



History and Recovery Efforts for the USS Oklahoma (BB-37)

At the onset of the 7 December 1941 attack, the battleship USS Oklahoma (BB-37) occupied berth F-5 outboard of USS Maryland (BB-46) in Battleship Row (see figure 1). The first torpedo hit to the ship occurred just before 0800 hours. Within minutes the ship had sustained damage from multiple torpedoes and capsized, coming to rest 151 degrees 30 minutes to port (see figure 2).¹ As the ship listed, her commander gave orders to abandon ship over the starboard side. Some of the sailors who were able to evacuate swam to USS Maryland and to the shores of Ford Island, while other personnel manned smaller boats and began to pull the wounded from the water. In the hours after the sinking, rescue parties were able to establish contact with some of the crew members trapped inside, ultimately cutting holes in the hull and over the next few days, rescuing thirty-two men, but the majority of sailors and marines aboard were not so lucky.²

There are discrepancies in the various casualty lists created in the immediate aftermath of the attack on Pearl Harbor, but the figures settled upon for deaths among USS Oklahoma crew members were four hundred fifteen Navy personnel and fourteen Marines (see appendix 1).³ Of this number, thirty-five were positively identified and buried in the months and years immediately following the incident, leaving three hundred ninety-four buried among the unknowns at the National Memorial Cemetery of the Pacific (NMCP or Punchbowl), and making the unknowns from USS Oklahoma the single largest group of buried unidentified servicemen from the Pearl Harbor attack. Some number of an additional sixty-four burials of unknowns, men recovered from the harbor itself rather than a particular ship, has the potential to be associated with missing servicemen from USS Oklahoma, as they have no loss location more specific than "Pearl Harbor."⁴ In fact in 2007, the Joint POW/MIA Accounting Command (JPAC) identified one USS Oklahoma sailor, Fireman Third Class (F3) Alfred Livingston, out of this group of unknowns collected from the waters of Pearl Harbor.

In the immediate aftermath of the attack on Pearl Harbor, Navy personnel recovered and buried only five unknowns associated with the Oklahoma in Nuuanu Cemetery from December 8 through December 16, 1941. In addition to these unknowns, twenty-nine crew members of USS Oklahoma were identified and buried in either Nuuanu or Halawa Naval Cemetery during this same timeframe.⁵ Six more crew members from the Oklahoma identified in this early period were initially listed as casualties whose ship assignment was not known. The vast majority of the unknown servicemen of the Oklahoma were recovered from the ship during salvaging operations. These recoveries, conducted initially by divers and salvaging crews as they prepared the Oklahoma for righting and continued once the ship had been re-floated, resulted in a total of fifty-two burials, representing approximately four hundred individuals. The recoveries began with the initiation of salvaging on 15 July 1942 and ended on 10 May 1944, with the majority of remains being removed from the ship after it had been righted. The last burial of USS Oklahoma remains occurred at Halawa, in June 1944, where they remained until 1947. In September of that year, the American Graves Registration Service (AGRS) disinterred these two cemeteries and moved the remains to the Schofield Barracks Central Identification Laboratory (Schofield CIL), located at the AGRS Pacific Zone Headquarters, in order to effect or confirm identifications and return the men to their next of kin for burial.



Dr. Mildred Trotter, an anthropologist working at the Schofield CIL when the unknowns from the Oklahoma underwent processing for identification stated that the unknowns from the ship were originally buried “in fifty-two (52) common graves consisting of bones of a kind buried together (i.e., one casket was filled with skulls, another with femurs, another with hip bones, and so on).” It is not possible that the remains would have arrived from disinterment in Nuuanu and Halawa Cemetery segregated as caskets of like parts. Each set or group of remains was buried fairly quickly after it was recovered. The medical attendants and cemetery workers responsible for these remains and burials are not on record as having buried any other group of remains in the fashion that is reported in Dr. Trotter’s narrative. Further, the different sets of remains are reported as being buried over the period 9 December 1941 to 27 June 1944, and there is no reporting of disinterment and reburial before their final removal from those cemeteries in 1947. Without an intermediate disinterment, it would have been impossible to commingle the remains buried on 9 December 1941 with the remains buried on 27 June 1944. Photographs taken in this period show instead that the remains arrived at the CIL in a highly commingled state and covered with fuel and oil from the battleship. The CIL staff cleaned the remains and arranged them in groups of like elements before beginning identification processing.

