make somebody lose. . . . That's why she's proud of hurting me. I used to think of her as a confidante. Now I know what she and [Former Colleague #2] wrote back and forth. I have seen. I know.

On March 18, 2008, he wrote to Former Colleague #1 directly:

I'm sorry that you have abandoned me. You were the one person I knew I could bare my soul to and tell everything to, and now you have abandoned me. You have put me on your dark list. . . . I lose my connections. I lose my years. I lose my health. I lose my ability to think. I lose my friends. What do I have left but eternity?

In the months that followed, Dr. Ivins was becoming increasingly disturbed. His attorneys had informed him to prepare to be indicted – as he informed a witness on June 5, 2008, “my lawyers have told me that an indictment is coming and I should be prepared to face the death penalty.”

In July 2008, Dr. Ivins's display of homicidal tendencies became pronounced. In a series of postings on the Internet site for the reality TV series “The Mole,” using the screen name “bruceivi,” Dr. Ivins wrote increasingly violent messages about Kathryn Price, a contestant in Season 1 of that series.³³ For example, he posted: “Steve had a great chance to kill Kathryn that would go down as the primo moment in reality TV.” And later that “with that he should have taken the hatchet and brought it down hard and sharply across her neck, severing her carotid artery and jugular vein. . . . The ‘Blind’ mole is dead and Steve is a hero among heroes. I personally would have paid big money to have done it myself.” Also, “maybe something truly dreadful will happen to Kathryn Price. If so, she will richly deserve it! The least someone could do would be to take a sharp ballpoint pen or letter opener and put her eyes out, to complete the task of making her a true mole!”

³³ It is not clear why Dr. Ivins fixated on Kathryn Price and “The Mole.” However, in one particular episode, Price was blindfolded, a self-admitted fetish of Dr. Ivins, who belonged to online groups that shared images of blindfolding, and who had literally hundreds of photos of blindfolded women on his computer when it was seized in November 2007.

In July 2008, teams of agents were conducting visual surveillance of Dr. Ivins. Late on Sunday night, July 6, 2008, agents observed Dr. Ivins wandering around the streets of Frederick, Maryland, behaving erratically, and appearing to be talking to himself. The next day, a co-worker at USAMRIID informed agents that Dr. Ivins was in his office, also behaving erratically and talking to himself.³⁴

On July 8, 2008, Dr. Ivins sent an e-mail to someone named Kathryn Price, from an e-mail address KathrynPriceFan@yahoo.com, but registered to Dr. Ivins, saying that he was her biggest fan, and hoping for an opportunity, such as a book signing, to meet her. He signed the e-mail "Cindy Wood." Dr. Ivins established another e-mail address around this time which he used to join a list-serve related to The Mole: stanfordhawker@yahoo.com. Ms. Price attended college at the University of Kansas – home of the Jayhawks – and law school at Stanford University.

The next night, at a group therapy session on July 9, 2008, Dr. Ivins was particularly upset. He revealed to the counselor and psychologist leading the group, and other members of the group, that he was a suspect in the anthrax investigation and that he was angry at the investigators, the government, and the system in general. He said he was not going to face the death penalty, but instead had a plan to "take out" co-workers and other individuals who had wronged him. He noted that it was possible, with a plan, to commit murder and not make a mess. He stated that he had a bullet-proof vest, and a list of co-workers who had wronged him, and said that he was going to obtain a Glock firearm from his son within the next day, because federal agents were watching him and he could not obtain a weapon on his own. He added that he was going to "go out in a blaze of glory."³⁵

Based on these statements and advice from his treating psychiatrist, the social worker called the Frederick, Maryland police department the next morning, and they took custody of Dr. Ivins that afternoon and transported him to Frederick Memorial Hospital for an evaluation. He was transferred within a few days to Sheppard-Pratt Health Systems in Towson, Maryland, for further forensic evaluation. Over objections from, among others, the counselor who first reported the group therapy threats, the hospital released Dr. Ivins from its care on Thursday, July 24, 2008, finding that he was not a danger to himself or others. He over-dosed 48 hours later.

³⁴ The combination of these two events prompted the prosecution team to call Dr. Ivins's attorney to share concerns for his well-being. The prosecution team knew at this point that Dr. Ivins had been drinking heavily and abusing sleep medications in previous months. In fact, the prosecution team knew from Dr. Ivins himself that he had just completed a 28-day inpatient substance abuse and mental health treatment program.

³⁵ On July 12, 2008, Task Force agents executed a number of search warrants on his residence, cars, and office. Recovered from his home were a bullet-proof vest with a reinforced chest-plate, numerous rounds of ammunition, and smokeless handgun powder, among other things. Later that day, agents also executed a search warrant on his hospital room and wallet, in search of the list of his intended victims.

F. The Envelopes Used in the Mailings Were Sold at a Post Office in the Maryland/Virginia Area.

A number of scientific forensic strategies were considered in an attempt to identify which Post Office sold the envelopes used in the mailings. Several of these techniques were ruled out based on the way in which the envelopes were produced. Others, such as paper fiber composition and stable isotopes, were explored but determined not to be discriminating enough to differentiate between envelopes. Chemical ink formulation analysis was used and enabled investigators to eliminate 20 percent of the envelopes, but did not provide the differentiation needed by investigators. Ultimately, investigators pursued a strategy of microscopic print defect analysis – unintentional markings or imperfections transferred onto the printed document at some point in the printing process – because it was believed a greater degree of differentiation could be made compared to the other techniques. This technique led to the conclusion that the envelopes used in the mailings were purchased from a Post Office in Maryland or Virginia.³⁶

1. The envelope manufacturing process

The four envelopes used in the attacks were all 6¾ inch “Federal Eagle” pre-franked 34¢ envelopes. The “Federal Eagle” name was derived from the postage frank in the upper right-hand corner of the envelope, which consisted of an image of an eagle perched on a bar bearing the letters “USA.” Underneath those letters was the number 34, which denoted the 34¢ postage. The eagle, lettering, and denomination are referred to hereinafter as “indicia.”

In addition to the printing on the front, on the backside of the envelope, underneath the flap, there was text which read: “© USPS 2000.” Also on the back of the envelope, in the bottom center, there was text which read: “♻ THIS ENVELOPE IS RECYCLABLE AND MADE WITH 100% RECYCLED PAPER, 30% POST-CONSUMER CONTENT.” On the upper right-hand side of the front, to the right of the Federal Eagle indicia, the envelopes were imprinted with a vertical phosphorescent bar, used in mail processing, orientation, and recognition, referred to as the “phosphor bar.” The phosphor bar measured approximately ¼ inch wide and one inch long and is positioned approximately ⅛ inch from the right-hand outer edge and ¼ inch from the top edge of the envelope. The phosphor bar was not visible without an

³⁶ Beginning in 1977, a methodology for associating envelopes by means of the manufacturing process was developed and described in the scientific literature. Bertocci, MP, Envelope Association through Manufacturing Characteristics, J. Forensic Sci. 1977; 22:815-18. This area of study has continued to develop and improve (*see, e.g.*, Fletcher, K., Some Useful Techniques for Envelope Matching, Int. J. Forensic Document Examiners 1999; 5:397-401), establishing this discipline as an area capable of expertise. This recognition has developed in recent years, in part based on work done in this case. *See* LaPorte, M.S.F.S., G., Stephens, M.S.F.S., J.C., Beuchel, M.S.F.S., A.K., The Examination of Commercial Printing Defects to Assess Common Origin, Batch, Variation, and Error Rate (publication pending), presented at the American Academy of Forensic Scientists 60th Annual Meeting, February 17-23, 2008.

alternate light source.³⁷

Federal Eagle envelopes were manufactured by Westvaco Corporation (now known as MeadWestvaco Corporation) of Williamsburg, Pennsylvania, between December 6, 2000 and March 3, 2002. The envelopes were manufactured exclusively for, and sold solely by, the United States Postal Service (“USPS”) between January 8, 2001, and June 2002. On June 30, 2002, the USPS raised the rate for first-class mail, at which time the envelopes were withdrawn from sale, (although due to envelope shortages, some offices affixed additional postage stamps to the envelopes and continued to sell them at the new rate).

The printing on these envelopes was applied by a process called flexography. This was a form of relief printing, where a plate containing a raised image area was inked and then transferred the image directly onto the envelope via impact. These printing plates were composed of a flexible polymer material, and could cause printing defects due to, among other things, excess ink or abrasions on the plate which arose and departed during production, and which could impart a distinctive characteristic. Such defects were most often transient – *i.e.*, they could come and go – although they might also be present for the useful life of the plate (MeadWestvaco estimated a typical Federal Eagle Envelope plate would be utilized for the production of one million envelopes before replacement).

Federal Eagle envelopes were produced and packaged for specific methods of sale: (1) packaged loose in a box, with 500 per box, for sale individually over a traditional post office counter; (2) packaged in a pack of five envelopes and sealed in a cellophane wrapper for sale at USPS retail stores; and (3) packaged in a banded five-pack, for sale via a USPS vending machine. Banded packs were wrapped with a white paper band holding the five envelopes together. Banded envelopes were packaged in the band by MeadWestvaco and then loaded into a box, 100 packs per box. Each type of envelope described was designated a unique USPS item number code which was recorded in shipping and inventory control records.

Analysis of MeadWestvaco production records determined that 45 million 6¾-inch Federal Eagle envelopes were produced from December 6, 2000, through March 3, 2002. Production of these envelopes did not occur daily. Rather, according to manufacturing records, the envelopes were manufactured on only 57 dates in the 15-month span.

The relevant time frame of production of the envelopes used in the anthrax attack mailings can be reduced by a process change that occurred on January 9, 2001, when MeadWestvaco changed the ink formulation used on the envelopes to meet new USPS requirements. Since the envelopes used in the mailings were printed with the newer ink

³⁷ It should be noted that exploitation of defects in the phosphor bar was not included in this analysis, but remained a future forensic possibility at the time of Dr. Ivins’s suicide. Since that time, given the results of the indicia defects analysis, it was determined that the analysis of the phosphor bar would not provide a more definitive result.

formulation, the population of possible envelopes was reduced to 36 million by effectively eliminating 13 production runs (nine million envelopes) printed with the old ink prior to January 9, 2001. Also, since the letters were mailed in September and October 2001, the seven production runs totaling 5.5 million envelopes printed after the postmark date on the mailed envelopes similarly could be eliminated. Thus, the total population of envelopes of investigative interest was 31 million.

2. The print defects

In January 2005, forensic examiners identified a number of defects in the pre-printed indicia and wording on the envelopes used in the attacks. Based on this discovery, investigators implemented their plan to compare these defects to other envelopes recovered from Post Offices across the country in an effort to locate a point of purchase. Investigators collected as many pre-franked Federal Eagle envelopes as possible from Post Offices that had received them for comparison to the evidence. These collected envelopes are referred to hereinafter as “known” envelopes because the specific Post Office that sold them is known to investigators. In total, 290,245 6¾-inch Federal Eagle known envelopes were collected.

Close scrutiny of the evidentiary envelopes revealed that the envelopes mailed to Brokaw and Senator Leahy had the same print defects. The envelopes mailed to the NY Post and Senator Daschle shared the same print defects as each other, but different from the print defects observed on the envelopes mailed to Brokaw and Senator Leahy. As it turned out, during manufacturing/printing, two plates on a single printing machine drum were used to print the envelopes, in an alternating pattern. This is evidence that the envelopes mailed to both Brokaw and Senator Leahy were stamped by the same plate, while the envelopes mailed to the NY Post and Senator Daschle were stamped by the same plate, but different from the plate that stamped the envelopes to Brokaw and Senator Leahy. The logical inference was that these four envelopes were produced in succession and grouped this way because they were pulled from the box of envelopes in the order in which they were printed on the machine.

