Chapter 5
Anthropological Investigations of the Tri-State Crematorium Incident

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On February 15, 2002, a woman was walking her dog in the woods of the small, unincorporated town of Noble in Walker County, Georgia, and discovered a human skull. She called the authorities, who confirmed the skull was human and launched a pedestrian survey of the area. Unfortunately, the skull was just a portent of the macabre scenes awaiting investigators as they walked onto the 16 acres of property owned by the Marsh family, who were, at that time, one of the most prominent African-American families in the county. Three houses, including two inhabited by the Marshes, a spring-fed lake, a crematorium, an adjacent large metal building, and a large storage shed filled a 6-acre section of the property. The rest of the property was wooded (Fig. 5.1). The Marsh family business was the Tri-State Crematorium, which served dozens of funeral homes in Georgia, Tennessee, and Alabama.

An incredible stench drew investigators to the crematorium and adjacent structures, where they found bodies littering the floors. While some were in body bags or cremation boxes, many were uncontained and in various stages of decomposition. As the investigators expanded their search outside the buildings, more bodies were found in abandoned vehicles, open vaults, and coffins scattered across the landscape. Human skeletal remains seemed to be everywhere. The great number of human remains as well as the tremendous variation in decomposition indicated that the process of abandoning bodies on the property had been going on for some time, but for how long and why?

While little of this surreal scene made any sense, it was quite clear that the medicolegal infrastructure in this very rural part of northwestern Georgia was about to be overrun by unidentified human remains, international press, and hundreds of betrayed families demanding to know the disposition of their loved ones. The recovery and identification process would require a multidisciplinary team of criminal investigators, identification specialists, and forensic anthropologists.

The Investigation

Four goals were defined as the investigation began: (1) Recover every body, body part, and bone that could be located on the property; (2) identify as many of the

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Fig. 5.1 Aerial photo of Marsh property. Most of the bodies were found around the crematorium and storage buildings in the lower right portion of the photo

recovered remains as possible; (3) return the identified remains to families for final disposition; and (4) document all findings for potential legal proceedings.

The Georgia Bureau of Investigation (GBI) was the primary investigative body and requested that the Federal Disaster Mortuary Operational Response Team (DMORT) provide assistance with body recovery and processing. There are 10 regional DMORTs around the country; each consists of identification specialists, including forensic pathologists, odontologists, anthropologists, X-ray technicians and radiologists, as well as funeral directors who work with the families concerning the final disposition of identified remains (Sledzik and Wilcox 2003). Local X-ray technicians, fingerprint experts, and law enforcement officers, as well as personnel from the Armed Forces DNA Identification Laboratory (AFDIL), joined the effort. The anthropologists were divided into three investigative areas—scene recovery, processing and identification of bodies in the morgue, and assessment of urn contents that had been returned to families but may not contain human remains.

Processing the Scene

Forensic anthropologists worked alongside GBI investigators and Walker County Sheriff's deputies in locating and documenting human remains around the property. The crematorium housed the retort, a very small anteroom, and an apparent waiting room or office that had obviously not been used for years, as it was covered with dust and suffered water damage from a leaky roof. The concrete floor in front of the

retort was filthy and coated with greasy fluid. A hole had been cut in the baseboard on the opposite wall to allow bodily fluids to drain across the floor to the outside. The retort itself contained a body within a cardboard cremation box (Fig. 5.2), and six other decomposing bodies were on the floor nearby. Over 20 individuals were located in the metal storage building, some mixed with Christmas decorations and refuse and others stacked within large metal burial vaults. The five sealed metal vaults within this building were opened and discovered to contain stacks of bodies as well. Two mummified bodies were found under debris in the storage shed. Several inoperative vehicles, including a hearse, were lined up nearby. A casket containing the mummified body of a man in his burial suit was still in the hearse. The plaque on the casket identified the man and his date of death in 1998. It appeared that the body and hearse had been driven from the funeral home, parked on the Marsh property in 1998, and never attended to again.

