

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
SAN ANTONIO DIVISION

JOHN A. PATTERSON, et al.,)	
)	
Plaintiffs,)	
)	
v.)	No. 5:17-CV-00467
)	
DEFENSE POW/MIA ACCOUNTING)	
AGENCY, et al.,)	
)	
Defendants.)	

DECLARATION OF GREGORY BERG

I, Dr. Gregory Berg, pursuant to 28 U.S.C. § 1746, declare as follows:

1. I am currently a Laboratory Manager for the Scientific Analysis Directorate, Defense POW/MIA Accounting Agency (DPAA). I have served in that position for DPAA or its predecessor organization, the Joint POW/MIA Accounting Command (JPAC) since 2008. I am a forensic anthropologist and am responsible for case management/progression, histological analysis, isotope analyses, and all other functional areas when other managers are out.

2. The statements contained in this declaration are based on my personal knowledge and Department of Defense records and information made available to me in my official capacity.

Cabanatuan Common Grave 717

3. Among my responsibilities, I have led DPAA’s anthropological analysis of the remains associated with Cabanatuan Common Grave 717.

4. According to DoD records, Cabanatuan Common Grave 717 is the likely original



location of the remains of fourteen individuals, including Private Arthur Kelder (PVT Kelder).

5. Ten unknowns associated with this grave were interred in Manila American Cemetery. The ten unknowns were disinterred in 2014.

6. After analysis at the laboratory and DNA testing, the Scientific Director for the Central Identification Laboratory in Hawaii made one initial identification in January 2015, PVT Kelder. See Memorandum for Record, Identification of CIL 2014-125-I-01 (Jan. 17, 2015) (Exhibit 1). Additional identifications occurred in December of 2015 (six service members), February 2016 (one service member), and April and May 2017 (two service members).

7. In May 2015, DPAA identified additional portions for PVT Kelder. See Memorandum for Record, Identification of CIL 2014-125-X-01 (May 21, 2015) (Exhibit 2). At that point the following elements of PVT Kelder's remains had been identified: calvarium, fragmentary maxilla, fragmentary mandible, left femur, left humerus, left tibia, right fibula, right humerus, and right tibia, along with loose teeth.

8. Our analysis and DNA testing confirmed extensive commingling among the remains associated with Common Grave 717. For example, the remains identified as PVT Kelder's in 2015 came from four different sets of remains—CIL 2014-122, CIL 2014-124, CIL 2014-125, and CIL 2014-128 (corresponding to the remains designated X-812, X-815, X-816, and X-821).

9. In addition, the testing results included DNA profiles likely to belong to the service members for whom the Army Graves Registration Service had identified remains and sent them to the United States for burial. Accordingly, in order to complete the identification of remains associated with this common grave, DPAA arranged for the disinterment of the four “identified” sets of remains associated with Common Grave 717, receiving two of them in

November and December 2015, and a third in late January 2016. The final set of remains associated with Common Grave 717 has not yet been disinterred due to complications that resulted from the service member having no known living relatives.

10. Additional DNA testing has continued down to the present. All told, DPAA has submitted more than 250 samples from remains associated with Common Grave 717 to the Armed Forces DNA Identification Laboratory (AFDIL) for testing. AFDIL conducted hundreds of tests on those samples, and reported the results to the DPAA Laboratory. These tests include Sanger and Next Generation (NGS) mitochondrial DNA (mtDNA), autosomal short tandem repeat (auSTR), and Y-chromosome STR (Y-STR).

11. AFDIL's DNA results indicate that at least 18 distinct people are commingled among these remains. In addition, despite repeated sampling and DNA testing, one case yielded no useable DNA until January 2019, and then it was only from two teeth. None of the bone samples have yielded DNA to date. This is likely attributable to the extremely poor condition of the remains, the repeated wetting and drying cycles, and the mineral build up in and around the skeletal elements.

12. DPAA is in the process of preparing additional portions of remains associated with Common Grave 717 for identification, and anticipates being able to finalize such identifications within the next 90 days.