At the time the Schofield CIL initiated processing of the Oklahoma remains, the staff operated under the assumption that the case would be approved by the Office of the Quartermaster General (OQMG) as a group burial. The Schofield CIL had recently finished processing another large set of remains from USS Serpens. In that instance, 52 sets of unsegregated remains were approved by the OQMG Board of Review to represent the more than 250 casualties that resulted when USS Serpens exploded while being loaded with depth charges in Guadalcanal. Other group burial cases involving unknowns from Tarawa and Wake Island also had been put forward for approval. In the case of Wake Island, the Schofield CIL, having reprocessed the already commingled remains and determined that no individual identifications could be made by segregating them, sorted them into caskets of like parts. The justification for such casketing was threefold. First, the Chief of the Mausoleum argued that casketing the remains as like parts conserved more space and utilized fewer caskets than other types of commingling or segregation. Second, in this period, the only clearly accepted means of positive identification based solely on the analysis of skeletonized remains was matching of postmortem dentition with ante-mortem dental records. The Schofield CIL staff reasoned that if, at some future date, the OQMG decided to identify only dental remains, it would be an easier task if all the skulls and mandibles for a group burial had been buried in as few caskets as possible. Third, the AGRS Pacific Zone Command, concerned about publicity problems, reasoned that casketing the remains in groups of like parts would “prevent personnel from informing the public that an arbitrary segregation had been made.”⁶

While Pacific Zone Headquarters awaited the decision from the OQMG on the Tarawa case, the Schofield CIL staff proceeded with processing of unknowns from Wake Island and USS Oklahoma, under the assumption that these cases would ultimately be resolved in the same manner as those of USS Serpens and Tarawa. This assumption was undermined when the OQMG declined to approve the burial of the Tarawa remains as a group, and instead instructed that they be declared unidentifiable and buried as unknowns.⁷ The decision by the OQMG left the AGRS Pacific Zone in a state of confusion with regards to the proper definition of a group burial and also meant that they had to reprocess those cases that had already been casketed as like parts. In the initial processing of USS Oklahoma, the Schofield CIL applied the definition of a group burial found in U.S. Army Technical Manual 10-281, “Permanent Interment of World War II Dead”:



Group or mass burials are those burials (including inurnments) in separate graves, in one grave, or a combination of both, of the remains of two or more individuals whose identities as a group are partially or completely known beyond reasonable doubt but whose remains cannot be individually identified.⁸

Upon learning of the rejection of the identification of the Tarawa unknown cases as a group burial, AGRS Pacific Zone Headquarters responded to the OQMG noting that they had utilized the definition above in putting the case forward for approval. The AGRS Pacific Zone Headquarters had already processed several other group remains cases in the same fashion, but they would not put them forward to the Board of Review until the OQMG issued a formal announcement of a new policy concerning the definition of group burials.

The response from the OQMG came on 18 February 1949. It began by referencing the definition set forward above but went beyond the original definition to state "that the varying conditions under which it is desirable to consider remains as a group burial do not lend themselves to definition in specific terms." However, the OQMG specified the following necessary characteristics of a group burial:

- a. The total number of remains, or major portions thereof, on hand should closely approach the number of decedents represented by the group.
- b. The evidence in the case should show conclusively that the remains of each decedent listed by name as a member of the group can not [sic] be presumed reasonably to be interred currently apart from the group burial.
- c. The name of at least one decedent must be associated conclusively with the remains comprising the group.⁹