As the brush and woods around the buildings were explored, caskets with decaying bodies were discovered in multiple random locations, and human skeletal remains littered the ground underfoot and beneath the underbrush (Figs. 5.3 and 5.4). Further, bones, caskets, and body bags were protruding from gaping holes in the ground. Investigation of trash heaps determined that these overlaid pits contained human remains as well (Fig. 5.5). Thus, anthropologists had to conduct both surface recoveries and excavation of clandestine mass graves, and commingling was an ongoing issue.

Fig. 5.2 Partially cremated remains within the retort inside the crematorium

Fig. 5.3 Casket containing a decomposing body near the lake

Fig. 5.4 Decomposing body recovered from Site 9

Fig. 5.5 Human remains mixed with refuge in a trash pit (Site 3)

The remains of 75 individuals were found on the first full day of investigation alone, and it was clear that this was just the beginning. One problem that soon arose concerned the methodology by which to address commingled and isolated bones recovered from the site. Individual numbers were assigned to each skull. In addition, isolated long bones were also given individual numbers and sampled for DNA with the hopes that eventually they may be reassociated with the rest of the remains, which may have been located some distance away. Early on investigators decided that DNA sampling all of the recovered bones would be cost-prohibitive and that testing of unassociated remains would be limited to the long bones. As a result, unassociated bones other than the long bones were not given individual case numbers since they were not going to be tested and successful reassociation at a later date was unlikely. Individual bones that could not be reassociated with a specific individual were later buried in a separate vault.

Surface Recoveries

The nature of the remains recovered from the ground-surface contexts ranged from intact bodies in various stages of decay to individual scattered bones. Some of the bodies were inside caskets and body bags, some were skeletonized but intact and relatively complete, some were in total commingled disarray, and at least one skeleton was packed into the ground under one of the small dirt roads that snaked around the buildings. Isolated individual bones were scattered across the entire area. There were also several large circumscribed collections of skeletal remains where it appeared as

if numerous bodies had been deposited over time. In one of these, Site 1, the skeletal remains of 23 individuals were on and around the remnants of an overturned pool table. The vast majority of the remains were directly on top of the slate slabs that, in turn, rested on the ground, creating a definite stratigraphy in the central mound of bones. Around the periphery of the central mound of remains, and outside the upturned legs of the pool table, were decomposing remnants of some tarpaulins tied together. The wooden legs and the pool table frame were in an advanced stage of deterioration and infested with termites, but it appeared as if there might have been an attempt to create a makeshift basket using the pool table slate as the bottom and the legs as the side supports. Around the outermost fringes of this pile of bone, skeletal remains were more diffuse, scattered, and commingled. Skeletonization of the remains in this complex pile was complete. Fortunately, some bodies had been wrapped in sheets or had been wearing durable articles of clothing that served as dividers between individuals, but most bodies were neither wrapped nor clothed. Seasonal collections of pine needles and leaves also served as rough indicators of divisions between individuals, but the pile of bones was several feet high, and as the bodies decomposed the uppermost bones had apparently filtered to the bottom. Animal scavenging was also evident and, in addition to damaging the bones, their activity also played a role in the scattering and commingling of the remains.

Several yards away, one of two large refuse piles (Site 2) contained the bones of numerous individuals commingled with trash items and each other. Although there was not as much commingling as in the first assemblage, the matrix of trash and bones created a complex mess. The trash included rotten foodstuffs, logs, leaves, clothing, large appliances, fencing, tires, and other debitage. Once the bottom of the trash pile was excavated, it became clear that there had been some attempt to bury the lowest matrix of individual bodies in shallow trenches covered with a thin layer of hand-shoveled dirt, requiring some excavation of each shallow grave.

Excavations

A total of eight burial pits were found on the property. All except one were in the vicinity of the structures, and it appeared as if all had been dug by a small backhoe, which was stored nearby. Several pits were closely aligned, separated by only a few feet. The exception was a pit near the lakeshore, less than 90 feet from Brent Marsh's residence.