13. Multiple factors have contributed to the interval between the initial identifications and the current preparations to identify additional portions:

- First, DPAA has to wait a long time to receive results on samples submitted to AFDIL. The queues for Sanger, NGS, auSTR, and Y-STR testing are extremely long. For instance, NGS samples have been processed on the order of 20-40 per month, and the queue is currently over 500 samples long. And once processing begins, on average, a sample takes about 90 days from initiation to the point of reporting a result.

- Second, once DNA results are obtained, additional sampling or testing may be required based on those results, e.g. nuclear testing might be necessary if the sequence is common/shared between two service members, or if the sample failed, another sample from the same bone may be tested again.
- Third, the laboratory analysis of the remains and their associated DNA sequences takes time—the association of one bone to an individual via a DNA test may result in multiple bones or teeth being associated through follow-on anthropological or odontological analyses of pair matching, articulation, and associations across the multiple cases.
- Fourth, the analytical process was hamstrung by the lack of the entire population. The thirteenth set of remains was not received until 2016 and the final set of associated remains still has not made it to the DPAA Laboratory.
- Fifth, by identifying additional portions across the assemblage, the potential to associate other remains to an individual decreases, as there are less remains to pair match or articulate with. Approaching the assemblage as a whole is more effective than isolating pieces of it. For this reason, larger groups of additional portions are released at one time.
- Sixth, the DPAA Laboratory seeks to identify approximately 200 individuals per year. In order to reach that goal, the pace of case work is intense for all analysts and requires balancing and maintaining priorities across numerous cases.

Cabanatuan Common Graves 704 and 822

14. On December 4, 2018, DPAA disinterred 12 sets of remains associated with Cabanatuan Common Graves 704 and 822 from Manila American Cemetery.

15. The remains were transported to the DPAA Laboratory on December 10, 2018, and a team of DPAA forensic scientists is beginning the analysis of the remains.

16. Sample selection is one part of the initial triage of the remains, and these initial samples are being sent to AFDIL for testing. The results of this DNA testing will be incorporated into further analysis, so that DPAA can maximize its effort to identify as many service member as possible.

* * * * *

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 18th day of April, 2019. **BERG.GREGORY.E.1249734345**
E.1249734345

Digitally signed by
BERG.GREGORY.E.1249734345
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Dr. Gregory Berg, PhD, D-ABFA
Laboratory Manager
Scientific Analysis Directorate
Defense POW/MIA Accounting Agency

**JOINT POW/MIA ACCOUNTING COMMAND**310 WORCHESTER AVENUE
JOINT BASE PEARL HARBOR-HICKAM, HI 96853-553

17 January 2015

MEMORANDUM FOR THE RECORD

Subj: IDENTIFICATION OF CIL 2014-125-I-01

1. Background and Acquisition

a. On 8 December 1941 Japanese forces invaded the Philippine Islands. Intense fighting ensued until 6 May 1942 when the U.S.-occupied fortress of Corregidor fell, effectively placing the country under the control of Japanese forces. Thousands of U.S. and Filipino soldiers were taken prisoner, including many that were forced to endure the infamous Bataan Death March en route to the Japanese-operated POW camp at Cabanatuan on the island of Luzon, Philippines. Almost 2,800 of these POWs perished in this camp, including 13 American servicemen and one American civilian who died on 19 November 1942 from malnutrition and medical neglect while in the camp hospital. These men were buried in Common Grave 717 in the camp cemetery. Records indicate that among these 14 men was Private Arthur H. KELDER, who had been reported as captured on, or subsequent to, 7 May 1942.

b. Following the war, from December 1945 through March 1946, American Graves Registration Service (AGRS) personnel exhumed the Cabanatuan cemetery and relocated the remains to a temporary U.S. military cemetery that had been established near Manila. In late 1947 and early 1948, AGRS personnel re-exhumed the remains from the Manila cemetery and transferred them to a mausoleum established at Manila. While at the mausoleum, AGRS examined the remains in an attempt to identify each individual. In some cases, the identification attempts stretched over several years; however, the chaotic manner in which the remains had been buried, exhumed, reburied, and re-exhumed resulted in a level of commingling that could not be resolved given the forensic science available at the time. The remains that could not be individually identified ultimately were reburied as Unknown Remains at the permanent American Battle Monuments Commission cemetery at Fort McKinley in Manila. Among these Unknown Remains were ten individuals originally buried in the Cabanatuan cemetery in Common Grave 717. These ten individuals, initially designated as Unknown Remains X-812, X-814, X-815, X-816, X-818, X-820, X-821, X-822, X-823, and X-824, and subsequently renumbered as X-4849 through X-4858, were buried in ten separate graves.