In the course of their examination of the known envelopes, in December 2005, USSS experts determined that a particular box of envelopes from the Elkton, Maryland Office had alternating print defects strikingly similar to those observed in the evidence.³⁸ As the examinations continued, they identified additional envelopes with the same defects but with slight variation. The chief USSS forensic examiner concluded that these slightly different envelopes were probably produced with the same printing plates, but at different times in the

³⁸ The investigators provided “blinded” envelope samples and minimal information regarding the U.S. Postal Service’s shipping and distribution procedures to the forensic examiners. This was done to eliminate potential bias as the examinations progressed.

production sequence. As a result, the examiners further refined the known envelopes into sub-groupings, and established a better time line of when the envelopes were printed.³⁹

3. The shipping records

Based on the USSS extensive microscopic comparison of the defects to thousands of known envelopes, a review of the MeadWestvaco production and shipping records, and USPS receiving and shipping records, investigators determined that the envelopes used in the anthrax attacks were banded and received at the Dulles Stamp Distribution Office (“SDO”) on March 2, 2001. The Dulles SDO was a central receiving center from the envelopes’ manufacturer and the distribution point for Post Offices for Maryland and Virginia.⁴⁰ Envelopes with defects most similar to the evidence were shipped to post offices in Elkton, Maryland; Severna Park, Maryland; Cumberland, Maryland; Galena, Maryland; Fairfax, Virginia; and Machipongo, Virginia on March 21, 2001. Frederick, Maryland also received a shipment of 1,000 Federal Eagle envelopes that day, according to the shipping records, just after those shipped to Cumberland, Maryland and Elkton, Maryland.

Envelope Shipments

DATE	OFFICE NAME	CITY	STATE	QUANTITY
3/20/2001	MAIN POST OFFICE	HAGERSTOWN	MD	500
3/21/2001	MGR MOWS	BALTIMORE	MD	5000
3/21/2001	MGR ARLINGTON STATION	BALTIMORE	MD	500
3/21/2001	NORTHWOOD STATION	BALTIMORE	MD	1000
3/21/2001	MGR REISTERSTOWN PLAZA	BALTIMORE	MD	500
3/21/2001	MONDAWMIN MALL	BALTIMORE	MD	500
3/21/2001	POSTAL RETAIL STORE	WESTMINSTER	MD	200
3/21/2001	MAIN POST OFFICE	BEL AIR	MD	500
3/21/2001	MAIN POST OFFICE	COLUMBIA	MD	500

³⁹ In other words, there are a number of defects on each of the evidentiary envelopes and the known envelopes. These defects gradually phase in, remain for a period of time, and then phase out. This information was utilized to identify the group of envelopes that had the most similar defects to those on the envelopes used in the mailings, sub-groups of envelopes with increasingly greater differences, and ultimately to determine where they were shipped.

⁴⁰ In 2001, the Dulles SDO serviced all of Virginia and only a portion of Maryland. The Post Offices with zip codes of 20600 through 20999 were serviced by the Washington, D.C. Stamp Stock Repository. Essentially, these zip codes represent the areas inside the capital beltway and southern Maryland.

3/21/2001	POST OFFICE	ANNAPOLIS	MD	100
3/21/2001	POSTMASTER COCKEYSVILLE	COCKEYSVILLE	MD	500
3/21/2001	MGR CUMBERLAND STATION	CUMBERLAND	MD	500
3/21/2001	MAIN POST OFFICE	ELKTON	MD	500
3/21/2001	MGR FREDERICK STATION	FREDERICK	MD	1000
3/21/2001	GLEN BURNIE MPO	GLEN BURNIE	MD	500
3/21/2001	MAIN POST OFFICE	LUTHERVILLE	MD	200
3/21/2001	MAIN POST OFFICE	SEVERNA PARK	MD	200
3/21/2001	POSTMASTER GALENA	GALENA	MD	500
3/21/2001	MACHIPONGO PO	MACHIPONGO	VA	500
3/21/2001	EADS STATION	ARLINGTON	VA	500
3/21/2001	MAIN POST OFFICE	FAIRFAX	VA	500

After the postal rate change in June 2002, the Frederick Post Office returned any unsold envelopes to the Dulles SDO in compliance with USPS policy and procedures. The Dulles SDO subsequently destroyed these envelopes along with other obsolete stamp stock before investigators could recover them. Thus, we have no comparison envelopes from the Frederick Post Office. However, the most closely similar envelopes were found in the Post Offices that received shipments on the same day as Frederick, Maryland, and analysis of Dulles SDO shipping records indicates that the Frederick, Maryland envelopes were in fact bracketed by the offices with similar defects – *i.e.*, envelopes shipped before and after Frederick, Maryland have defects consistent with the evidence.

4. The controlled production run

The identification of print defects in the evidentiary envelopes, the forensic discovery of envelopes with matching defects in Maryland and Virginia, and the analysis of the production and shipping records provided investigators with a valuable lead as to the source area of the envelopes used in the mailings. However, investigators recognized that the use of defect analysis on flexographic printing was not widely used or documented in scientific publication and therefore expected to be challenged on the interpretation of the results. In this situation, the significance of the results was based on an interpretation of the uniqueness and duration of a set of defects.

In an effort to solidify the findings of the USSS and attempt to bracket the number of envelopes that could exist with the same defects, the Amerithrax Task Force in conjunction with the USPIS conducted a simulated production run of Federal Eagle envelopes to establish the duration and transiency of print defects. On December 13, 2006, a simulated production run was conducted at the MeadWestvaco production facility in Altoona, Pennsylvania. The purpose of the simulated run was to have MeadWestvaco reproduce the same quantity of Federal Eagle envelopes (approximately 500,000, the number produced during the first shift) with the same materials: same printing machine, same plate types, same indicia and envelope text, same ink,

same packer/tender teams, and similar maintenance schedule as the 02/14/2001 and 02/15/2001 production run time period in which Federal Eagle envelopes with the defects consistent with defects identified on the anthrax attack envelopes were known to have been produced. Envelopes manufactured on the production line were carefully observed and boxes of envelopes were labeled with the order of production. After 14 ½ hours of production and nearly 525,000 envelopes, the production run was ceased.

Over the course of the next several months, USSS examined envelopes from the simulated production run, photographing and analyzing defects, noting the changes in the morphological characteristics of the defects and the duration of the defects' existence on envelopes. Specifically, the USSS examiners focused on how the printing defects changed over the course of the production run and how long it took for changes to start to occur. The expert examiners at the USSS concluded that the same printing defects could occur on envelopes in as few as 4 boxes (2,000 envelopes). The occurrence of printing defects and the number of envelopes exhibiting the defect with the same morphological characteristics was quite low. In applying this concept to the exemplar and anthrax attack envelopes, the USSS concluded that the envelopes in which USSS had previously identified defects similar to those identified on the anthrax attack envelopes had to have been produced in close proximity to each other.

Evidence that (1) the identification of print defects in the evidentiary envelopes; (2) the identification of nearly identical defects in a box of banded envelopes from Elkton, Maryland and similar defects in envelopes from other offices in Maryland and Virginia; (3) the controlled production run study result that provided a defect duration estimate of 2,000 envelopes; (4) the analysis of shipment records which disclosed that the Post Offices in Elkton and Frederick, Maryland received envelopes on the same day; and (5) the analysis of the order fulfillment process at Dulles, SDO, which disclosed that the Elkton and Frederick orders would have been filled sequentially or in close order, establishes that the Frederick, Maryland Post Office likely sold envelopes similar to the envelopes used in the attacks.

G. The Language of the Letters is Similar to the Writings of Dr. Ivins.

As noted at the outset of this Memorandum, only four letters were recovered in this investigation: the letters to the NY Post and Brokaw, postmarked in Trenton, New Jersey, on September 18, 2001, and the letters to Senators Leahy and Daschle, postmarked in Trenton on October 9, 2001. The letters to the NY Post and Brokaw were identical to each other, and were determined to be photocopies made from the same original. Similarly, the letters to Senators Leahy and Daschle, while containing similar language to the earlier letters, were slightly different from the letters to the NY Post and Brokaw, but identical to each other, and determined to be photocopies from the same original. They read as follows:

Letters to the New York Post and Tom Brokaw

09-11-01

THIS IS NEXT
TAKE PENACILIN NOW

DEATH TO AMERICA
DEATH TO ISRAEL
ALLAH IS GREAT

Letters to Senators Leahy and Daschle

09-11-01

YOU CAN NOT STOP US.
WE HAVE THIS ANTHRAX.
YOU DIE NOW.
ARE YOU AFRAID?

DEATH TO AMERICA.
DEATH TO ISRAEL.
ALLAH IS GREAT.

These letters have been carefully scrutinized for both the obvious message, and any hidden message that might be contained within them. They have also been compared to other writings by Dr. Ivins at the time.

1. The literal message

The language of the letters – specifically “Death to America, Death to Israel, Allah is Great” – obviously plays on the still very-real fears stemming from the 9/11 attacks, just a week before the first mailing. This fact demonstrates that whoever sent the letters was trying to associate himself with al Qaeda in an effort to send the investigation far afield of a home-grown attacker. That the perpetrator was a home-grown attacker is supported by the statement “Allah is Great.” Experts consulted by the Task Force agreed that a true jihadi would be more likely to say “Allah Akbar” (“God is Great”). In addition, the evidence pointing to a domestic attacker was supported by the fact that RMR-1029, the parent material, was located in Dr. Ivins’s hometown of Frederick, Maryland and that the envelopes almost certainly originated there too.

When the attack letters were compared to Dr. Ivins’s e-mails, there were some striking similarities. First, the specific language of the anthrax letters tracked the rambling e-mail of more than two pages that Dr. Ivins sent to Former Colleague #1 on September 26, 2001, as

follows:

- 9/26/01 e-mail: “I just heard tonight that the Bin Laden terrorists for sure have anthrax and sarin gas.”
- Letters to Daschle/Leahy: “We have this anthrax.”
(postmarked 10/9/01)
- 9/26/01 e-mail: “Osama Bin Laden has just decreed death to all Jews and all Americans.”
- All four anthrax letters: “Death to America, Death to Israel.”

This e-mail was sent before the letters were discovered, so Dr. Ivins could not possibly have been subconsciously parroting what he heard about the letters.

2. The hidden message – Codons

As is visible to anyone examining the attack letters (*see* Attachments A and B), there are instances where the letters “A” and “T” were bolded within the text, suggesting that the letters contained a hidden code. The Task Force’s investigation found a distinct connection between this hidden code and Dr. Ivins’s own fascination with certain codes. Understanding this connection first requires some background information about deoxyribonucleic acid (“DNA”) and codons.

a. Background

Genetics is a branch of biology that deals with the heredity and variation of organisms. DNA defines the genetic makeup of each organism and is oftentimes referred to as the genetic blueprint. In humans there are billions of DNA molecules. In living organisms, these DNA molecules are bound together one after another, to form sequences that encode for all of the proteins necessary for cellular differentiation, function, and reproduction. The DNA sequences, which encode for proteins, are also known as genes. Generally speaking, DNA is what makes each human being unique.

DNA is a chain of nucleic acids consisting of Adenine (designated by the letter A), Cytosine (designated by the letter C), Guanine (designated by the letter G), and Thymine (designated by the letter T) – As, Cs, Gs, and Ts. Within the organism, the DNA sequence serves as a genetic code, which is deciphered or “translated” into chains of amino acids known as proteins. There are 20 such distinct amino acids, which themselves have single-letter designators. The sequence of the amino acid chain is determined by the DNA sequence, which is translated three nucleic acids at a time.

During translation, the three nucleic acids are referred to as a “codon,” meaning that each sequence of three nucleic acids will code for a specific amino acid. Since the codon is made up of three positions and each position can consist of an A, C, G, or T, there are 64 different combinations of codon sequences. With the exception of three sequences, which do not code for any amino acid (known as STOP codons), each of the 64 different codon sequences code for a specific amino acid. Since there are only 20 amino acids, some of the amino acids have multiple codon sequences. Scientists refer to genetic code charts, which define the 64 codon sequences and the amino acids for which they code. In addition, each of the 20 amino acids has a single-letter designator.

Since it is necessary to understand what effect intentional changes in the DNA sequence will have on the amino acid sequence, the genetic code chart is a cipher that scientists use when manipulating the DNA sequences. Using the genetic code, scientists alter DNA sequences to produce specific amino acid changes to proteins in order to study the effect each change has on protein production and function.