The burial sites were relatively easy to locate, as the disturbed soil was distinct in color and topography from the surrounding undisturbed soil. Whenever a disturbed area was discovered, the initial excavation was carried out by hand. Once the boundaries were discerned, a backhoe was used to enlarge the perimeter of the excavation in order to provide working room and reduce the risk of wall collapse. The pits were relatively deep, averaging around 5 feet (though one was nearly 7 feet deep), and contained between 2 and 23 individuals (Table 5.1). Many of the bodies had started decomposing prior to burial, and the pits were filled with decomposition fluid, which made recovery difficult. Some of the bodies were inside body bags such that even with advanced decomposition all of the remains were contained.

Table 5.1 Remains Recovered from Features

Site	Number of Individuals Recovered	Date of Deposition
Site 1	23	October–November 1999
Site 2	10	September 1997–May 1998
Site 3	17	April 1999
Site 4	10	December 1999–May 2000
Site 5	10	May–June 2000
Site 6	12	August–September 2001
Site 7	19	December 2000–February 2001
Site 8	2	Cannot be reliably dated
Site 9	23	July–August 2000
Site 10	6	October 2000
Site 11	8	Cannot be reliably dated

Unfortunately, some body bags were open, and other individuals were placed in the pit without any container, contributing to the significant commingling within each pit (Fig. 5.6). When present, intact clothing helped separate the individuals. However, some individuals were nearly skeletonized, suggesting that most decomposition occurred before burial and that body parts could have been missing prior to internment. The field conditions were not conducive to conducting large-scale reassociation of commingled remains from these pits. If a relatively intact body was missing a left leg and a left leg was found in the pit, the parts were placed in separate body bags and a note was placed on each telling the morgue personnel they may be associated. The bottom of each pit contained unassociated body parts that were bagged individually and sent to the morgue.

Fig. 5.6 Recovery of multiple individuals from a mass grave (Site 6)

Fig. 5.7 Marker delineating the case numbers of remains recovered from a mass grave (Site 9)

The remains were removed from the pit, photographed, and sequentially numbered from top to bottom such that a stratigraphy of sorts could be established (Fig. 5.7). The numbering system followed the same protocol as that for surface remains and allowed a temporal component of the pit to be assessed as individuals were identified and the dates of death were established. Assuming that the bodies were buried in a single episode and died at approximately the same time, the possibilities could be narrowed for when the as-yet unidentified bodies had been placed within the pits. Each pit was mapped using a total station computerized mapping system, and each set of remains was photographed extensively *in situ* using multiple cameras.

Identification Efforts

Recovered remains were transported to DMORT's Disaster Portable Morgue Unit (DPMU) for processing and identification (Saul and Saul 2003). The morgue setup consisted of an admitting desk and six stations, each of which contained identification specialists and their equipment (Fig. 5.8). A case file was provided for each set of remains as they entered the morgue, and a mortuary officer escorted the remains to every station, beginning with pathology. The chief medical examiner for the State of Georgia determined that since cause of death was not an issue in this incident, full autopsies were not required. The pathologists performed external examinations, noting and photographing tattoos, surgical scars, and other physical variations, and then the remains were radiographed. Each set of remains then went to fingerprinting,

Fig. 5.8 DMORT Portable Morgue Unit. Identification stations included pathology, radiology, fingerprints, odontology, anthropology, and DNA (DMORT 2002)

odontology, anthropology, and ultimately the DNA station, where a section of the right femur was retained for DNA analysis. DNA samples were also taken from some unassociated body parts and isolated bones.