c. In 2014 the CIL received permission from the Secretary of the Army to exhume the ten graves associated with the Cabanatuan Common Grave 717. On 15 August 2014 personnel from the U.S. Army mortuary in South Korea exhumed the remains and transported them to the CIL, where they were accessioned on 28 August 2014 as CIL 2014-122 through CIL 2014-131.

d. Preliminary analysis of the remains contained in the ten accessions confirmed them to be moderately commingled, requiring extensive use of DNA analysis. One hundred and fifty-one bone and tooth samples taken from these cases were submitted to the Armed Forces DNA

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Subj: IDENTIFICATION OF CIL 2014-125-I-01

Identification Laboratory (AFDIL) for mitochondrial DNA (mtDNA) and Y-chromosome Short Tandem Repeat (Y-STR) DNA testing.

2. Summary of Analysis

a. Three metal tags were found inside the casket associated with the CIL 2014-125 accession. Two of the tags were embossed with the designations X-816 and X-4858; the third tag was embossed X-816. These tags correlate the remains to the Unknown X-816/X-4858 remains recovered from the Cabanatuan Common Grave 717.

b. The AFDIL reports that the 151 samples submitted from the ten accessions yielded results indicating the presence of at least 14 individuals; however, one bone sample taken from CIL 2014-122, two bone samples and two tooth samples taken from CIL 2014-125, and one bone sample taken from CIL 2014-128 yielded mtDNA sequence data that match that of a known maternal-line relative (cousin) of Arthur H. KELDER. The sequence data are uncommon within the AFDIL statistical population database ($\approx 0.70\%$ of the total database and $\approx 1.88\%$ of the Caucasian sub-database), and it can be inferred that the sequence is relatively rare, though not unique, within the general population. Additionally, Y-STR data obtained from the CIL 2014-122 sample, two of the bone samples from CIL 2014-125, and the CIL 2014-128 sample match Y-STR reference data obtained from a known paternal-line relative (cousin) of Arthur H. KELDER. The sequence data are uncommon within the AFDIL statistical population database ($\approx 0.06\%$ of the total database and $\approx 0.13\%$ of the Caucasian sub-database), and it can be inferred that the Y-STR haplotype is relatively rare within the general population. For administrative purposes, the remains associated with the six samples yielding the same mtDNA sequence data were grouped and re-designated CIL 2014-125-I-01.

c. The dental remains attributable to Arthur H. KELDER through mtDNA testing consist of a maxilla fragment and a mandible fragment with articulating teeth #8, #9, #11, #14, #15, #17, #22, #23, #28, and #32. Five loose teeth—#2, #6, and #24-#26—also are present, and the corresponding dental sockets in the maxilla and mandible fragments are open and unhealed. There also are open and unhealed alveolar sockets for teeth #3-#5, #7, #10, #12, #13, #18-#21, #27, and #29-#31 that suggest that these teeth were lost perimortem or postmortem. Six of the teeth—#2, #9, #14, #15, #17, and #32—have been restored. The available military dental information for Arthur H. KELDER is very limited and does not chart any restorative work. It also should be noted that the X-816 remains examined in 1946 exhibited gold inlays on teeth #5, #12, #18-#21, and #29-#31. By 1952, when the remains were reburied in Manila, these teeth were no longer present in the remains. The CIL 2014-125-I-01 maxilla and mandible fragments exhibit empty alveolar sockets corresponding to teeth #5, #12, #13, #18-#21, and #29-#31.

d. The CIL 2014-125-I-01 skeletal remains consist of those attributable to Arthur H. KELDER through mtDNA and Y-STR testing, as well as elements that can be associated on the basis of articulation and pair matching. Represented are a calvarium, fragmentary maxilla, fragmentary mandible, left humerus, right fibula, and left tibia. Morphologically and developmentally, the remains are consistent with those of an adult (>18-years-of-age) male.