The Task Force learned that Dr. Ivins was familiar with codons because he used them from time to time in his work. Investigators also obtained a letter to Dr. Ivins from a researcher from the University of Michigan dating back to the 1980s, in which the author discussed codons. In addition, on July 27, 2000, Dr. Ivins forwarded an e-mail to Former Colleague #1 which began “Biopersonals: I have single-stranded too long! Lonely ATGCATG would like to pair up with congenial TACGTAG,” along with a note “this is some cute humor for anyone who has ever had anything to do with biochemistry or molecular biology.”⁴¹

With that information as background, investigators assessed the potential significance of the text of the letters sent to the New York Post and Brokaw, in which some of the letters were bolded as follows:

THIS IS NEXT
TAKE PENACILIN NOW

DEATH TO AMERICA
DEATH TO ISRAEL

ALLAH IS GREAT

When they lifted out just the bolded letters, investigators got TTT AAT TAT – an apparent hidden message within the letters themselves.

⁴¹ This e-mail was notable not because of any particular meaning ascribed to those specific nucleic acids, but rather because it demonstrated Dr. Ivins’s familiarity with DNA, specifically As, Ts, Cs, and Gs.

TTT = Phenylalanine (single-letter designator F)
AAT = Asparagine (single-letter designator N)
TAT = Tyrosine (single-letter designator Y)

From this analysis, two possible hidden meanings emerged: (1) “FNY” – a verbal assault on New York, and (2) PAT – the nickname of Former Colleague #2. First with respect to “FNY,” according to numerous witnesses who knew him well, including Former Colleague #1, Dr. Ivins had a deep hatred for New York. For example, in the aftermath of 9/11, Dr. Ivins sent Former Colleague #1 an e-mail where he essentially accused “typical” New Yorkers of overplaying the tragedy and seeking attention, wondering “what about those folks in Oklahoma City, they deserve sympathy too.” Further, Dr. Ivins strongly associated Former Colleague #1 with New York, so this reference may well have been directed at her. His communications with her both when she worked at USAMRIID and in the years that followed were replete with references to the New York Yankees, her favorite baseball team, not always in the kindest of terms. Finally, these were the letters that were sent to Tom Brokaw and the New York Post, both in New York City.

With respect to “PAT,” as noted in more detail, *supra*, as with Former Colleague #1, Former Colleague #2 was both a close friend, in fact one of his only friends, and also the object of excessive affection and attention by Dr. Ivins. Dr. Ivins was potentially sending both messages, a reflection of his obsession with these two women who so dominated his complicated psyche.

It was obviously impossible for the Task Force to determine with certainty that either of these two translations was correct. However, as the discussion that follows makes clear, the key point to the investigative analysis is that there *is* a hidden message, not so much what that message is.

b. Dr. Ivins’s fascination with codes

According to statements Dr. Ivins made to investigators in his on-the-record interviews in January and February 2008, and his past statements to Former Colleague #1 and Former Colleague #2, from at least early adulthood, Dr. Ivins maintained an interest in secrets, codes, and hidden messages. For example, Dr. Ivins described in his interviews that, in the late 1970s, he broke into the KKG sorority house at UNC and stole their cipher – a decoding device for their secret sorority rituals – from a locked closet, along with some other ritual documents, though not the ritual book itself. Dr. Ivins held onto this cipher for a few years, before he traveled to West Virginia University (“WVU”) in Morgantown, broke into the KKG house there, and stole the actual ritual book from a locked cabinet. He later copied this book, and then mailed it back to the WVU chapter, with a note explaining that his fraternity brother took the book and he wanted to return it. During these break-ins, Dr. Ivins stayed just long enough to find the material he was looking for, in the case of UNC, approximately one hour. He also went at times when the schools were on a break, to lessen the likelihood that he would be caught. Later, he posted an ad

in *Rolling Stone* and *Mother Jones* magazines, offering to send copies to anyone who wanted them, free of charge, provided that they were not actually members of KKG trying to get their materials back. When Dr. Ivins was asked why he would do this, he explained that he wanted to unlock their secrets as a way to demonstrate power over the organization to get back at a KKG member who refused to go out with him in college – which he stated was the origin of his obsession with that sorority. He referred to the book of ritual as the “Holy Grail.”

As discussed in detail in the Habit section *infra*, Dr. Ivins also liked to send “care packages” and other items in the mail, while disguising his identity in an effort to have the recipient – frequently Former Colleague #1 – “decode” who the sender was. For example, in an e-mail sent to Former Colleague #1 on March 13, 2001, Dr. Ivins made the following reference to a series of packages he had sent her: “The detergent from Laundry Boy was mailed from Virginia during an IPT meeting. The gift certificate and birthday card were mailed from Gaithersburg. The jacket – when it finally came – was to be mailed from Gettysburg, but you had already figured out who sent you everything else, so I just went ahead and sent it from Frederick.”

Finally, Dr. Ivins’s own words demonstrated that he enjoyed playing detective and unlocking secrets. In an e-mail to Former Colleague #1 on June 26, 2000, he wrote:

For me, it’s a real thrill to make a discovery, and know that I’ve just revealed something that no one else in the world ever knew before. I feel like a detective, and that which is unknown dares me to try to find out about it, to decipher its code, to understand it, to fit it into the puzzle or “Big Picture.”

c. Godel, Escher, Bach: the book that Dr. Ivins did not want investigators to find

On November 1, 2007, Task Force agents executed a search warrant at the Ivins residence. A few days later, on November 7, 2007, agents conducted a “trash run” at his house in an effort to see what he threw out that they may have missed. As will be described more fully in the Consciousness of Guilt section *infra*, on the night of the trash run, Dr. Ivins behaved in a bizarre fashion after he put out his trash, going so far as to confirm that the trash bag had actually been removed from his trash can. Recovered from his trash that night were a number of written materials dealing with codons, including (1) a 1992 issue of *American Scientist Journal* which contained an article entitled “The Linguistics of DNA,” and discussed, among other things, codons and hidden messages; and (2) a book entitled Godel, Escher, Bach: An Eternal Golden Braid (“GEB”), published by Dr. Douglas Hofstadter in 1979. It is difficult to summarize what the book is about – indeed, in the 20th anniversary edition of the book, Dr. Hofstadter lamented the fact that it was poorly, if at all, understood. However, the basic premise is that there are surface meanings (the “frame message”) and then there are meanings within mathematics (Godel), art (Escher), and music (Bach) that are hidden (the “inner message”). There are

numerous pages of puzzles, theorems, and other challenges to the reader, some of which someone, in what appears to be the handwriting of Dr. Ivins, actually tried to decipher on the pages of the book itself.

Within the book, there are several specific passages relevant to the anthrax letters. First, in a chapter entitled “The Location of Meaning,” the author explains that deciphering consists of three message layers. The first layer is the frame message, which conveys that there is a message from the sender. Once the frame message is recognized, the attention is switched to the outer message, which is a set of triggers, patterns, and structures, telling the recipient how to decode the inner message, which is the third layer and the actual message to be conveyed. The author comments that the sender cannot ensure that the inner message will be understood.

With respect to the anthrax letters, the following applications of the principles set forth in GEB could be made:

Frame message (indicators that there is an inner message)

- The first letter of the message “T” is emphasized.
- The letters at the four corners of the message are highlighted.
- “PENACILIN” is misspelled, which draws attention to the word. The “A” is a misspelling point and is highlighted.
- Not all “A”s and “T”s are highlighted.

Outer message (triggers: how to decode the inner message)

- The highlighted letters are As and Ts (DNA)
- There are nine highlighted letters
- The message is in three word bursts (Codons)
(* Three word bursts, 9 letters/3 letter codons = three amino acids)

Inner message (duality)

- links to both Former Colleague #1 and Former Colleague #2

The author of GEB discusses the concept of “duality,” that messages can have multiple meanings. This is further evidence that the messages here related to both former colleagues. Similarly, it reflected the dichotomy between Dr. Ivins’s intense love of and at times animosity for these women who were so integral to his mental state on any given day.

The second relevant passage in GEB contains a series of dialogues between “Tortoise” (T) and “Achilles” (A), and “Crab” (C), and “Genie” (G). Within one such dialogue between Tortoise and Achilles, there is the following list of names:

De Morgan
Abel
Boole
Brouwer
Sierpinski
Weierstrass

(See Attachment J). In this passage, Achilles explains about the list “I believe it is supposed to be a Complete List of All Great Mathematicians. What I haven’t been able to figure out is why the letters running down the diagonal are so much bolder.” To which Tortoise replies “[a]t the bottom it says, ‘Subtract 1 from the diagonal, to find Bach in Leipzig.’” (GEB at 404).⁴² This passage is similar to the bolded letters in the anthrax attack letters.

The final relevant section, entitled “Typogenetics” – short, according to the author, for typographical genetics – in very simple terms, deals with Ts, As, Cs and Gs, and manipulates these letters to change their meaning. Typogenetics is found within the chapter “Self-Ref and Self-Rep” – “Self-Ref” (mathematics), “Self-Rep” (molecular biology). Within this chapter the author discusses DNA, RNA, amino acids, proteins, enzymes, ribosomes, the genetic code, the central dogma, bacteria, and viruses. The author ponders whether it will ever be possible to determine phenotype from genotype. Claiming that – in theory – “an incredibly powerful computer program simulating the entire process, including every cell, every protein, every tiny feature involved in the replication of DNA, of cells, to the bitter end. The output of such a pseudo-epigenesis program would be a high-level description of the phenotype.” Regarding “The Origin of Life,” the author ultimately poses the question: “[h]ow did the Genetic Code, along with the mechanisms for its translation (ribosomes and tRNA molecules) originate?”

The issue of determining phenotype from genotype is also related to “The Linguistics of DNA,” David Searl’s article in the November - December 1992 edition of *American Scientist Journal*, which Dr. Ivins also discarded along with GEB. Searls was the Senior Vice President of Informatics at Glaxo-Smith-Kline. This article was an early attempt at trying to develop a linguistic structure of the human genome using the correlation between known DNA sequences and their structure and function, in order to understand and interpret similar DNA sequences. Both the Searls article and GEB contain charts of the genetic code.

While the subject matter of GEB may be confusing to some, it nonetheless remains of evidentiary value to the investigation. In the days following the search of Dr. Ivins’s residence, office and cars, he threw out a book that made direct references to hidden messages and codes, specifically involving the bases of DNA and bolded letters – both of which were present in the anthrax mailings. The night he did so, Dr. Ivins behaved in the fashion of a nervous man, watching for the garbage truck, and then checking the garbage can to ensure that it was gone, and

⁴² If one decodes this list as directed, the answer is “Cantor.” To understand the message of Bach, one needs to know that Bach was the Cantor of Leipzig.

finally checking the bushes to see if he was being watched (*see* Consciousness of Guilt section *infra*.) Further, it turns out that Dr. Ivins gave a copy of this book to another scientist in the fall of 2006, telling the scientist that it was a great book, and later expressing disappointment that the scientist never read it, even asking the scientist to give it back to him, demonstrating that this is not a book he would casually throw away.⁴³

H. Dr. Ivins Made Many Statements, and Took Many Actions, Evidencing his Guilty Conscience.

Over the course of the several years between the mailings and his suicide, Dr. Ivins engaged in behavior and made statements that were evidence of a guilty conscience. While some of these statements and actions provided stronger proof than others, and some may have left room for interpretation, taken together, they were evidence of his guilty state of mind.

1. Suspicious behavior the night of the GEB trash run

In the days that followed the search of his home, cars, and office on November 1, 2007, investigators seized Dr. Ivins's trash to see if there was anything of interest that they may have missed during the search. The agents first set up surveillance in order to avoid detection when securing his trash, and noted the following bizarre behavior of Dr. Ivins: Just after 1:00 a.m., on November 8, 2007, with the front porch light on, he walked out the front door of his house across the street from USAMRIID, wearing long underwear, and stood outside for a few minutes before walking back inside. A few minutes later, the municipal garbage truck pulled up in front of his house and took his garbage. Seven minutes later, Ivins again emerged from the house and walked toward the street. He walked to the garbage cart where the garbage once was and looked inside, closed the lid and pulled the cart back into the driveway. He then walked towards his neighbor's house, and while standing in the street, looked into the parking lot across the street. He walked towards the wooded area across from his house (where the surveillance agent was making all of these observations) and peered into the wooded area and the parking lot for approximately a full minute. He then went back inside his house. In the other 15 or so trash runs conducted before and after this one, Dr. Ivins was never observed doing anything remotely like this.