The anthropologist's role varied depending upon the condition of the remains. Whole, fresh bodies received little anthropological attention as identification was likely made via visual or molecular means. The anthropologists were mainly tasked with assessing the biological profile of decomposed, skeletal, fragmentary, and commingled remains. A biological profile consists of age, sex, ancestry, stature, and antemortem pathologies and anomalies that could be used for identification. The completeness of the profile depended upon the amount of material and its state of preservation. Ancestry, typically the most difficult parameter of the biological profile to estimate, was a key variable as individuals of both European and African-American ancestries were abandoned together on the property. The anthropologists and pathologists also reviewed the postmortem radiographs to ensure that all surgical interventions were detected and recorded. Not surprisingly, the majority of the individuals sent to the crematorium were elderly, and many exhibited evidence of surgical intervention, such as amputations, prosthetic joints, and other orthopedic devices (e.g., plates, pins, and screws), pacemakers, prosthetic arterial structures, false teeth, dental implants and restorations, and metal sutures (Fig. 5.9). Any implants or pacemakers were removed by the pathologists, and GBI agents used the manufacturer serial numbers to track down information concerning where the items had been sold and in whom they had been implanted. In addition, some bodies had hospital and nursing home identification bands on their wrists or funeral home tags around the ankles. A few bodies exhibited autopsy incisions, which meant hospital and/or medical examiner's offices would have records and possibly biological specimens that could be used for DNA comparisons.

One significant question early in the investigation was just how long the bodies had been accumulating and, hence, how many families had to be contacted to supply antemortem information. Ray Marsh established the Tri-State Crematorium in 1981 but, after suffering a stroke, handed the business to his son, Ray Brent Marsh, in 1997. As the investigation progressed, it became clear that Brent Marsh did not

Fig. 5.9 Femur with prosthetic

keep any records of the number or identity of those brought to the crematorium, from what funeral home they originated, which bodies had been cremated and which had not, or when the failure to cremate had begun. Based on the first identifications, it appeared that the bodies began to accumulate in 1997, corresponding to when Brent Marsh took over operations from his father. The GBI had contacted directors of over 30 funeral homes who first furnished lists of all individuals ever sent to the Tri-State Crematorium, but then narrowed the list to those sent between 1997 and 2002. Unfortunately, the GBI found that in addition to receiving bodies from the funeral homes, Brent Marsh had also conducted unauthorized and illegal removals from private residences, nursing homes, and hospitals. Since none of these individuals had been processed through funeral homes and because Marsh kept no records himself, the number and identity of these individuals were unknown. This meant that everyone in the tri-state area who lost a family member since at least 1997 could possibly be affected by Marsh's actions and inactions, yet there was no way to know whose loved ones were cremated and whose were not.

GBI and DMORT personnel interviewed family members to obtain antemortem information that could be compared with the postmortem data collected in the morgue to enable identification. Approximately 80% of the contacted families participated in the identification process. Many of the deceased were elderly and had no living relatives, while some families simply did not wish to revisit the grief over the loss of their loved one. Family members that did come forward provided information concerning age at death, sex, height, handedness, surgical history, tattoos, scars, and other physical features of their loved ones. One of the most basic and reliable forms

of identifying antemortem information comes from medical records, but few complete records were available since hospitals, dentists, and physicians destroyed the files following the death of their patient. Further, many of the bodies could simply not be identified by radiographic, dental, or skeletal means, so appropriate family members provided blood samples for nuclear DNA analysis.

While some presumptive sorting of commingled bones had been attempted in the field, all associations of isolated and commingled remains were confirmed by anthropologists in the morgue based on a variety of techniques, including anthropometrics, fracture margins, and joint articulations. For example, the presence of diffuse idiopathic skeletal hyperostosis (DISH) and ankylosing spondylitis helped to reassociate segments of the spinal column by matching fracture margins between bony osteophytes. Eburnation of adjacent joint surfaces was helpful in reassociating limbs in some cases. Also, in at least one amputee, reassociation was possible using hypertrophic development of the other leg.

Following reassociation, 339 individuals were represented as well as over 200 disassociated bones or body parts. The investigation revealed that 999 bodies had been sent to the Tri-State Crematorium from January 1, 1997, through February 15, 2002, when the conditions of the site were discovered. It appears that the remaining 660 individuals were likely cremated. One thing is certain: Additional bodies were not located on the site. The lake was drained and the entire site was searched by cadaver dogs, ground-penetrating radar, infrared imaging, and pedestrian line search. A final check was made by heavy equipment excavation to a depth of 4 feet. Another piece of property owned by the Marshes was also searched, and no remains were found.

