One of the worst acts of terrorism the world has seen occurred in the skies over Scotland 25 years ago this month. On Dec. 21, 1988, a jumbo jet exploded over the small village of Lockerbie, killing all 259 passengers and crew on board and 11 people on the ground. The investigation into the destruction of Pan Am Flight 103 would eventually encompass an unprecedented 845 square mile crime scene, span more than a decade, and include law enforcement investigators, intelligence agencies, and prosecutors from a number of countries.

On that otherwise normal Wednesday, Pan Am 103 left the gate at London’s Heathrow Airport a mere two minutes late at 6:02 p.m., after having arrived from Germany’s Frankfurt Airport at approximately 5:40 p.m. The ground crew had just 20 minutes to transfer the passengers, cargo and luggage from a Boeing 727 to a much larger Boeing 747 for the flight to JFK Airport in New York and then on to its final destination in Detroit, MI.

The plane was airborne by 6:25 p.m. and headed north over England until it was at an altitude of 31,000 feet and well into Scottish airspace. Just before 7:03 p.m., an explosion occurred, splitting the aircraft into several sections and hurling bodies, cargo, airplane parts and fuel over a wide spread area, including populated areas on the ground. The Dumfries and Galloway Constabulary, led by Chief Constable John Boyd, was the first police force to respond, followed quickly by other Scottish agencies.

Early on, Boyd announced the investigation into the crash would be treated as a criminal inquiry and he established a number of investigative procedures and standards for the collection of evidence that would later prove invaluable to the resolution of the case. The huge volume of investigative data benefited greatly from a Scottish case management system named the Home Office Large Major Enquiry System or HOLMES.

The first FBI responders to the crash site were FBI Agents from the London Legal Attaché Office. Legat Darrell Mills offered the services of the FBI’s Identification Division and Disaster Team to help with identifications, an offer that was readily accepted. However, because the cause of the crash was not known, it was premature to send Agents from the Washington Field Office to the scene to participate in a criminal investigation. In addition, the U.S. Attorney General would first have to certify that an act of terrorism was behind the crash before deployment. A solid foundation to support a criminal investigation was soon established on Dec. 28 with an announcement by the British that a bomb had caused the crash.

Several days into the investigation, a strut from the framing for one of the aluminum cargo containers was recovered from the debris field. Black marks and pitting indicated the strut had come into contact with a powerful explosive. Only two of the 12 cargo containers on board had blast damage, one located in 14L of the cargo hold and the other in 21L, directly behind 14L in the hold; the former was aluminum and the latter was fiberglass. Forensic experts concluded the explosion originated in the aluminum container, identified as AVE 4041-PA, which held only passenger luggage.

Sixteen passengers had arrived at Heathrow on five different connecting flights, in addition to the Pan Am 103A flight from Frankfurt to London, who were to continue on to the United States via Pan Am 103. These passengers had checked 16 bags, all of which were loaded into AVE 4041-PA. The remaining space in the container was filled with luggage of passengers connecting from the Frankfurt flight.

Although it was not known until several months later, a forward-thinking Frankfurt Airport employee printed a computer copy immediately after the crash of the baggage records for that airport for Dec. 21, 1988, thinking that these records might be useful, but that they were also subject to a scheduled
pursue within days and would then be lost forever. Once these records came to light, a review showed that a single suitcase had been loaded on Air Malta (KM) 180 early on Dec. 21, 1988, transferred to Pan Am 103A in Frankfurt and then sent to London’s Heathrow Airport to be loaded onto Pan Am 103.

On Feb. 2, 1989, New Scotland Yard revealed a tiny piece of a circuit board had been found imbedded in the frame of container AVE 4041-PA. The small chip bore numbers, which helped investigators conclude it had come from a circuit board used in several models of Toshiba radio cassette players. The suspect player was later determined to have been a black Toshiba RT-SF16 twin speaker radio cassette recorder called a Bombat. A total of 20,000 units had been sent to Libya in October 1988.

Three weeks later, investigators concluded from a damaged eight-inch piece of luggage that the bomb had been packed in a hard-sided, dark brown or brownish colored suitcase. Subsequently, officials at Samsonite identified this piece as coming from a Samsonite suitcase, System Silhouette 4000 model, which was antique copper in color. Only 487 suitcases of this model had been manufactured and many of those had been distributed in the Middle East. Either the 24-inch or 26-inch model suitcase could have accommodated the Toshiba radio player.