⁴³ When asked in his January 2008 interview what books he had ever given this scientist, Dr. Ivins mentioned two other books – *Vaccine A* by Gary Matsumoto and a book about the anthrax investigation – but not GEB, one of his favorites, that he had given this scientist only a little over a year earlier. Also reinforcing the importance of GEB to Dr. Ivins was the fact that he once sent an e-mail to Janna Levin, complimenting her work, presumably referring to A Madman Dreams of Turing Machines, a book that discusses GEB and chronicles the lives of Godel, known as the world's greatest logician, and Alan Turing, known as an exceptional code-breaker.

The actual significance of GEB and the other materials that Dr. Ivins threw in the garbage that night was discussed at length above. His decision to throw out these texts in the wake of the search of his home in connection with the anthrax investigation offers evidence of his guilty conscience.

2. Suspicious statements in the immediate aftermath of the anthrax attacks

When Robert Stevens became the first victim of the anthrax attacks, Dr. Ivins sent an unexplainable e-mail to a contact at the CDC on October 4, 2001, the day after Stevens was diagnosed with inhalational anthrax. Dr. Ivins, one of the nation's foremost anthrax scientists, speculated that Mr. Stevens's infection could have been the result of Stevens drinking infected creek water. This proffered explanation, was impossible because the anthrax had been inhaled. Alternatively, he proposed to the CDC that Stevens could have contracted the disease from infected alpaca used in wool socks or a sweater. Both a renowned microbiologist at another lab and a scientist working at USAMRIID found these suggestions absurd. The microbiologist at the other lab described them as "laughable," and the USAMRIID scientist called them "fishy, any reasonable scientist would say this doesn't make sense."⁴⁴

On October 3, 2001, the day before he sent this e-mail to the CDC, Dr. Ivins sent an e-mail to Former Colleague #1 regarding a possible bioweapons attack by terrorists:

I remember mentioning to you the possibility that after you get your degree you might be interested in being an "on call" physician for any suspected BW attacks in the country. With your experience (and the fact that you've been immunized against different agents) and with people in high places talking about BW terrorism being likely, your knowledge, skills and abilities could be a real asset. I'm hoping such an attack doesn't happen, of course. On a more humorous note, if a BW 'crop duster' ever does buzz through your city, you can just look up in the sky, knowing your immune system is ready, and give him the finger.

The next day, Dr. Ivins did not mention these more plausible possibilities to the CDC, which was suspicious in light of his contemporaneous e-mail to Former Colleague #1. This email to the CDC, fishing for information, is additional evidence of his guilty conscience.

⁴⁴ Another preeminent anthrax researcher intimately involved in the anthrax investigation, found these ideas slightly less absurd, observing that all the scientists with whom he spoke were wondering whether the anthrax came from the environment, though notably, not from drinking infected water.

3. Dr. Ivins conducted unauthorized environmental sampling, the results of which further implicate him in the mailings.

In December 2001, Dr. Ivins took it upon himself to swab the office he shared with two lab technicians for *Ba* contamination. He told investigators that he was concerned that the practices being used by USAMRIID to handle safely the evidentiary material from the Daschle letter were inadequate. He claimed that his junior lab technician, who had been tasked to assist the Diagnostic Systems Division (“DSD”) in its analysis, in particular had voiced safety concerns to him about how that material was being handled. So he swabbed approximately 20 areas in his office, including the junior lab tech’s desk top, her computer and her telephone.⁴⁵ Approximately half of these samples tested presumptively positive for one or two colonies of *Ba*, so he thoroughly cleaned all of the affected areas. He did not tell anyone other than his senior lab technician about his findings, not even the junior technician, on whose desk he found evidence of *Ba* contamination.

Eventually, the Command at USAMRIID learned of this sampling and one described below, and ordered a “15-6 Investigation” – an Army investigative process. When asked in connection with that investigation why he did not inform the person whose desk was contaminated, Dr. Ivins said that since the level of contamination was so minor, he did not see the need to do so. In addition, he did not want to be perceived as crying “Wolf!” during a time of so much work pressure at USAMRIID. These justifications were undercut by his claimed reason for doing the sampling in the first place – his worry, based on concerns allegedly voiced by the junior lab technician, that safety practices being utilized were inadequate, and that there might be *anthracis* contamination at USAMRIID. He did not conduct follow up testing to confirm that these were in fact *anthracis* colonies, and then alert the Command to the fact that there was a problem – which would have been the appropriate response, if that were in fact his motivation to conduct the sampling.

Dr. Ivins conducted a second unauthorized environmental sampling in mid-April 2002. On April 8, 2002, two researchers had a minor spill of *Ba* in the B3 hot suites. One of Dr. Ivins’s supervisors conducted an environmental survey to assess the extent of the laboratory contamination. Her sampling revealed a minor level of contamination which she stated was consistent with the level they generally find when conducting the occasional random environmental sampling. She noted that the handle of the pass-box – through which material is

⁴⁵ Although Dr. Ivins’s claimed reason for the testing was a concern that DSD was mishandling the material, he did not attempt to sample areas in or around DSD. In the course of an investigation into his unauthorized sampling, Dr. Ivins stated that he did not swab his own desk or that of his other lab technician during this unauthorized sampling because they were “upwind” of his lab technician’s desk, and he did not think there would be any contamination there. In addition, he kept his work area clean, as did the other technician, but the desk he sampled was covered with dust, which in part led him to think there might be contamination there.

transferred from the “hot side” of the lab (the area inside the lab suites) to the “cold side” (the outside) – was contaminated on the hot side, but the box itself was not. This observation led her to the conclusion that whatever contamination had occurred inside the lab was contained. She cleaned all contaminated areas with bleach and retested the affected areas, with negative results.

According to Dr. Ivins, he disagreed with his supervisor’s assessment of the significance of the contamination. He suggested to her that they conduct more sampling of the cold side. According to the supervisor, she did not understand why Dr. Ivins would suggest this, as there was no indication that the cold side had been contaminated. His supervisor specifically told Dr. Ivins not to conduct any sampling without first obtaining approval from the Division Chief.

In spite of this order, on April 15, 2002, Dr. Ivins conducted an independent sampling. He sampled a number of areas on the cold side, including the men’s changing room and the handle of the pass-box. He also re-swabbed his junior lab tech’s desk because, according to him, he was concerned that since she was still working for DSD and was in contact with the evidence from the letter to Senator Daschle, she might have inadvertently re-contaminated her work space. The results of his testing revealed positive results in a number of areas, so he conducted a more comprehensive sampling on April 16, 2002, including more of the area surrounding the pass-box on the cold side, and numerous areas in his shared office. In all, he found several areas of *Ba* contamination, including on the electrical box on the outside of the pass-box, in the cold side men’s changing room, and several areas of his office, including on his desk and on the top of a cabinet.

Dr. Ivins reported his findings to his supervisor and the Chief of the Bacteriology Division. His supervisor was furious, given that she had just two days earlier told him to not to do any additional sampling. The Division Chief ordered Dr. Ivins’s supervisor to conduct additional sampling, which she did. This sampling revealed additional positive results, so a comprehensive survey of all of Building 1425 was conducted by the Center for Health Promotion and Preventative Medicine (“CHPPM”) of Aberdeen Proving Ground, Maryland. Of the total of 1,074 samples collected by CHPPM, there were 123 presumptive positives. Of those, only two were confirmed to be virulent *Bacillus anthracis* – one from the top of a locker in the men’s cold side change room, and the other from the bookcase in Dr. Ivins’s office. Both of these were the Ames strain.

With respect to the swabs conducted by Dr. Ivins, 27 samples were confirmed to be *Bacillus anthracis*, reflecting contamination in three locations: 15 came from Dr. Ivins’s office, ten of which were Ames strain; six came from the cold side pass box, all of which were Ames strain; and six came from the men’s change room, four of which were Ames strain. The only places in USAMRIID that had positive results were in areas that Dr. Ivins himself originally sampled. In addition, these three areas all had direct links to Dr. Ivins. Indeed, of the 22 offices swabbed by CHPPM, only the Ivins shared office had any contamination. In addition, the female cold side change room was negative, and none of the other laboratories had the contamination levels found in Dr. Ivins’s lab (B-313). In total, between Dr. Ivins and CHPPM, 1,197 samples

were obtained. Of Dr. Ivins's swabs, 27% yielded positive results, while only 0.18% of those conducted by CHPPM did. This evidence suggests that Dr. Ivins knew where to swab because he knew where he had contaminated the building.

Dr. Ivins was questioned about these remarkable results, and he essentially said that he was better at conducting environmental sampling than CHPPM. According to Dr. Ivins, he sampled a larger area and used more force when conducting his swabbing. In addition, he focused on hard-to-reach and dusty areas, presumably implying that he was also better at spotting areas that might be ripe for contamination.

Dr. Ivins's explanations for his samplings were disingenuous. If it were true for the December swabbings that he was concerned that his junior lab technician might have contaminated the office, and he in fact found areas of contamination, he would have known that there must have also been heavily-contaminated areas in the DSD where she worked, and from which the spores were ostensibly tracked. At that point, he would have had a moral obligation to inform USAMRIID Command of the potentially life-threatening contamination in DSD. He did not inform anyone. This is additional evidence of his guilty conscience.

4. Threatening e-mail to a USAMRIID scientist

On June 7, 2007, in an e-mail to a USAMRIID scientist discussing, among other things, the anthrax investigation, Dr. Ivins made the following barely-veiled threats:

Do you realize that if anybody gets indicted for even the most remote reason with respect to the anthrax letters, something as simple as not locking up spore preps to restrict them from only people in [the] lab – they face the death penalty? Playing any part, even a minor part such as providing information about how to make spores or how to make them in broth, how to harvest and purify . . . that could wind up putting one or more hapless persons on death row. Not pleasant to think about.

In one of your recent e-mails you said that it would all be over soon. If they indict someone, that means that innocent people are going to get dragged through the mud by both the defense and the prosecution as the pre-trial and trial procedures move forward.

Dr. Ivins then set out a litany of what he thought of as embarrassing personal information about this scientist and others at USAMRIID. It appeared from this e-mail that Dr. Ivins was trying to silence this scientist by threatening that private matters would be revealed at a trial of someone accused of the anthrax mailings.

Investigators followed up on this e-mail by trying to ascertain from this scientist what s/he might know about Dr. Ivins that Ivins would consider potentially damaging. The scientist expressed frustration that s/he did not know what information this might be.

5. Guilty statements made just prior to March 2008 hospitalization

As his depression took on a new level of severity in the spring of 2008, and he was briefly hospitalized for his first articulated suicide plan, Dr. Ivins sent a number of e-mails that are both evidence of his fixation with and reliance on Former Colleague #1 and evidence of his guilty conscience. For example, in an e-mail to Former Colleague #1 and her close relative on March 19, 2008, at approximately midnight, just prior to this first hospitalization, he said the following:

I miss the days that all would say that I was sane without a snicker.
I miss the days when I felt that we were doing what was
worthwhile for our soldiers. I miss the days when I believed that
our undertakings were worthy and honest and sacrificial. I miss the
days since I could talk to you!

O, Healer! O devoter of your life to the lives of others! I can hurt,
kill, and terrorize, but others place me with the vilest of the
vile. . . . Go down low, low, low as you can go, then dig forever,
and you'll find me, my psyche. I can kill none but myself. I can
terrify none but myself, but I can love and hug and turn toward the
good, all who are willing. Give[n] my long-distant and non-
productive past. Our pasts shape our futures, and mine was built
on lies and craziness, and depression, and thievery, and things that
make an honest man and woman cry. Alone. The farther I go, it's
alone. The state smells its carnivorous death-blood sacrifice. I
look into the mirror and cry out who it is.