The memo further noted "the term 'group burial' was evolved primarily to apply to remains involved in air crashes and in fatalities of tank or other vehicular crews. It was not intended to apply in cases of large ship sinkings, and such cases should be considered as group burials only in exceptional circumstances on the approval of this Office."¹⁰ So, while the OQMG had been willing to approve the case of USS Serpens as a group burial, they proved unwilling to do so in other instances, and explicitly wrote that the Serpens case represented an exception.¹¹

The Quartermaster General instructed the AGRS Pacific Zone to reprocess the group remains cases that they had been intending to put forward. General Hastings required them to segregate the remains, putting forward for individual identifications only those remains that could be securely segregated. The rest were to be processed as individual unknowns or as groups of unknowns. In contradiction to the AGRS Pacific Zone plan to bury unidentifiable remains in caskets of like parts, he stated: "In such cases, where it is not possible to assemble a reasonably complete skeleton of any one individual – such as skull plus a substantial portion of the related shoulder and rib assembly and/or pelvic and leg bones – the skulls should be comingled [sic] with the fragmented bones and all buried in the minimum [sic] number of caskets."¹²



As a result of this clarification from the OQMG, the Schofield CIL began reprocessing the remains from the Oklahoma. The laboratory space expanded from 2000 square feet to 9000 square feet to allow for more tables upon which the processing teams could segregate the remains.¹³ In January 1949 Capt Greenwood, the Chief of the Schofield CIL, designated teams of embalmers to reprocess the remains and issued special instructions for dealing with the case of the Oklahoma. In that same month the OQMG stationed Major Stewart Abel, a Quartermaster Officer with both private and military mortuary experience, in Hawaii as the Chief of the Schofield Mausoleum. He had been specifically directed to help sort out the confusions that had arisen in the Pacific Zone over the processing of remains from mass casualty incidents. Despite these changes, the reprocessing of the Oklahoma remains was less than smooth.

The earlier segregation of the remains into caskets of like parts and the new directive both to undo this segregation and to attempt to put forward segregated skeletons for individual identification brought to the fore tensions that had been building within the Schofield CIL. The reprocessing of the case proceeded from January through March of 1949, and the CIL ultimately put forward twenty-seven cases for approval as individual identifications (see the names marked with asterisks in the appendix of this report). Each of the cases was disapproved by the OQMG Board of Review, because they did not contain statements from the Schofield CIL anthropologist "attesting to the proper segregation and articulation" of the remains.¹⁴ Dr. Trotter would not certify the twenty-seven segregations. She objected that "the direction for processing bodies, where group burials in which commingling of the skeletal parts had occurred, grew to be one of putting parts together which 'could not be disproven', thence to doing 'the best you can' in order to arrive at a good number of so-called 'segregations'."¹⁵ Dr. Trotter raised her concerns with Major Abel, who agreed to look into the situation. He found that at some point prior to his arrival, the requirement that the anthropologist sign off on the reports put forward to the Board of Review had been revoked. This occurred because Dr. Trotter would not sign statements with which she did not concur, so rather than changing the practices of the Schofield CIL to provide Dr. Trotter with analyses of which she would approve, the command instead opted no longer to require the signature of an anthropologist on the case papers.

Upon making this discovery, Major Abel turned his attention specifically to the case concerning USS Oklahoma. He agreed with Dr. Trotter that arbitrary segregations were occurring and that the skeletal associations being made had "very little scientific basis, [and] in fact, in many instances it could be proven that the parts did not belong together."¹⁶ When Major Abel presented his findings to the Commander of the AGRS Pacific Zone, Colonel Waldron objected to the use of the term "arbitrary." As a result, Dr. Trotter was called in for a conference about the USS Oklahoma case at which point "it was learned that she felt that it was wrong to make such 'segregations' and, thus, to mislead people into the belief that a group of parts placed together constituted the remains of one individual."¹⁷ As a result of these discussions, the Pacific Zone Commander directed Major Abel to sort out USS Oklahoma case. Major Abel, in turn, directed that Dr. Trotter would only sign off on cases which she deemed to have scientific integrity, and that she would write narratives to accompany the cases that made clear the manner in which the