In late August 1989, forensic exams indicated certain items of clothing recovered from the crime scene had been in very close proximity to the explosion. These items included a pair of trousers with a Yorkie label and a Puccini cardigan. To trace these items, Scottish investigators traveled to Malta, home of the Yorkie Clothing Company, which distributed its products only in Malta. The number 1705 was on the trousers and was the order number placed for 98 pairs of men’s trousers by a store in Malta named Mary’s House. The order had been delivered to Mary’s House on Nov. 18, 1988. Eagle manufactured the cardigan sweater. The company, also in Malta, confirmed such sweaters had been delivered to Mary’s House on Nov. 7, 1988.

During an interview conducted by the Scots, Tony Gauci, the store’s owner, clearly recalled the customer who purchased the clothing items because of the strange assortment the man purchased, paying no attention to sizes. According to Gauci, the date of this transaction was Dec. 7, 1988. He also suggested the man was a Libyan, based on his accent. Gauci worked with an FBI sketch artist to create a drawing of the customer. During the following months, Gauci was shown a series of pictures of suspected terrorists, but was unable to identify any as the customer who purchased the clothing at his store.

At a conference in Scotland in January 1990, U.S. investigators learned about a fingernail-sized green chip, which had been recovered at Lockerbie. Indications were it had been blasted into a piece of clothing in the bomb suitcase and was about the same size as the fragment of the recovered radio circuit board. It was not part of the radio containing the bomb, however, and became known as PT-35.

Scottish investigators spent months contacting companies around the world about PT-35, without success.

At the next joint conference at Quantico in June 1990, investigators were still puzzled about PT-35. FBI explosives expert Tom Thurman was at the meeting and asked to take photos of PT-35 to try to identify it. Thurman then shared the photos with a technical expert at the CIA to compare with several other timer photos and an actual timer seized several years before in Africa. He was given permission to remove the back of the timer and soon determined the photos of the fragment from Lockerbie, an actual timer confiscated after an attempted coup in Togo in 1986 and photos of a timer seized from two Libyans arrested in Senegal in February 1988 were identical. Only photos of the latter timer were available as no one was forthcoming as to its actual whereabouts. With the positive identification of PT-35, the theory the explosion was caused by a barometric bomb was dismissed as it was dependent only on time and not on altitude.

Thurman later disassembled the timer from the Togo coup and noticed the marred letters MEBO on it. With the assistance of the CIA and British Security Service, MEBO was found to be a small electronics firm in Zurich, Switzerland, run by two Swiss men. An employee of MEBO examined the photograph of PT-35 and confirmed the chip had come from a circuit board for a timer he built at the request of Edwin Bollier, one of the MEBO owners. Bollier stated that 20 prototype timers had been built by MEBO, with a designation of MST-13, and delivered to Libyan officials in 1985.

In late 1990, the CIA produced the names of a number of possible suspects, including that of Abdel Baset Ali al Megrahi, a member of the Libyan Intelligence Service. Records showed Megrahi had been in Malta on Dec. 7, 1988, the same date that the clothing in the bomb suitcase had been purchased, having arrived the morning of Dec. 7, 1988, and departing on Dec. 9, 1988. Curiously, however, there was nothing in the records to indicate that Megrahi had been in Malta on Dec. 20, 1988, or Dec. 21, 1988. Ready access to this information was possible only because FBI analysts had previously gone to Malta to enter numerous immigration records into an automated database for all persons entering and leaving the country before and after Dec. 21, 1988.

During an interview in February 1991, Bollier was shown the sketch of the buyer of the clothing from the bomb suitcase and observed it resembled Abdel al Megrahi. Bollier had previously done business with Megrahi and rented office space to him at MEBO in Zurich. Meanwhile, in Malta, investigators showed Gauci more photos, including one of Megrahi in an undated passport photo. Gauci stated that, of all the pictures he had been shown over many months, the undated photo of Megrahi most resembled the individual who bought the clothing in his store, although he felt the man was older.

Also in February, information was provided from another agency that intelligence had been found to link Megrahi with an individual named
Ahmed Khalifa Abdusamad. The immigration database showed Abdusamad had traveled from Tripoli to Malta on Dec. 20, 1988, and had returned to Tripoli the next morning. He stayed at the Holiday Inn and had made only one phone call the next morning, to the Maltese home of Lamin Khalifa Fhimah.

Fhimah was the station manager of Libyan Arab Airlines in Malta in December 1988 and had traveled from Tripoli to Malta on Dec. 20, 1988, on the same flight as Abdusamad. Fhimah left Malta on Dec. 29, 1988, to return to live in Libya. After he left, though, he opened a travel agency at the Luqa Airport in 1989 with Vincent Vassallo, a former coffee dispenser at the airport.