Assessment of Cremains

On the first night of the investigation it became clear that the scope of the problem extended beyond the remains found at the scene. That evening a man approached the Chief Medical Examiner and stated that his wife had been contacted earlier in the day and told that her mother's remains had been recovered from the grounds. However, he continued, they had an urn at home on the fireplace mantle that they were told held the ashes of his mother-in-law. A cursory examination revealed that the contents of the submitted urn were not ashes at all but rather cement. When this information became public, hundreds of families brought their urns to the Family Assistance Center (FAC) established by DMORT and the GBI at the local community center. A forensic anthropologist was then assigned to the FAC for the sole purpose of examining submitted urn contents (Fig. 5.10).

Cremains analysis is an exacting and tedious process, so a decision was made early on that the preliminary examination would make a determination of "bone" or "not bone" only. This decision was made to avoid misleading families about the contents of their urns, because at the time they could only be examined under the most primitive of conditions. As the process moved forward, the anthropologist

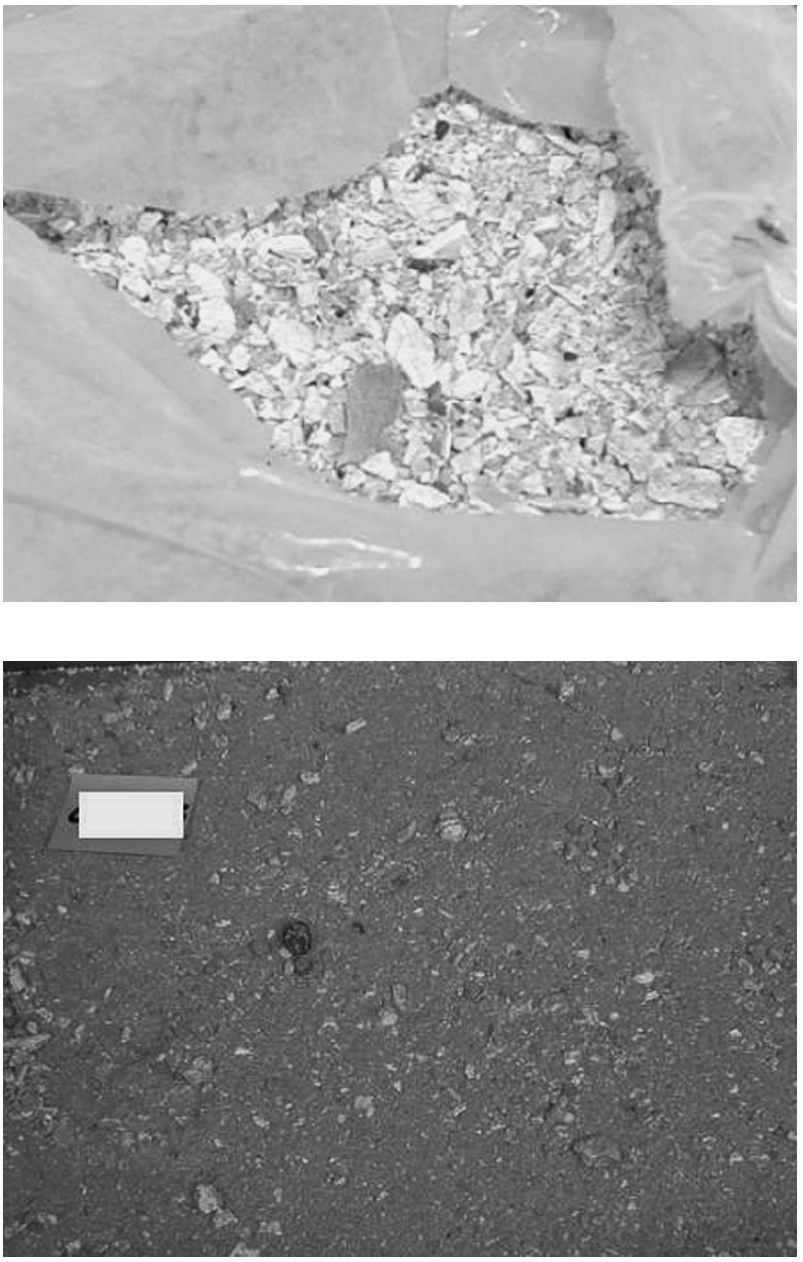

Fig. 5.10 Typical example of commercially cremated bone before (above) and after (below) pulverization. The pictured cremains are not from the Tri-State Incident. (Photo courtesy of Laura Fulginiti)

could sometimes demonstrate that the contents of the urns were "suspicious," usually because they contained items that were inconsistent with the family memory of their loved one.

The urns were brought by the families to the FAC and were examined by the anthropologist while the GBI agents interviewed the members about their loved one. A table was set up behind the stage in the community center, affording privacy for the forensic anthropologist and some measure of respect for the decedent. The urn and the plastic bag inside were opened to reveal the contents. If necessary, the remains were spread on a plastic tray for examination. Items such as dental appliances, tooth roots, and surgical interventions (usually open heart surgery staples) were identified. The family was consulted about the condition of the loved one and any medical history. If the cremains were determined to be bone (there was no good way to say human/nonhuman given the rudimentary facility), the cremains were returned immediately to the family.

In the event that there were suspicions about the cremains, i.e., that they were either "not bone" or that they contained inconsistent evidence, they were impounded and the family was immediately informed and given a release slip. During the course of the deployment, hundreds of sets of cremains were examined in this fashion. Some families even went to the cemetery and brought in urns covered in wet mud from burial plots and from mausoleums as well as urns that had places of pride in their homes.