segregation work had been performed. For the Oklahoma unknowns, Dr. Trotter agreed that she would sign either a statement attesting to the segregation of just the skulls and/or mandibles of the twenty-seven individuals, or a statement that segregation had been attempted, but not successfully completed. With this knowledge in hand, Colonel Waldron wrote the Quartermaster General that Dr. Trotter could not “execute with integrity” the signing of certificates for the twenty-seven individual segregations, but “that the reprocessing of the cases had shown that secure and attestable identifications of some of the skulls from the group remains could be put forward.”¹⁸ He concluded: “It is the opinion of this Headquarters that, where the post-cranial remains cannot be segregated and articulated with certified certainty, an identification based solely on the cranial structure is superior to a group identification or none at all.”¹⁹ Accordingly, the AGRS Pacific Zone amended the files for the twenty-seven unknowns and re-sent the paperwork to the OQMG. In the amended files, the skeletal charts for these twenty-seven had all been shaded to show the presence of only the skull and/or mandible for each, and no detailed bone list, as could be found with the other unknown files, was included.²⁰ Dr. Trotter attested to the segregations of just the skulls and/or mandibles.

The Quartermaster General did not agree with the Pacific Zone Headquarters assessment that identification of some portion of the remains was better than no identification. Responding for the OQMG, Colonel Freeman, Chief of the Memorial Division outlined the circumstances under which such an identification would be approved:

If the skull is the only portion of the remains of the decedent which can be found, then the skull alone may be considered. If other portions of the remains of the decedent (in addition to the skull) are known to have been recovered, or may reasonably be presumed to have been recovered and to be co-mingled with other portions of remains of other decedents, then the skull alone may not be considered as the sole recoverable remains of the decedent concerned. Under such circumstances, the American Graves Registration Service can not [sic], in good conscience, deliver a skull to the next of kin, or bury it in a government cemetery, as the only recoverable remains of a person.²¹

This decision halted attempts by the Schofield CIL to put forward remains associated with the USS Oklahoma for possible identification. The AGRS Pacific Zone Headquarters added the names of the twenty-seven men put forward as individual segregations to the larger group of casualties listed in the board proceedings for USS Oklahoma and certified all the remains unidentifiable in the summer of 1949. In each of the case files for the remains, Trotter wrote:

In view of the circumstances pertaining to this undertaking, I believe that the skeletal associations of the unidentified remains which have been made are as secure as could be made. However, it is my opinion that study over a very long period (years) and under different circumstances would be necessary to insure the maximum security of segregation on a sound basis.²²

The remains awaited final burial on the shelves of Schofield Mausoleum #2. By the spring of 1950, the approximately 400 unknowns had been buried in the NMCP in sixty-two caskets



interred in forty-six locations (see appendix 2). The names of the crew would later be inscribed on the Pacific Theater Tablets of the Missing and Buried at Sea.