Subj: IDENTIFICATION OF CIL 2014-125-I-01

3. Summary and Conclusions


Available evidence establishes that Arthur H. KELDER was captured in early 1942 by Japanese forces during the battle of the Bataan Peninsula, and that he died while in enemy captivity at a POW camp at Cabanatuan in the Philippine Islands on, or about, 19 November 1942. His body, along with those of 13 other deceased prisoners, initially was buried in a hastily dug mass grave (Common Grave 717) at the POW camp. Following the war, AGRS personnel exhumed the camp cemetery and removed the recovered remains to a U.S.-controlled cemetery near Manila. Later, the remains were again exhumed and transferred to a mausoleum in Manila for the purpose of facilitating identification. The remains that could not be identified—including ten associated with Cabanatuan Common Grave 717—subsequently were reburied at the newly created Manila American Cemetery in 1950 and 1952. In late 2014 the ten graves associated with the Cabanatuan Common Grave 717 were disinterred, and the remains transferred to the CIL for identification. Analysis revealed the remains to be moderately commingled; however, laboratory testing allows skeletal and dental remains commingled in three of the ten graves to be attributed to Arthur H. KELDER to the exclusion of other reasonable possibilities.

4. Finding

In my opinion, the results of laboratory analysis and the circumstantial evidence made available to me establish the remains designated CIL 2014-125-I-01 as those of

Pvt Arthur Herman KELDER, 36016623, U.S. Army

Given the degree of commingling observed in the Unknown remains from the Camp Cabanatuan cemetery, it is possible that additional remains of Arthur H. KELDER may be identified in the future.



THOMAS D. HOLLAND, PhD, DABFA
Scientific Director, JPAC-CIL

11 Encls

1. Memorandum For The Record, Unknowns X-812, X-814, X-815, X-816, X-818, X-820, X-821, X-822, X-823, and X-824 Manila #2, Common Grave 717, Cabanatuan Camp #3 Cemetery, Luzon, Philippine Islands (P.I.) (CIL 2014-122 to CIL 2014-131): Addendum; 12 January 2015
2. Forensic Odontology Report: CIL 2014-125-I-01; dtd 13 January 2015
3. Forensic Anthropology Report: CIL 2014-125-I-01; dtd 14 January 2015
4. Department of Defense; Armed Forces Medical Examiner System; MCMR-MED-MDN; Consultation Report On Contributor Material; KELDER, Arthur H. (BTB); CIL Case No. 2014-122; dtd DEC 22 2014

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Subj: IDENTIFICATION OF CIL 2014-125-I-01

5. Department of Defense; Armed Forces Medical Examiner System; MCMR-MED-MDN; Consultation Report On Contributor Material; KELDER, Arthur H. (BTB); CIL Case No. 2014-125; dtd DEC 22 2014
6. Department of Defense; Armed Forces Medical Examiner System; MCMR-MED-MDN; Consultation Report On Contributor Material; KELDER, Arthur H. (BTB); CIL Case No. 2014-128; dtd DEC 22 2014
7. Material Evidence Report: CIL 2014-125-A-01 Through 03; dtd 12 January 2015
8. Relevant Personnel Records
9. Unknown File, Manila #2, X-816
10. War Department, Report of Death, dtd 18 June 1945
11. Consultant Review [Sorg]; dtd January 16, 2015

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DEFENSE POW/MIA ACCOUNTING AGENCY
2300 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-2300

21 May 2015

MEMORANDUM FOR THE RECORD

Subj: IDENTIFICATION OF CIL 2014-125-X-01

1. Background and Acquisition

a. In December 1941, Japanese forces invaded the Philippine Islands and fighting continued into May 1942. Captured US military personnel were taken to a POW camp at Cabanatuan, on the island of Luzon. Of the thousands of deaths at Cabanatuan POW camp, 13 American service men and one American civilian died on 19 November 1942 and were buried in Common Grave 717 in the camp cemetery. Historical records indicated that Private Arthur H. KELDER was buried in this grave.

b. After the war, American Graves Registration Service personnel exhumed the Cabanatuan cemetery and eventually transferred the remains to a mausoleum in Manila, Philippines. When identification efforts at the mausoleum were completed, individuals that could not be identified were reburied as Unknown Remains at the Fort McKinley cemetery in Manila. Among these Unknown Remains were ten individuals originally buried in Common Grave 717 at the Cabanatuan cemetery.