Some family members refused to allow the urns out of their sight for the examination. In those cases, the GBI agent, the forensic anthropologist, and the family would go into a private room behind the stage and the remains would be viewed in that setting. These instances were rare (perhaps 10 times out of several hundred) but were very emotional for all parties. The GBI agents were uncomfortable, as was the forensic anthropologist performing the examinations. DMORT has a policy of not allowing the family members to have access to the morgue or morgue personnel, but the circumstances in this instance precluded that policy from being enforced. In the end, the grief of the family and the need for resolution outweighed any discomfort on the part of the individuals involved.

When an urn was discovered to be "suspicious," it would be taken into evidence and one of the Georgia medical examiners would be tasked for additional analysis. The most common reason for impounding would be because the remains in the urn consisted of something other than bone. In the majority of cases, the substance was a white powder, thought by most to be some form of lime such as what comes with concrete. The powder had the consistency of talcum powder and, upon opening the bag, could sting the nasal passages and eyes. Such cases were suspicious because the amount and weight of the contents were less than expected for a cremated body and the powder was finer than that of cremated bone. The GBI agents learned to expect that during and after the year 2000, nearly all of the purported cremains would contain no bone. Cremains from 1998 and 1999 were highly variable. Some of the cremains looked like bone, some had a mix of bone and powder, and some had a majority of powder with a few bones thrown in. Cremains from 1997 and earlier were nearly all bone, although they were not always consistent with the decedent.

When the contents of the urn were spread on the plastic tray, certain items would stand out. These included surgical clips, staples, and other medical interventions, dental appliances, and tooth roots. Depending on the quality of the mechanical pulverization, large portions of bone would occasionally be present as well. These bits of bone could be cursorily examined for indications of sex, although, given the primitive nature of the examination, no definitive statements were made. When a dental appliance or other type of nonbone item was discovered, the GBI agent would reinterview the family in an attempt to verify that the decedent allegedly represented by the cremation did in fact have such a procedure. Depending upon the answer, the cremains were either retained or returned immediately. At one point during the height of the cremains submissions, the retention rate reached about 25%. After DMORT ended their deployment in Noble, Georgia, cremations continued to be submitted. Other forensic anthropologists were retained both on behalf of the State and on behalf of the funeral homes involved in the litigation.