Nothing more happened concerning the unknowns from the Oklahoma until Mr. Ray Emory, a Pearl Harbor survivor and researcher dedicated to studying the cases of buried unknowns, became involved in researching the unresolved casualties resulting from the attack on Pearl Harbor. While examining documents in the Individual Deceased Personnel File for Ensign (ENS) Eldon P. Wyman, he found a letter from the Chief of the Memorial Division in Washington, DC to the AGRS Pacific Zone Commanding Officer which acknowledged that the Pacific Zone had recommended that unknown X-234A Halawa Naval Cemetery be "redesignated as the remains of Wyman, Eldon Paul, Ensign, 102130, USNR."²³ That letter noted that Dr. Trotter had not attested to the segregation of the remains, as discussed more fully above, and disapproved the recommended identification. In addition to the letter the file contained a list of names, including ENS Wyman's and twenty-six others, of the Oklahoma crew members who had been declared unidentifiable and who needed to be appended to the list of other unidentifiable sailors and Marines from the ship.²⁴ Armed with this information, Mr. Emory contacted the U.S. Army Central Identification Laboratory, Hawaii (CILHI) in April 2003 to discuss the potential for identifying ENS Wyman and possibly the other twenty-six men listed.²⁵ The CILHI staff agreed with his assessment of the documents in ENS Wyman's IDPF and on 18 June 2003 the casket at Section P, Plot 1002, NMCP was disinterred and transported to the CILHI where it was accessioned as CIL 2003-116 for scientific analysis. The paperwork for that disinterment gave priority to X-234A, the case that the CILHI had wished to disinter, but it also, based on information taken from the burial card and added to the paperwork by cemetery staff, listed X-232C, X-233E, X-235A, and X-236C in parentheses as additional unknowns present.²⁶ Research conducted after disinterment revealed that the crania and/or mandibles for these unknowns had been proposed for identification as the remains of Gerald G. Lehman, Lawrence A. Boxrucker, Irvin A. R. Thompson, and Charles H. Swanson, five of the individuals on the list of twenty-seven. The identification of partial remains of these five men, along with the identification of Alfred Livingston, brings the total current number of unresolved casualties from USS Oklahoma to 388.²⁷

Subsequent anthropological, dental, and mtDNA analysis of the remains in this casket have revealed the presence of sparse remains of more than one hundred individuals, and have justified Dr. Trotter's contention that remains that had been initially very commingled, then separated into caskets of like parts, and then re-segregated into "individual" sets of remains could not possibly represent the remains of only one person. This discovery initiated a request that the service casualty offices of the U.S. Navy and the U.S. Marine Corps collect DNA reference samples from the maternal relatives of all the unresolved crew members of the Oklahoma in the hopes that more of that crew might ultimately be identified. The work of collecting those reference samples is ongoing as of the writing of this memorandum, as is the work of continuing to associate those remains where dentition is present to the dentition in the medical records of the unresolved casualties from the ship.



Figure 1. Locations of ships anchored on Battleship Row on 7 December 1941. Image taken from Robert Sullivan, editor, *Our Call to Arms: The Attack on Pearl Harbor* (New York: Time, Inc., 2001), 69.



Endnotes

¹ Commander Jesse L. Kenworthy, Jr., USS Oklahoma to Captain H. G. Bode, U.S. Navy, 16 December 1941, "Surprise Enemy Attack and Sinking of the U.S.S. Oklahoma," The Naval Historical Center, access date 2 April 2007, <http://www.history.navy.mil/docs/wwii/pearl/ph62.htm>.

² Stephen Bower Young, *Trapped at Pearl Harbor: Escape from Battleship Oklahoma* (Annapolis, MD: Naval Institute Press, 1991), 153-54

³ The discrepancies for early casualty lists arose due to the confusion generated by the attacks, the loss of paperwork for some of the ships, and erroneous assignments of some of the casualties to particular ships. In the years since, the casualty lists for particular ships have stabilized.

⁴ These figures are taken from the Navy burial register "NAVMED HF-38," a copy of which is located in the JPAC records repository.

⁵ These twenty-nine identified individuals have no connection to the twenty-seven later put forward for identification and discussed below in this memo.

⁶ Hugh C. Munro, "Report of Travel," 29 Jan through 12 Mar 1949, General Correspondence, Geographic File, 1949-52, Record Group 92: Records of the Office of the Quartermaster General, National Archives and Records Administration, College Park, MD.

⁷ OQMG memorandum to AGRS Pacific Zone, Subject: Transmittal of Board Proceedings 420, 2nd Indorsement, 26 January 1949, General Correspondence, Miscellaneous File, 1949-50, Record Group 92: Records of the Office of the Quartermaster General, National Archives and Records Administration, College Park, MD.