During an interview, Vassallo produced his 1988 dairy, which included an entry that Fhimah and Megrahi had visited his home the night of Dec. 20, 1988, despite the fact there were no immigration records to show Megrahi's entry into the country. Vassallo also handed over Fhimah's 1988 all-airport access badge that had been left behind in Fhimah's desk.

In April 1991, the CIA notified the FBI that efforts were underway to locate Abd Al-Majid Giaka, a low level Libyan intelligence officer, who had worked for Fhimah at Libyan Arab Airlines in Malta and served as the assistant manager between August 1988 and August 1989. Once he was located, Giaka was interviewed and recalled seeing Megrahi and Fhimah arriving together on a flight from Tripoli to Malta the night of Dec. 20, 1988. He saw Fhimah carrying a big brown hard-sided suitcase, which he took past customs without a search and put into the trunk of a new Hyundai. Giaka stated Fhimah had open access to the airport and often tagged bags himself at the airport, against airport rules.

Giaka recalled that in April 1986, Fhimah showed him two boxes containing a dough-like material, supposedly TNT. Fhimah said it had come from Megrahi, who was the head of the Airline Security Section at Libyan Arab Airlines at the time. In 1987, Giaka turned the alleged TNT over to an intelligence official in Malta and was later able to identify the material as Semtex.

Giaka also recounted that in June 1986, a Libyan intelligence official asked him about the feasibility of sending an unaccompanied suitcase to Great Britain on board a British plane, presumably British Air, the only carrier that then flew from Malta to London. The official asked Giaka to research the matter and send him a report, which he did through Megrahi.

After evaluating the significance of his statements, it was decided to relocate Giaka and his pregnant wife to the United States for their safety, which was done on Sept. 5, 1991. Giaka would later be a key witness for the prosecution at the trial in the Netherlands.

With enough solid evidence to go forward, the Federal Grand Jury returned an indictment of Megrahi and Fhimah. The indictment was unsealed at a press conference on Nov. 14, 1991, simultaneous with a similar press conference in Scotland. Although many were certain that others were involved, there was insufficient evidence to prosecute them.

Word came soon after the press conferences that the two defendants had been “arrested” in Libya and would remain there in custody for the time being.

On April 5, 1999, Libya agreed to cooperate with the investigation and the defendants were moved from Libya. An agreement had been reached that a Scottish court would convene in the Netherlands. The trial would be held under Scottish law before three Scottish judges as the case had been investigated throughout to conform to Scottish rules of evidence. Once the defendants were turned over to the Scots, work began on Kamp Van Zeist, an old U.S. military base that was to be converted to a jail and a court for the trial.

Later in 1999, based on the Libyan offer to cooperate, the Scots traveled to Libya and found a document in an official file in the Passport Office for Ahmed Khalifa Abdusamad. It was a request for a false passport for Megrahi in the name of Abdusamad, proof that the two were one and the same. A subsequent examination by an FBI fingerprint expert found two of Megrahi's prints on the immigration card completed by “Abdusamad,” additional evidence this was Megrahi’s alias.

Trial began on May 3, 2000, and although the defendants had a right to a jury trial, they instead chose to have their case heard by three senior Scottish jurists. The verdict was announced on Jan. 31, 2001; the decisions were unanimous. Abdul Basset Ali al Megrahi was found guilty of 270 counts of murder; Lamin Khalifa Fhimah was declared not guilty. Megrahi was sentenced to 20 years but this was later adjusted to 27 years. Fhimah was released that day and returned to a hero's welcome in Tripoli. He currently lives in Libya with his family.

Libyan officials sent a letter to the United Nations in August 2003 stating that Libya would accept responsibility for its actions and would transfer $2.7 billion, or $10 million per family, to a bank for payment. This offer was contingent on the United States lifting its sanctions against Libya and removing Libya from the State Sponsor of Terrorism list. Libya was removed from this list in May 2006.

In a controversial move, Megrahi was released from prison in August 2009 for humanitarian reasons (he was diagnosed with prostate cancer) and died in May 2012. Libyan rebels killed the Libyan leader, Muammar al-Gaddafi, on Oct. 20, 2011, at the Battle of Sirte. The case of Pan Am 103, or SCOTBOM, remains open and is assigned to a Special Agent at the Washington Field Office.

Editor’s Note: Many hundreds of people participated in the investigation and prosecution of the Pan Am 103 case, all of whom worked hard and deserve individual recognition for their efforts. Because of space constraints in writing this article, however, the author relied primarily on Richard A. (Dick) Marquise's personal recollections and his book, SCOTBOM: Evidence and the Lockerbie Investigation. His book is available through Amazon.com, as are other books about the Pan Am case.