6. Threats made during a July 2008 group therapy session

As described in detail in the Mental Health section *supra*, at a group therapy session on July 9, 2008, Dr. Ivins made a number of statements regarding the anthrax investigation, and noted that he had a detailed plan, involving a gun from his son and a bullet-proof vest, to kill "co-workers and others who had wronged [him]." When asked by other members of his group what he was concerned about if he was innocent, he reportedly just smiled. Given that the threats were made in the context of the anthrax investigation, and that just the day before he sang a little song about "diming [him] out" to a co-worker who had reported his erratic behavior to lab management, the threats were determined to be targeted at witnesses in the investigation.

7. June 2008 equivocal denials

On June 5, 2008, Dr. Ivins had a conversation with a witness, during which he made a series of statements about the anthrax mailings that could best be characterized as “non-denial denials”:

Witness: “I’m trying to be supportive and understanding. But I guess a part of what you had said before to me in response to that was that, you know, there kind of seems to be another person at times. And if you don’t remember doing that, I mean [pause], don’t get mad [laugh], are you absolutely . . . ?”

Bruce: “You were going to say how do I know that I didn’t have anything to do with”

Witness: “Yeah.”

Bruce: “I will tell that, I will tell you that it’s, I can’t pull that up. And a lot of times with e-mails, I don’t know that I sent an e-mail until I see it in the sent box. And **it worries me when I wake up in the morning and I’ve got all my clothes and my shoes on, and my car keys are right beside there.** . . . And I don’t have it in my, in my, I, I can tell you I don’t have it in my heart to kill anybody.”

* * *

Bruce: “And I, and **I do not have any recollection of ever have doing anything like that.** As a matter of fact, I don’t have no clue how to, how to make a bio-weapon and I don’t want to know.”

* * *

Bruce: “The only reason I remember some of this stuff, it’s because there’s like a clue the next day. Like there’s an e-mail or, or, you know, when you’re, when you’re in bed and you’re like, you’re like this, you know, that’s, that’s not real fun. **It’s like ‘oh shit, did I drive somewhere last night?’**”

Witness: “Right, yeah, yeah, that must be awfully scary.”

Bruce: “It really certainly is. Uh, because **I can tell you, I am not a killer at heart.**”

The witness suggested that maybe Dr. Ivins should get hypnotized to help him remember, to which he replied that he would be terrified.

Bruce: “What happens if I find something that, that is like buried deep, deep, deep, and you know, like from, from my past or I mean . . . like when I was a kid or stuff like that you know?”

* * *

Bruce: “Oh, but I mean, you know, that would just, that would just like, like, like make me want to jump off a bridge. You know, that would be . . .”

Witness: “What’s that? If you found out that”

Bruce: “**If I found out I was involved in some way**, and, and . . .”

Witness: “And you don’t consciously know?”

Bruce: “Have any, any clue. [pause] [groan] ‘Cause like, I’m, I’m not uh, a uh, **I don’t think of myself as a vicious, a, a nasty evil person.**”

Witness: “Oh no, no, me either, but I mean, unless there is a whole other side . . .”

Bruce: “Yeah.”

Witness: “. . . that is buried down in there . . .”

Bruce: “Yeah.”

Witness: “. . . for whatever reason.”

Bruce: “Because I, **I don’t like to hurt people**, accidentally, in, in any way. And [several scientists at USAMRIID] wouldn’t do that. And **I, in my right mind wouldn’t do it** [laughs]. . . . But it’s still, but I still feel responsibility because it [RMR-1029] wasn’t locked up at the time”

8. Shifting blame to Former Colleague #1 and Former Colleague #2

In November 2007, a search of Dr. Ivins's residence revealed the printout of an e-mail he sent to himself "speculating" in an illogical 12-point memo that Former Colleagues #1 and #2 together mailed the anthrax letters in an effort to get back at him, a notion he had raised once before:

I'm seriously wondering if [Former Colleague #2] and [Former Colleague #1] may have been involved. Note the following:

- 1) [Former Colleague #2] . . . made the finest preparations of anthrax spores, and [Former Colleague #1] was her loyal understudy.
- 2) [For two years] the two of them made countless preparations of anthrax spores. They made them together and I wasn't in the suite when they made and purified them.
- 3) Former Colleague #2 secretly complained to [Former Colleague #1] and [a researcher at a different lab] about her supervisor (me) and then was dishonest about it when confronted by me.
- 4) [Former Colleague #1] was dishonest when confronted by me with questions concerning the above situation.
- 5) [Former Colleague #1] is extremely familiar with the Northeast, and the letters were mailed from the Northeast.
- 6) [Former Colleague #2] and [Former Colleague #1] were very close for a number of reasons, [listing various reasons].
- 7) Less than a year after the anthrax letter attacks, [Former Colleague #2] left USAMRIID as an internationally recognized authority on anthrax spores and their production and purification, and she took a job in the private sector. Since then her career has moved upward rapidly.
- 8) [Former Colleague #2] and [Former Colleague #1] had the opportunity to make "anthrax letter spores," and they had motives. For [Former Colleague #2], the twin motives of revenge on her supervisor and giving her career a boost would be at the front. For [Former Colleague #1], loyalty to her best friend and mentor while in Frederick, combined also with revenge on her supervisor, would

be at the front.

9) . . . I have to wonder if there was outside assistance from one or more individuals - perhaps known to [Former Colleague #1] - who would have biochemical/pharmaceutical experience to make the spores into a powder.

10) . . . [Former Colleague #1] may have had connections that could [mail the spores]. Her family is from New York, and she has many friends in the Northeast.

11) Finally, this is merely a theory, not an accusation. For both individuals, ([Former Colleague #2] and [Former Colleague #1]) motive is present, availability (of the Ames strain of *Bacillus anthracis*) is present, knowledge of how to make large quantities of pure spores is present. Furthermore, with Former Colleague #1's personal and family connections, mailing the letters would not have been a problem. The one piece of the puzzle that would need to be filled is how they weaponized the spores into a powder. Perhaps [Former Colleague #1] was able to look the information up or get the information from someone she knew. Again, perhaps one or more other individuals were involve in weaponizing their anthrax spores into powder form.

12) Again, this is just an idea, but it's an idea that makes sense.

Much of his reasoning is easily refuted.

The e-mail had been printed out on June 7, 2007, though it was sent from one of his e-mail accounts to another nearly two years before. At the time Dr. Ivins wrote this e-mail and at the time he printed it, he remained friendly with Former Colleague #2, who still lived and worked in the Frederick, Maryland area, and whom he saw socially on occasion. In fact, he had sent three friendly e-mails to Former Colleague #2 the same day that he printed out this e-mail in June 2007. His relationship with Former Colleague #1 had become more distant with the passage of time. However, when interviewed, neither of them could recall an occasion when Dr. Ivins was so upset with them that he would make such accusations.

When Former Colleague #2 confronted Dr. Ivins with this e-mail in the spring of 2008, he blamed a "'Crazy Bruce,' who surfaces periodically as paranoid, severely depressed and ridden with incredible anxiety." (E-mail dated March 11, 2008.) He added in another e-mail the next day that "I hope that someday people can understand mental illness, . . . that people can understand that we don't want to hurt people. . . . I'm sorry if working with me was so ugly and regrettable and disgusting that you had to write others about how bad a person I was. . . . I never

would have deliberately hurt you. However it seems as though I have been selected as the blood sacrifice for this whole thing.”

9. Shifting blame to others

From the very earliest days following the anthrax attacks, Dr. Ivins pointed the finger in many different directions, though never once did he acknowledge that he himself had the skill-set to carry out these attacks. If anything, he said the opposite. A listing of his various proposed anthrax mailers follows (other than the former colleagues discussed above):⁴⁶

- Former USAMRIID researchers: On January 22, 2002, when his junior lab technician was being interviewed by the FBI, she gave the agents a sketch drawn by Dr. Ivins, in which he showed how his material (RMR-1029) did not match the evidence, but that a former USAMRIID researcher’s did. (See Attachment K.) On January 23, 2002, Dr. Ivins gave agents two digital photos of *Bacillus anthracis* growing on agar plates – his material and that researcher’s material – and added captions stating that the other researcher’s material is “similar in appearance to *Bacillus anthracis* colonies from mail.” (See Attachment L.) On January 29, 2002, Dr. Ivins gave agents another sketch, nearly identical to the one he prepared and gave to his lab tech to give to the FBI. (See Attachment M.) In addition, from as early as November 19, 2001, and consistently thereafter, Dr. Ivins tried to suggest that another researcher – with whom Ivins thought he had a difficult relationship – had mailed the letters. He noted that this researcher lived in New Jersey, near where the letters were mailed, and that his mother lived in Connecticut, within a mile or so of one of the anthrax victims. Finally, when asked why the researcher would have committed the anthrax attacks, Dr. Ivins said that he was “a mean guy who liked to poke people in the chest.”⁴⁷
- Members of management at USAMRIID at the time of the attacks: On a number of occasions, Dr. Ivins mentioned various former members of management at USAMRIID as possible mailers, frequently with detailed explanations for his accusations.

⁴⁶ Each of these individuals was thoroughly investigated and ruled out for various reasons, including, among others, lack of access to RMR-1029, inability to prepare spores of the quality used in the mailings, and alibi.

⁴⁷ When interviewed, this researcher had only kind words for Dr. Ivins, and had no recollection whatsoever of tension between the two of them.

- A researcher at an outside lab in the midwest that had received RMR-1029 in the spring of 2001: Dr. Ivins speculated that a researcher from an outside lab took anthrax from USAMRIID when he left and could have used it in the mailings.
- A researcher still employed at USAMRIID: A few weeks after Dr. Ivins's house was searched in November 2007, he sent an e-mail to a former USAMRIID researcher listing the following reasons that a current USAMRIID researcher could be involved in the mailings: . . . "he know[s] how to make anthrax into a bioweapon, he's made millions off the letters . . . the rest of us are trying to scrape by, but he and [the two individuals in management at USAMRIID] have done very well for themselves, as has [the vaccine production company whose vaccine was failing prior to the anthrax attacks] and some other tech companies. . . . He walks over into the office and promptly [sic] tells me how he'd use an organic solvent (like acetone or alochol [sic]) to pull water out of purified spores and then easily make them into powder." Dr. Ivins sent this e-mail after his house was searched and several of his computers were either seized or mirrored, making him aware of the FBI's interest in his computer usage.

10. The repository submissions

In February 2002, and again in April 2002, Dr. Ivins submitted samples of what he claimed was RMR-1029 to the FBI Repository for comparison with the evidentiary material. As detailed below, the first of these submissions matched the evidence, while the second did not. Investigators asked Dr. Ivins repeatedly about this discrepancy, to which he gave a number of inconsistent and illogical answers. They also spoke with a number of leading scientific experts in an effort to make some sense of what may have happened, including trying to run out any innocent explanation for this anomaly.

a. Dr. Ivins's submissions to the FBIR

Prior to a subpoena being issued for samples of each Ames strain culture within each lab, USAMRIID researchers were first asked shortly after the anthrax mailings to identify the persons to whom and the labs to which USAMRIID had transferred the Ames strain. The Task Force made this inquiry to get a sense of the size of the universe of the Ames strain. Dr. Ivins bristled at the request, as evidenced by the following e-mail he sent to a co-worker on October 12, 2001:

I can tell you to whom I have sent this so-called "Ames" strain. Please keep in mind that a) it is apparently 50 years old; b) that USAMRIID received this strain 20 years ago; c) that it is a USDA

strain, not a USAMRIID strain, U.S. Army strain, or Department of Defense strain; d) the individuals primarily responsible for determining the location of the strain are located in Ames Iowa, not in Frederick, Maryland; e) that of any U.S. labs having human pathogenic strains (including B. anthracis), none have higher security than USAMRIID; f) that if we are the only recipients of this “tasker,” it is transparently evident that we are being harassed by our regular detractors simply because we are DOD researchers. It is not within the purview of USAMRIID researchers to ascertain where the USDA has sent its strains of Bacillus anthracis or any other organism. I, and people in my lab, have sent the so-called “Ames” strain (either parent or subcultured derivative) of B. anthracis to the following

A few days later, on October 18, 2001, Dr. Ivins wrote a similar e-mail to another co-worker, in which he stated:

The “Ames” strain of Bacillus anthracis was sent to us in the late 1980-early 1981 time frame from the United States Department of Agriculture, Animal & Plant Health Inspection Services, National Veterinary Services Laboratories, Ames, Iowa. We were told it came from a dead cow. We were not told the specifics of the strain, specifically where it was isolated, or when it was isolated. Basically, we were told it was Bacillus anthracis that had been isolated from a clinical veterinary case. I’ve read that the strain was originally isolated in the 1950s at Iowa State University, but we were not given that information when we got the strain. I have also read that the strain is very common in veterinary labs, clinical labs, university bacteriology labs and research institutes all over the country, and that doesn't surprise me. From the literature, it seems that many places have the “Ames” strain or its derivatives. The proper place to find out the details of the strain is the USDA, not us. They sent it to us. It’s their strain, and it’s their responsibility to know the details about it. Thanks!