c. In 2014 the Joint POW/MIA Accounting Command-Central Identification Laboratory (JPAC-CIL) received permission from the Secretary of the Army to exhume the ten graves associated with the Cabanatuan Common Grave 717. The remains were exhumed and transported to the JPAC-CIL and were accessioned into the laboratory on 28 August 2014 as CIL 2014-122 through CIL 2014-131. [Note: the JPAC-CIL was reorganized in late January 2015 into the Defense POW/MIA Accounting Agency (DPAA) and the CIL case numbering system was retained.]

d. On 17 January 2015 skeletal and dental remains from accessions CIL 2014-122, CIL 2014-125, and CIL 2014-128, designated the case number CIL 2014-125-I-01 were identified as the partial remains of Pvt Arthur Herman KELDER.

2. Summary of Analysis

a. The Armed Forces DNA Identification Laboratory (AFDIL) reports that bone samples Sample 14A (left femur from CIL 2014-124), Sample 15A (right tibia from CIL 2014-122), and Sample 17A (right humerus from CIL 2014-125), yielded mitochondrial DNA (mtDNA) sequence data that match mtDNA obtained from a known maternal relative (cousin) of Arthur H. KELDER. The data also match sequence data previously obtained from the remains present in CIL 2014-125-I-01. Additionally, Y-chromosome Short Tandem Repeat (Y-STR) data obtained from the CIL 2014-122 sample match Y-STR reference data obtained from a

known paternal-line relative (cousin) of Pvt KELDER. The statistical combination of the mitochondrial and Y-STR DNA data indicate that the right tibia is 16,000 times more likely to have originated from a maternal and paternal lineage of Arthur KELDER rather than an unrelated individual from the Caucasian population.

b. For administrative purposes, the remains from which the above samples were taken, i.e., the left femur and right humerus and tibia, were consolidated into CIL 2014-125 and sub-designated CIL 2014-125-X-01. These portions are not represented in the remains previously identified as Arthur H. KELDER. Skeletally, the fragments are consistent with a probable male adult individual. Historical records list Pvt KELDER as a 26-year-old White male at the time of his presumed death.

3. Finding

In my opinion, the results of laboratory analysis and the totality of the circumstantial evidence made available to me establish the remains designated CIL 2014-125-X-01 as additional remains of

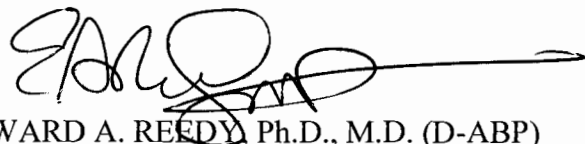
Pvt Arthur Herman KELDER, 36016623, U.S. Army

Given the degree of commingling observed in the Unknown Remains from the Camp Cabanatuan cemetery, it is possible that additional remains of Pvt KELDER may be identified in the future.



GREGORY E. BERG, PhD, D-ABFA
Anthropologist
DPAA Laboratory Manager

Approve/Disapprove



EDWARD A. REEDY, Ph.D., M.D. (D-ABP)
Captain, Medical Corps, U.S. Navy
Science Director
Defense POW/MIA Accounting Agency

5 Encls

1. Forensic Anthropology Report: CIL 2014-125-X-01; dtd 15 May 2015
2. Department of the Army; Armed Forces Medical Examiner System; MCMR-MED-DM (40-31a); Consultation Report On Contributor Material; KELDER, Arthur H. (BTB); CIL Case No. 2014-122; dtd FEB 05 2015

3. Department of the Army; Armed Forces Medical Examiner System; MCMR-MED-DM (40-31a); Consultation Report On Contributor Material; KELDER, Arthur H. (BTB); CIL Case No. 2014-125; dtd FEB 23 2015
4. Department of the Army; Armed Forces Medical Examiner System; MCMR-MED-DM (40-31a); Consultation Report On Contributor Material; KELDER, Arthur H. (BTB); CIL Case No. 2014-124; dtd MAY 07 2015
5. Relevant Personnel Records