⁸ War Department, AR Technical Manual 10-281: Permanent Interment of World War II Dead, (Washington, DC: U.S. Government Printing Office, 1947), 4.

⁹ K.L. Hastings memorandum to Commanding Officer, American Graves Registration Service, Pacific Zone, 18 February 1949, Subject: Transmittal of Board Proceedings (420), 3rd Indorsement [sic], General Correspondence, Miscellaneous File, 1949-50, Record Group 92: Records of the Office of the Quartermaster General, National Archives, College Park, MD.

¹⁰ Ibid.

¹¹ Curiously, the Wake Island remains did end up buried in the Punchbowl as an approved group burial.

¹² K. L. Hastings memorandum.

¹³ Mildred Trotter, "Operations at Central Identification Laboratory, A.G.R.S.," no date, Mildred Trotter Papers, Bernard Becker Medical Library, Washington University School of Medicine, St. Louis, MO. This document is available online at: <http://beckerexhibits.wustl.edu/mowihsp/words/TrotterReport.htm>.

¹⁴ Individual Deceased Personnel File for Eldon P. Wyman, Ensign, 102130, Record Group 92: Records of the Office of the Quartermaster General, Washington National Records Center, Suitland, MD.



¹⁵ Mildred Trotter letter to Col Norman E. Waldron, 18 August 1949. Mildred Trotter Papers, Bernard Becker Medical Library, Washington University School of Medicine, St. Louis, MO.

¹⁶ Stewart W. Abel memorandum to Chief, American Graves Registration Service APO 958, Subject: Status of Operations with Reference to Skeletal Segregations, 27 May 1949, Mildred Trotter Papers, Bernard Becker Medical Library, Washington University School of Medicine, St. Louis, MO.

¹⁷ Ibid.

¹⁸ Col Norman E. Waldron letter to The Quartermaster General, 19 May 1949 and 1st Indorsement [sic] in response, Col E.V. Freeman to Commanding Officer, American Graves Registration Service, Pacific Zone, 9 June 1949, Record Group 92: Records of the Office of the Quartermaster General, NARA, College Park, MD.

¹⁹ Ibid.

²⁰ Unknown file for X-232C, X-233E, X-234A, X-235A, and X-236C Halawa Cemetery, Record Group 92: Records of the Office of the Quartermaster General, Washington National Records Center, Suitland, MD. We know from the remains under discussion in this report that postcranial remains are present in the casket, but once the identifications had been disapproved, amended skeletal charts and bone lists were not created for the files.

²¹ Col E. V. Freeman letter to Commanding Officer, American Graves Registration Service, Pacific Zone, 9 June 1949, Mildred Trotter Papers, Bernard Becker Medical Library, Washington University School of Medicine, St. Louis, MO.

²² Mildred Trotter, 1 March 1949, "Narrative," Unknown file for X-232C, X-233E, X-234A, X-235A, and X-236C, Halawa Cemetery.

²³ Col E. V. Freeman letter to Commanding Officer, American Graves Registration Service, Pacific Zone, 21 April 1949, IDPF for ENS Wyman.

²⁴ Individuals whose names were included in this list of twenty-seven are marked with an asterisk in the appendix.

²⁵ In October 2003, CILHI merged with the Joint Task Force-Full Accounting to become the Joint POW/MIA Accounting Command (JPAC).

²⁶ "Request for Disinterment," Department of Veterans Affairs Form 40-4970, 16 June 2003, JPAC Case File United States, Hawaii JPAC Incident 221, Joint POW/MIA Accounting Command.

²⁷ The six modern identifications of USS Oklahoma sailors, made by the JPAC Central Identification Laboratory, occurred on the following dates: Lawrence Boxrucker, 12 June 2008; Gerald Lehman, 11 January 2010; Alfred Livingston, 1 May 2007; Charles Swanson, 9 November 2009; Irvin Thompson, 12 June 2008, and Eldon Wyman, 12 June 2008.