If the Ames strain was in too many laboratories to identify, it would have been a good source for the mailing material – it would be nearly impossible to track.⁴⁸ In addition, Ames strain spores were the most abundantly produced and stored in his laboratory space, minimizing the risk that someone would notice that a quantity was missing from the numerous flasks of Ames in his walk-in cooler.

USAMRIID received a subpoena dated February 15, 2002, requiring the submission of samples of each of its Ames strain cultures. To ensure the uniformity of submissions to the FBIR, the FBI collaborated with various experts, including the then-Director of the Diagnostic Systems Division at USAMRIID, to provide a clear and thorough protocol for the preparation of the repository submissions. This protocol instructed the person submitting the sample to:

1. Collect each *B. anthracis* Ames strain stock as per your institutional inventory and personal knowledge.
2. Prepare a minimum of two TSA [tryptic soy agar] slant tubes per stock by prelabeling with permanent waterproof labels. Include the following information on the label: “*B. anthracis* Ames strain,” with other designators used by your laboratory, date and your lab name. Additional information for each stock shall be provided separately.
3. A representative sample of each stock shall be used for inoculation of the TSA slants. If the stock is an agar culture, do not use a single colony, but rather use an inoculum taken across multiple colonies. Thawed frozen stocks or other liquid suspensions shall be well mixed prior to transfer of inoculum to the TSA.
4. Inoculate each TSA slant in a zig zag manner over the surface of the agar.

⁴⁸ The view that Ames was “everywhere” was shared by others as well. Not only did at least two of Dr. Ivins’s co-workers state that they were under this impression, but a microbiologist who was arguably the foremost expert on the genetics of *Ba* independently shared a similar opinion. When he was specifically asked, in May 2008, why he thought the Ames strain was used in the attack, this expert stated that Ames was everywhere. When advised that the actual number was roughly 15 labs, he was surprised, as he had just assumed it was widely available to many more labs and researchers. Contrary to this widely-held view, as a result of the subpoenas issued in connection with the Task Force investigation, investigators determined that only 15 U.S. and three foreign labs actually possessed the Ames strain.

5. Incubate the slants at 35°C - 37°C for 12-18 hr to confirm culture growth.
6. Individually wrap the slants in packaging materials approved for shipment of infectious select agents in accordance with regulations for the shipment of such materials.

Dr. Ivins was specifically named on the subpoena as someone from whom samples were being sought.

On February 27, 2002, one of the FBI Special Agents heading up the scientific side of the investigation received a telephone call from Dr. Ivins regarding the submission. This agent no longer has an independent recollection of the telephone call from Ivins, but his contemporaneous notes from the call reflected that Dr. Ivins identified himself as a research microbiologist and provided his telephone number and facsimile number. Dr. Ivins also identified which cultures of *B. anthracis* he had in his possession, though RMR-1029 was not listed. One of the cultures noted, however, was "1987 spores fm Dugway," which is likely a reference to RMR-1029 with an incorrect date of 1987 instead of 1997. The agent noted: "will set up slants per subpoena today," referencing Dr. Ivins. Given the notation of Dr. Ivins's fax number and this statement, this agent believes that he faxed the protocol to Dr. Ivins that day for use in preparing his submissions.

On February 27, 2002, slants of four different Ames strain cultures were prepared by Dr. Ivins and his senior laboratory technician. In accordance with the protocol, duplicate submissions of each culture were prepared, resulting in a total of eight slants. The labels Dr. Ivins prepared were consistent with the instructions of the protocol, and included notations indicating that the sample was the Ames strain, and was prepared by Dr. Ivins on that date. All eight slants were given to Dr. Ezzell's lab at USAMRIID, and the four duplicates were forwarded from there to Dr. Paul Keim at Northern Arizona University.

On or before March 28, 2002 – the date the FBIR was officially up and running and had received its first sample, FBIR001 – Dr. Ezzell's lab technician advised Dr. Ivins and his lab technician that their submissions were not prepared according to the protocol. Specifically, Dr. Ivins and his lab technician used homemade slants as opposed to the commercially available Remel slants specified by the protocol, so the four slants prepared on February 27, 2002 were rejected by the FBIR, and Dr. Ivins was told to resubmit his culture samples on the appropriate slants.

On April 10, 2002, Dr. Ivins again prepared submissions of four different Ames cultures to the FBIR, this time using the appropriate slants. However, this time, he put his name on only one of the labels and omitted other relevant information. As before, eight total slants were prepared and given to Dr. Ezzell's lab, who then forwarded the four duplicates to Dr. Keim for strain typing. This time, all four slants were accepted by the FBIR.

Even prior to the identification of RMR-1029 as the parent material of the spores used in the attack, investigators were uncertain that Dr. Ivins had fully complied with the subpoena by submitting samples of all Ames cultures for which he was responsible. During multiple interviews with Dr. Ivins and other USAMRIID scientists, it became apparent that there were multiple spore preparations in his possession and/or located in the B3 walk-in cooler that had not been submitted to the FBIR. So, in April 2004, the flask containing RMR-1029, along with approximately 20 other samples of *Ba* which Dr. Ivins maintained in his lab, were secured by the FBI in such a manner that Dr. Ivins no longer had access to them. In June 2004, those samples were removed from Dr. Ivins's lab and transferred to the custody of the FBI.

As described in detail above, over time, genetic analysis determined that one of Dr. Ivins's Ames cultures, RMR-1029 – the purest and most concentrated batch of Ames spores known to exist – was the parent to the evidentiary material used in the anthrax mailings. Investigators were suspicious when they compared Dr. Ivins's submission of April 10, 2002, to the evidence, and found that it did not contain any of the four morphological variants known to exist in RMR-1029 and also identified in the evidence.

Because of this inconsistency, and knowing that Dr. Ivins also prepared a submission to the FBIR on February 27, 2002, which was destroyed by Dr. Ezzell's lab, investigators contacted Dr. Keim and learned that he still maintained the duplicate slants of Dr. Ivins's initial submission. In late 2006, the FBI obtained from Dr. Keim the duplicate slants from Dr. Ivins's submission of February 27, 2002. Based on the handwriting on the labels from the slants, it was clear that Dr. Ivins and his lab technician each prepared two labels. The lab technician has stated that her handwriting on the labels indicated that she prepared the slant, and she would not have prepared a slant for which Dr. Ivins prepared the labels. The label prepared by Dr. Ivins on one of the slants read, "Ames strain RMR-1029 from Dugway (1997) Bruce Ivins 2/27/02." This sample was then submitted to the FBIR for analysis. It had the four morphological variants, while his April submission had none.

Based on a "Red Team" recommendation, experiments were prepared at the direction of the FBI Lab to address the FBIR submission process with regard to RMR-1029. RMR-1029 was sampled 30 times following the subpoena instructions. Occasionally, only three of the four genetic mutations were detected, and at no time were less than three detected. It followed that if Dr. Ivins prepared his submission to the repository in accordance with the protocol, that submission could not miss all four of the morphological variants present in RMR-1029.

Thus, the evidence suggested that Dr. Ivins obstructed the investigation either by providing a submission which was not in compliance with the subpoena, or worse, that he deliberately submitted a false sample. Investigators next attempted to resolve the question of what caused Dr. Ivins to submit a false sample of RMR-1029 to the FBIR in April 2002.

b. Dr. Ivins's opinion of his spores

Around January 2002, Dr. Ivins was told by a lab technician in DSD who had assisted in the early testing of the letter material, that the spores from the mailings contained morphological variants. This was noteworthy because Dr. Ivins had always believed his method of growing spores precluded the presence of such variants, and that RMR-1029 was indistinguishable from the other Ames cultures in his possession. Investigators know that Dr. Ivins held this belief both from his statements regarding his pure culture being “one slant away from the cow” – *i.e.*, the purest form of Ames – and also from his behavior in the early stages of the investigation. For example, on January 22, 2002, and again on January 29, 2002, Dr. Ivins prepared sketches demonstrating that his method of pure-culture technique would produce nice, clean material, unlike, for example, another researcher's use of serial passages – which would produce material similar in appearance to the evidence. Dr. Ivins subsequently explained that the sketches were meant to indicate that this other researcher's culture collection was derived from multiple growths, whereas the “BI Culture” – his own culture – was derived directly from the original Ames slant. (See Attachment M.) Dr. Ivins's sketch also had the name “Daschle” written across the top with one arrow pointing towards this other researcher's lineage and “not equal to” lines across another arrow pointing to the “BI Culture.” In his February 2008 on-the-record interview, Dr. Ivins explained that this sketch indicated that the Daschle material looked like this other researcher's collection and not the Ivins collection.

Dr. Ivins followed up these sketches with plate photographs with captions stating essentially the same thing: his material – RMR-1029 and his other cultures – was clean, and this other researcher's collection looked just like the evidence. On January 23, 2002, Dr. Ivins explained in an FBI interview what he meant in the captioned photographs:

[He] and [his lab technician] work with the oldest and most original culture of the Ames strain of *Bacillus anthracis* at USAMRIID. When [this other researcher] worked at USAMRIID, he took a sample from the original Ames *Bacillus anthracis* and started his own collection. [This other researcher] made several passages of the Ames by transferring it from plate to plate rather than going back to his original sample. As the cultures get farther away from the original material, these transfers, sometimes referred to as serial passages, can induce genetic mutations. It appears that the mutations may have resulted in differences in morphology between [this other researcher's] “stock” of Ames and the original USAMRIID Ames. The photographs provided by Ivins show the two “stocks” (the original and this other researcher's) at approximately 42 hours of growth. The morphological differences are not apparent until after more than 24 hours of growth. The differences include a grainy-like whitish growth and border

variations in the [other researcher's] "stock" which are not visible in the original USAMRIID "stock" of Ames thus far.

In this conversation Dr. Ivins did not just indicate that his material was "one slant away from the cow," but rather he implied that it was the cow – when he referred to a photo of the Ivins collection as "the original USAMRIID Ames." In a subsequent interview on January 29, 2002, Dr. Ivins stated that mutations were evident in the other researcher's collection but not his own, because that researcher used mass swipes of culture to propagate his collection, whereas Dr. Ivins used the single-colony technique.

These statements demonstrate that in early 2002, Dr. Ivins believe that RMR-1029 was free of morphological variants, which was attributable to the way he grew spores, using a pure culture technique he referred to as a "single-colony pick."⁴⁹ In addition, Dr. Ivins and many other microbiologists have stated to investigators their belief that the appearance of variants was completely random and could not be reproduced. Thus, if one were to use variant-free, pure spores as a seed stock, and grow spores in a manner which introduced variants – *e.g.*, by swiping across the plate as opposed to the single-colony pick – the variants would appear for that growth alone. One would not be able to reproduce the variants in a subsequent growth. According to this thinking, if all of the spores from a growth with variants were mailed, it would be akin to creating a murder weapon that could never be traced.

The scientific testing shows that Dr. Ivins's belief was wrong. RMR-1029 did possess morphological variants. Experts have opined that the spores from the mailings were not grown according to Dr. Ivins's single-colony pick method, but rather were grown using the method which Dr. Ivins explained will introduce mutations.