Identifications

Of the 339 individuals recovered, 225 (66%) were ultimately identified. Understanding the stratigraphy of the bodies in the pits as related to time of death was helpful, but it was still not possible to identify some of the bodies in the pits, even if they were stacked between identified bodies from known time periods. Further, approximately half of the bodies had been embalmed, which severely hampered DNA recovery from tissues, including bone. Sixty-three (28%) of the 225 identifications were accomplished through DNA comparisons. When the DNA efforts were exhausted, information concerning age, sex, ancestry, clothing, personal effects, and identifying characteristics were placed on a special page of the GBI Website that was available to the public. A handful of additional identifications were made as people recognized the described clothing or physical features of their loved ones. The 114 unidentified bodies and unassociated remains were interred in a cemetery in North Georgia, which had donated the space and burial vaults. A monument marks the burial site.

Legal Ramifications

One of the perplexing questions stemming from this incident is how the disposal of bodies could have continued for 4 years without detection. At the time of the incident, Georgia required that funeral homes containing a crematorium adhere to specific funerary laws and be inspected annually. However, freestanding crematoria, such as that owned by the Marshes, slipped through a loophole that made them exempt from state inspections. In addition, Brent Marsh traveled to funeral homes to pick up bodies with his own van, so funeral home personnel rarely came to his property. This service, as well as the low rate of $225 per body for cremation, was attractive to funeral directors and they consulted him often. Given that the family

compound was shielded from the roads by dense woods and only a small sign indicated the presence of the business, few local residents knew of the existence of the crematorium. Thus, Brent Marsh carried out his activities quietly and without detection from either the state or the local community.

Another question is, quite simply, why? Ray Brent Marsh was a deacon in his church and a star football player in college. Despite early rumors, it was determined that there was no evidence that Marsh had altered or abused the bodies in any way other than dumping them on his property. It appears that the retort was ill-maintained and, although investigators were able to start it up, the amount of soot likely precluded efficient cremation and Marsh simply abandoned the process while still accepting bodies. Regardless of the wide range of deposition locations on the property, none required much effort. Even the burial pits, which were dug by a small backhoe, were very close to each other and to the structures. Given the remote location of the property, little energy was expended to hide the bodies.

Ray Brent Marsh was charged with 787 felony counts, which included theft by deception and abuse of a corpse. Marsh had received money from the funeral homes and others for services not rendered, and he had returned adulterated cremains to families. It was estimated that the fraudulent activities totaled $60,000. On January 31, 2005, Marsh pled guilty to the charges and was sentenced to 75 years in prison. He will be eligible for parole in 2009.

The investigation of this incident was the most expensive in Georgia's history, exceeding over $10 million. There have been a number of civil suits filed against Ray Brent Marsh and the Marsh family as well as 39 funeral homes that used his services. The family plaintiffs argued that the funeral homes should have been aware of the problem, especially since they received adulterated cremains from Marsh and passed them on to the families in urns. The judgments called for over $84 million to be paid to the plaintiffs, making this one of the largest civil verdicts in Georgia's history.

Conclusions

The Tri-State Crematorium case is not unique for the need to identify a number of individuals who died prior to the incident. DMORT has responded to several incidents in which floodwaters had opened vaults and displaced coffins (Sledzik and Wilcox 2003). However, the incident in Noble was exceptional in that the accumulation of bodies was due to deliberate acts of abuse and neglect rather than natural events. The human toll of this incident was indeed tragic as families had to endure the grieving process yet again and absorb the emotional trauma of anger and betrayal. The families and the community at large needed a rapid response as well as careful and compassionate resolution. In spite of the time required to extensively document and excavate the area, the entire site was cleared within two weeks and the bodies were processed within three weeks. In this instance, interagency and interdisciplinary cooperation were essential to a successful resolution for a community exposed to a complex and emotional incident.

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