However, according to Dr. Ivins, there came a point when he learned that his spores, specifically RMR-1029, resembled the evidentiary material. He gave conflicting accounts of when he first learned of the similarities: (1) when he was informed of the similarities in a March 31, 2005 interview, he told the interviewers that he was already aware of this, having learned the information many months to a year earlier from a Special Agent who had interviewed Ivins on a

⁴⁹ Dr. Ivins repeated this thinking in the conversation with a witness on June 5, 2008. In that conversation, Dr. Ivins emphasized that RMR-1029 was pure because he used this method. This view was consistent with the widely-held belief in the scientific community at the time that *Bacillus anthracis* was very stable, and that the technique Dr. Ivins used would not have induced mutations. In addition, the mutations in the mailing material and RMR-1029 were only observed after 36 hours, which was twice as long as Dr. Ivins would have normally grown it for his standard lab work, making it likely that he never observed the mutations in RMR-1029 prior to the mailings.

number of occasions regarding the scientific investigation;⁵⁰ (2) in notes recovered from his trash just prior to the June 2008 off-the-record interview, Dr. Ivins wrote that he was 100% certain a colleague he identified by name in those notes told him of the similarities and 90% certain he was told before April 2002. If Dr. Ivins learned this information between his two submissions to the FBIR, it would explain why the second submission was misleading.

Less than two weeks before his second submission to the repository, Dr. Ivins attended a status meeting of USAMRIID researchers who were assisting the investigation, attended by an FBI Special Agent working on the scientific aspects of the investigation. This agent's notes of the meeting were very detailed, including a diagram of the conference table which showed where each attendee sat. Not only does this agent have a clear recollection of what was discussed, but his notes also reflect that Dr. Ivins's supervisor explained in detail what she was observing in the mailing material. The supervisor also clearly explained the particular manner in which the submissions should be prepared so that all of the morphological variants would be captured, thus making the genetic analysis of the FBIR effective.

c. Dr. Ivins's recollection of his submissions to the FBIR

Dr. Ivins was told that his second submission to the FBIR did not contain the four variants, and that this suggested that he knowingly provided a misleading sample. He was first advised of this fact in a lengthy interview on March 31, 2005. His initial response was one of surprise, and he offered no explanation, though he was adamant that RMR-1029 had been submitted to the FBIR. During his numerous subsequent interviews, however, he specifically refused to take responsibility for preparing these submissions to the FBIR.

When pressed on the fact that it must have been he who prepared the April 2002 submissions because it was his handwriting on the labels, Dr. Ivins suggested that either of his lab technicians could have actually streaked the slant, claiming that it was not uncommon for one researcher to prepare a label while the other prepared the actual slant. In an interview on August 13, 2003, and again on December 12, 2003, before investigators even knew about the discrepancy between the samples, he claimed that his senior lab technician prepared all four slants in April 2002. This claim was inconsistent with the evidence obtained by the investigation for a few reasons. First, Dr. Ivins's lab technicians at that time both refuted this claim. Neither of the two could ever recall an instance where one researcher would prepare a label and leave the actual preparation of the submission to another. Further, according to the senior technician, she only prepared slants for one of the two submissions, and that was the rejected February submission. As for the junior technician, she was reassigned to work DSD during the time frame

⁵⁰ This agent did not have this conversation with Dr. Ivins. Indeed, such a conversation was impossible, given that the flask of RMR-1029 had not even been seized until June 17, 2004, and the subsequent laboratory analysis of that flask, and comparison to the evidentiary material, took several months, making Dr. Ivins's claim impossible. In addition, the agent confirmed that he never told Dr. Ivins that RMR-1029 resembled the mailed spores.

of the second submission and was not in the hot suites that housed RMR-1029, a fact corroborated by her lab access records. Finally, Dr. Ivins himself hand-delivered the slants to the repository on April 10, 2002, a fact supported by both keycard access and the FBIR log.

Over time, Dr. Ivins offered additional explanations for the missing mutations, the next one being that, if he did prepare the April submission, he did not know how to prepare the slant in any event. To support his claim, Dr. Ivins pointed to an e-mail on May 24, 2002, from the head of DSD to Dr. Ivins and two of his co-workers to which the head of DSD attached the protocol for preparing the submissions. This e-mail was in response to another researcher asking him for the protocol before she prepared her cultures for submission. Thus, claimed Dr. Ivins, he did not have the protocol when he prepared the April submission – if, in fact, it was he who did so. According to this theory, if the April submission was missing the morphs, it was likely because he prepared the sample in his standard single-colony pick method that, by its very design, did not capture morphs.

However, this contention was controverted by two events. The first was Dr. Ivins's February 27, 2002, telephone call to an FBI agent in which Dr. Ivins indicated that he would prepare the samples "per subpoena today." The second was the meeting of March 29, 2002, attended by another special agent and Dr. Ivins, where Dr. Ivins's supervisor specifically told the attendees that they were looking for genetic mutations within the samples and that, to effectuate this testing, they should take a full swipe across the plate to capture a representative sample, morphs-and-all, and "not colony pick," a quote directly from the agent's notes of that meeting.

It bears mention that Dr. Ivins continually claimed to have a poor recollection regarding nearly all aspects of the FBIR establishment and the objective that investigators hoped to accomplish with the genetic analysis of the submissions to it. His numerous e-mails and in-person conversations and speculations about the anthrax investigation conflicted with his suggestion that he simply did not remember anything about this critical aspect of the investigation. Ultimately, the investigation was left with an unresolved and unexplained error in the single-most important submission to the FBIR – and further evidence of Dr. Ivins's guilty conscience.

11. Dr. Ivins took a number of steps to stay ahead of the anthrax investigation

By the summer and fall of 2007, the investigation began to narrow in further on Dr. Ivins, and he took a number of steps to stay ahead of the investigation.⁵¹ In September 2007, Dr. Ivins opened an e-mail address that was nearly identical to the e-mail account utilized by Former Colleague #2. He then sent an e-mail from one of his legitimate e-mail accounts, Kingbadger7@aol.com, to his simulated account which read as follows:

Hi [Former Colleague #2]! Yes! Yes! Yes!!!!!!! I finally know who mailed the anthrax letters in the fall of 2001. I've pieced it together! Now we can finally get all of this over and done with. I have to check a couple of things to make sure . . . absolutely sure . . . and then I can turn over info. I'll probably turn it over to my lawyer, and then he'll turn the info over to the authorities. I'm not looking forward to everybody getting dragged through the mud, but at least it will be all over. Finally! I should have it TOTALLY nailed down within the month. I should have been a private eye!!!!
-bruce

No such information was ever forthcoming.

In August 2007, Dr. Ivins began using an e-mail tracking tool that was designed to allow him to see when someone opened an e-mail he had sent, where they opened the e-mail (region and I.P. address), how long it was open for viewing, and to whom it was forwarded. This information would be captured for the life of the e-mail, every time the e-mail was opened and/or forwarded. Shortly after Dr. Ivins began using this tool, the Task Force became aware that he was using it via pen registers that revealed that Dr. Ivins had added extensions to the recipient's e-mail address. Dr. Ivins attached this e-mail tracking tool to various people. He would even query the recipient as to their whereabouts when they were reading his e-mail. Dr. Ivins began using this tool in August of 2007, and continued using it through July of 2008.

⁵¹ In some sense, Dr. Ivins's efforts to stay ahead of the investigation began much earlier. When he took a polygraph in connection with the investigation in 2002, the examiner determined that he passed. However, as the investigation began to hone in on Dr. Ivins and investigators learned that he had been prescribed a number of psychotropic medications at the time of the 2002 polygraph, investigators resubmitted his results to examiners at FBI Headquarters and the Department of Defense Polygraph Institute for a reassessment of the results in light of that new information. Both examiners who independently reassessed the results determined that Dr. Ivins exhibited "classic" signs of the use of countermeasures to pass a polygraph. At the time the polygraph was initially examined in 2002, not all examiners were trained to spot countermeasures, making the first analysis both understandable under the circumstances, and irrelevant to the subsequent conclusion that he used countermeasures.

The discovery of Dr. Ivins's use of this tool was the Task Force's first glimpse into the level of counter-surveillance in which he engaged. About three months later, in November 2007, a search of Dr. Ivins's residence revealed an electronic detection device and computer snooping software. It was determined that Dr. Ivins purchased the device in 2006. When asked in a February 2008 on-the-record interview why he purchased this device, Dr. Ivins stated that in late 2006 or early 2007, he was concerned about the behavior of a family member. For this reason, he installed "Spectra Pro" software on his home computer, to monitor this family member's Internet usage. Upon doing so, he discovered that his wife was reading his AOL e-mail. So, he claimed, he bought a bug detection device to sweep his house and cars for bugs planted by his wife.

In November 2006, just prior to Dr. Ivins's purchase of the electronic detection device, the FBI conducted a nocturnal search at USAMRIID. The agents were spotted by a technician, who reported his observations to Dr. Ivins's friend, a fellow USAMRIID researcher (who Ivins at one point speculated was responsible for the anthrax attacks.) This information quickly spread through USAMRIID, causing much speculation about what the FBI may have been doing in the facility under cover of darkness, and what the FBI may have planted in or removed from the building.

In addition to the tools that Dr. Ivins used to conduct electronic surveillance of his environment, he was also constantly aware of the progress of the investigation, monitoring which researcher at USAMRIID had spoken with FBI agents or Postal Inspectors. For example, in January 2007, Dr. Ivins sent the following e-mail to Former Colleague #1:

Now the Postal Service people are all over RIID. They talked to [four USAMRIID researchers], and others, and they're going to talk to [another researcher] at the end of he month. What's more is that all of the people above have come back and said the same thing - "They were asking lots of questions about you." ("You" meaning me.) They asked [a researcher] about my showing him how to use the lyophilizer. They talked to [two researchers] about the fermentor that was on my hand receipt, and then disappeared off it.

A few days later he added more to this original email: "The FBI are back too. Fun City. They talked to [a USAMRIID researcher] for a long time last week, and they talked to [one of the above-mentioned researchers] for over three hours."

As with all of the actions delineated above, these attempts to monitor the investigation, even engaging in counter-surveillance, were further evidence of his guilty conscience.

12. When confronted with damning evidence, Dr. Ivins was unable to provide reasonable or consistent explanations therefor.

Finally, Dr. Ivins failed, at nearly every turn, to provide reasonable or consistent explanations for his suspicious behavior. As set forth in great detail throughout this section, Dr. Ivins did many things, and said many things, that demonstrated his guilt. However, throughout the course of the Task Force's interviews with him, when investigators confronted him with a piece of evidence, and asked him to explain why he did what he did or said what he said, he was unable to provide an answer that made any sense. There were numerous instances of his failure to provide a reasonable explanation, yet another indication of his guilt.

I. Dr. Ivins had a Habit of Using False Identities, Especially When Mailing Packages from Distant Post Offices.

Dr. Ivins had a number of odd habits, interests, fascinations, and obsessions, some of which were relevant to the Task Force investigation: (1) his self-professed habit of taking long drives through the night – “I go for drives like other people go for walks”; (2) his admitted use of pseudonyms when mailing letters and packages, among other contexts; and (3) his letter writing to members of Congress and the media.

1. Long drives through the night for mysterious reasons

The anthrax letters were mailed from a mailbox in Princeton, New Jersey – approximately three hours and 15 minutes by car from Dr. Ivins's house in Frederick, Maryland, making the round-trip approximately six hours and 30 minutes. While this might seem like quite an undertaking to the average person, Dr. Ivins had a penchant for taking drives precisely like this, for mysterious, and even at times criminal, purposes. The sources of this information were myriad and include Dr. Ivins himself.

There were many examples of this behavior coming from Dr. Ivins's own statements. First, as described in other sections of this Memorandum, Dr. Ivins took a number of drives of similar length (three hours each way) to KKG chapter houses in Morgantown, West Virginia, and Charlottesville, Virginia, to facilitate his obsession with that sorority. Perhaps most similar was his trip to the University of Virginia, where he drove to the sorority house, looked at the building but did not enter, and then drove home. Investigators also learned from his statements that he wanted to do the same thing, drive to and surveil, the KKG chapter at the University of Pennsylvania in Philadelphia, but he learned that the chapter had closed down.

Second, in September, 2002, Dr. Ivins drove from his house in Frederick to a home where Former Colleague #1 was staying – a roundtrip total of 600 miles and probably 11 hours – in the middle of the night, simply to drop off an anonymous package for Former Colleague #1. He initially denied that he had left the package, but eventually he admitted to her, and subsequently to investigators, that he had. He added that he actually did a reconnaissance dry-run – meaning

another 11-hour drive – to see how long it would take. This pattern of dry-runs was corroborated by a witness, who told investigators that before Dr. Ivins went anywhere new, even if it was just a new lunch spot, he did a test-drive.

Third, when asked in a March 2005 interview whether he had ever taken other long drives, similar to this trip to the home where Former Colleague #1 was staying, his response was that he frequently drove to Flintstone, Maryland – a 2.5 hour round-trip – not to visit friends there, but simply as “mindless drives.” He equated these drives with the way other people go for long walks.⁵²

2. Strange use of mails/pseudonyms

Dr. Ivins was a prolific writer – to friends and colleagues and strangers alike. He wrote e-mails; he wrote letters to members of Congress; he wrote letters to the editors of various publications; he wrote witty poems; he wrote songs; he even wrote a program proposal to ABC, NBC, and CBS about the life of Space Shuttle Challenger Astronaut Christa McAuliffe. In many of these instances, when he was trying to conceal his true identity, he used a pseudonym – some fairly thinly-veiled when he wanted his identity to be known, some related to his KKG obsession, and some in the names of fellow researchers. Further, on many of these occasions, he actually drove to a different city to mail the package or letter to further conceal his identity with a different postmark, consistent with the long drives discussed above. There were numerous examples of this behavior, many of which Dr. Ivins himself disclosed to investigators. For example:

- Over the course of a number of years, when Former Colleague #1 had moved away, he sent her several care packages. One such package came from “Mia Hamm” and contained a soccer jersey; another came from “Derek Jeter” and contained Yankees-related paraphernalia. Dr. Ivins himself admitted to sending this particular package from another post office to conceal his identity, though this was one of those pseudonyms that was obvious.
- Dr. Ivins has used the name of the one-time husband of Graduate Colleague, the KKG advisor he stalked while at UNC and in the years that followed – and variations thereof – for numerous endeavors since the early 1980s. For example, he rented a P.O. box in the name of this man in Gaithersburg, Maryland, from approximately 1981 through 1985 in order to market the KKG

⁵² In interviews, Dr. Ivins made clear that when he went on his long drives, his wife had no idea about them, because he told her he was simply going to the lab. He told Former Colleague #1 that when he went on these sorority road trips, he took steps to ensure that his wife did not know about them.

ritual materials. He also listed a female derivative of that name as someone who could receive mail there.

- When he was marketing the KKG ritual information, Dr. Ivins placed an ad in two national magazines under the name of the female derivative, offering to give the information away to any non-member of KKG.
- Similarly, from the early 1990s through 2005, he maintained a P.O. box in his own name, but listed the name of Graduate Colleague's former husband as someone who could receive mail there, to help facilitate his receipt of fetish materials unrelated to the anthrax investigation, undetected by his wife. One such person from Indiana who corresponded with him thought all along that he was corresponding with "[the name of Graduate Colleague's former husband] in Silver Spring," when in fact it was Dr. Ivins in Frederick.
- Dr. Ivins wrote a letter to the editor of the *Frederick News Post* in the name of another female derivative of that man's name, praising Christa McAuliffe.
- In later years, Dr. Ivins started and maintained for a number of months a blog under the title "The Legend of [the first female derivative]" – a pseudonym he created and portrayed as a disgruntled KKG member. Investigators obtained a download from the fairly short-lived blog, and Dr. Ivins acknowledged that this was a blog that he created and maintained.
- Dr. Ivins also used the name of this female derivative when he wrote a letter to the *Frederick News Post* regarding sororities.
- Dr. Ivins sent a letter to the editor of the *Frederick News Post* purporting to be from Graduate Colleague, endorsing hazing. He subsequently sent a clipping of this letter to a leading anti-hazing activist whose son had died in a hazing incident, expressing outrage that someone would endorse hazing. When specifically asked why he would use Graduate Colleague's name instead of his own, Dr. Ivins had no explanation.

- Back in graduate school in 1978 or 1979, he stole Graduate Colleague’s laboratory notebooks from the lab at UNC. Some time later, he dropped them into a mailbox near the Chapel Hill campus, and sent her an anonymous note letting her know where they were.
- When he stole the ritual book from KKG in Morgantown, WV, he later mailed it back to them – after copying it – claiming to be a fraternity member mailing it back on behalf of a brother who had stolen it. He mailed it from a post office in Bethesda, Maryland.
- At some point when Former Colleague #1 had moved away, Ivins sent her a stalker-type e-mail purporting to be from a young man named “Big Sky,” in which he told her he had been watching her, and pretended to be interested in her.
- In later years, Ivins maintained a number of e-mail accounts, including Kingbadger7, Squalene999, Prunetacos, Bigsky, Skymasterson77, Goldenphoenix111, docsnivi54, Stanfordhawker, KathrynPriceFan, jimmyflathead, and the e-mail account mirroring that of Former Colleague #2.
- In the six months prior to his death, Ivins began using yet another screen name – bruceivi – for postings on YouTube regarding Kathryn Price and “The Mole.” The person using the screen name in the postings was clearly Dr. Bruce Ivins, based on the content, which involved blindfolds and language eerily similar to statements he made in his therapy group the same week of the YouTube postings. (See Mental Health section *supra*.)

In addition, a witness who had received a number of packages and cards over the course of several years in the late 1990s and early 2000s was shown copies of the letters and envelopes used in the anthrax attacks. The witness thought that the handwriting on the envelope addressed to Senator Daschle reminded the witness of Dr. Ivins’s writing. If the witness were to receive a package with that writing on it, the witness would think of Dr. Ivins. The witness noted that, in particular, the style of the block letters with alternating heights stood out, as did the slant of the writing. The witness said that this was the type of writing Dr. Ivins used when he disguised his handwriting as part of a joke. As the witness studied the letters, the witness noted that the “E” and the “R” in the letter to the New York Post also looked familiar. The witness stated that these letters also reminded the witness of when Dr. Ivins disguised his handwriting as a joke. The witness described this “disguised” handwriting as being similar to Dr. Ivins’s standard handwriting, and that one could tell that he was trying to disguise his handwriting to a limited

extent.⁵³ Another witness familiar with the handwriting of Dr. Ivins in many contexts said the same thing.

3. Letters to Congress and the Media

In addition to the letters he wrote to various people under assumed names, Dr. Ivins frequently wrote under his own name to members of Congress and various news organizations. This was relevant to the Task Force because the recipient of each of the anthrax attack letters was either a United States Senator or a media outlet. This writing habit went back at least as far as the 1980s, as evidenced by letters seized from Dr. Ivins's home on November 1, 2007, during the execution of a search warrant. During that search, investigators recovered 68 letters from Dr. Ivins to these recipients, running the gamut from his local congressman to U.S. Senators, to local media outlets to national news organizations. During various interviews, Dr. Ivins acknowledged that he frequently wrote to these individuals and organizations. Former Colleague #1 confirmed that Dr. Ivins wrote to congressmen and members of the media, usually about political issues.

J. The Letters were Mailed from a Mailbox in Front of KKG in Princeton.

One of the initial investigative steps the Task Force undertook was to determine the location from which the letters were mailed. As noted, the letters were mailed from a single blue collection box located at 10 Nassau Street, Princeton, New Jersey, directly across the street from Princeton University. Notwithstanding exhaustive efforts, no direct links to Dr. Ivins – or anyone else with access to RMR-1029 – to this mailbox were discovered. However, in the course of the close scrutiny of Dr. Ivins, strong circumstantial links between Dr. Ivins and the mailbox in question were established.

The mailbox at 10 Nassau Street was approximately 175 feet from the front door of 20 Nassau Street, an office building which houses, among other things, the offices of the Princeton chapter of the KKG sorority. As set forth above, Dr. Ivins had a long-standing obsession with this sorority, dating back 40 years. Investigators learned about this obsession from (1) his statements to other people, including Former Colleague #1 and Former Colleague #2; (2) his actions, including, for example, sending a donation in the name of a KKG member killed in the Virginia Tech massacre to a fund for those victims, and posting all sorts of information regarding KKG on various websites, including Wikipedia; and (3) his own admissions in various interviews with him, in which he described in detail the origins of his self-described obsession and the steps he took over the past 40 years to nurture that obsession.

In addition, Dr. Ivins discussed with investigators research he had done into KKG. For example, in the late 1970s, while working at the Uniformed Services University in Bethesda, he began to compile a list of KKG chapters throughout the eastern United States. To do so, he first

⁵³ This witness emphasized that the witness's opinion was based solely on the witness's experience with receiving mailed items from Dr. Ivins.

utilized a directory of colleges and universities maintained at the Uniformed Services University to identify those schools with KKG chapters. He then went down to the Library of Congress and reviewed telephone books from around the country for the addresses of those chapters, which he wrote down. The resultant list contained “dozens and dozens and dozens” of chapters.

One of the other actions he took – and admitted to investigators and others – was a series of sorority house break-ins in the late 1970s and early 1980s, when he was in his early 30s, during which he stole the KKG cipher and ritual book and other materials. According to Dr. Ivins in his January 2008 on-the-record interview, he planned to mail copies of these secret materials to those who responded to ads he placed in *Rolling Stone* and *Mother Jones* magazines. In order to be sure he was not sending them to an actual KKG house, Dr. Ivins used his chapter address list from the Library of Congress as a cross-reference. He claimed to have thrown out this list at some point after his 60th birthday in 2006, but acknowledged that he maintained it at the time of the anthrax letter attacks.⁵⁴

In an on-the-record interview in January 2008, Dr. Ivins stated that, in addition to his travels to obtain secret KKG materials, he also had in the past driven to other KKG chapter houses in places such as UVA in Charlottesville, Virginia, and the University of Cincinnati when he was home, just to walk around and look at the place. He likewise visited the University of Tennessee chapter of KKG in Knoxville, Tennessee, on one occasion when he was at that university interviewing for a fellowship. He used his KKG address list to locate the office. This chapter location was much like the one at Princeton University – in a multi-purpose campus building across the street from the university itself. Once there, he went up to the KKG office, knocked on the door, and disturbed the young women who were meeting there. He also drove around the University of Maryland KKG chapter house on a number of occasions, at one point receiving a call from an officer whose name he still recalled some 30 years later, who told him that he knew about the incident at the University of Tennessee, and that he would be watching him. Dr. Ivins also told investigators that he had attempted to visit the chapter at the University of Pennsylvania, but it had closed.

Dr. Ivins had other known affiliations with Princeton. First, his father went to prep school in Princeton, and then got his undergraduate degree from Princeton University. Second, at some point when she was working with Dr. Ivins, Former Colleague #1 relayed to him a tale about a time when she was in high school and accompanied a friend on a drive to Princeton to visit her friend’s boyfriend. She did not tell her parents about the trip, a fact that appalled Dr. Ivins. While this small fact could seem tangential, it was of some evidentiary significance because Dr. Ivins acknowledged that he remembered everything about the objects of his

⁵⁴ The August 2008 search of Dr. Ivins’s e-mail account jimmyflathead@yahoo.com, in the wake of the discovery of the disturbing Kathryn Price postings and Cindy Wood e-mail, revealed several KKG-related e-mails that he had saved. A few of the e-mail communications were with individuals who were still trying to acquire the ritual information from him as late as 2006 and 2007.

obsessions, which included Former Colleague #1. A similar example involved a time that Former Colleague #1 was taken by her friends in high school to an adult book store, something that Dr. Ivins referred to time and again.

V. CONCLUSION

Based on the evidence set forth above, the investigation into the anthrax letter attacks of 2001 has been concluded.