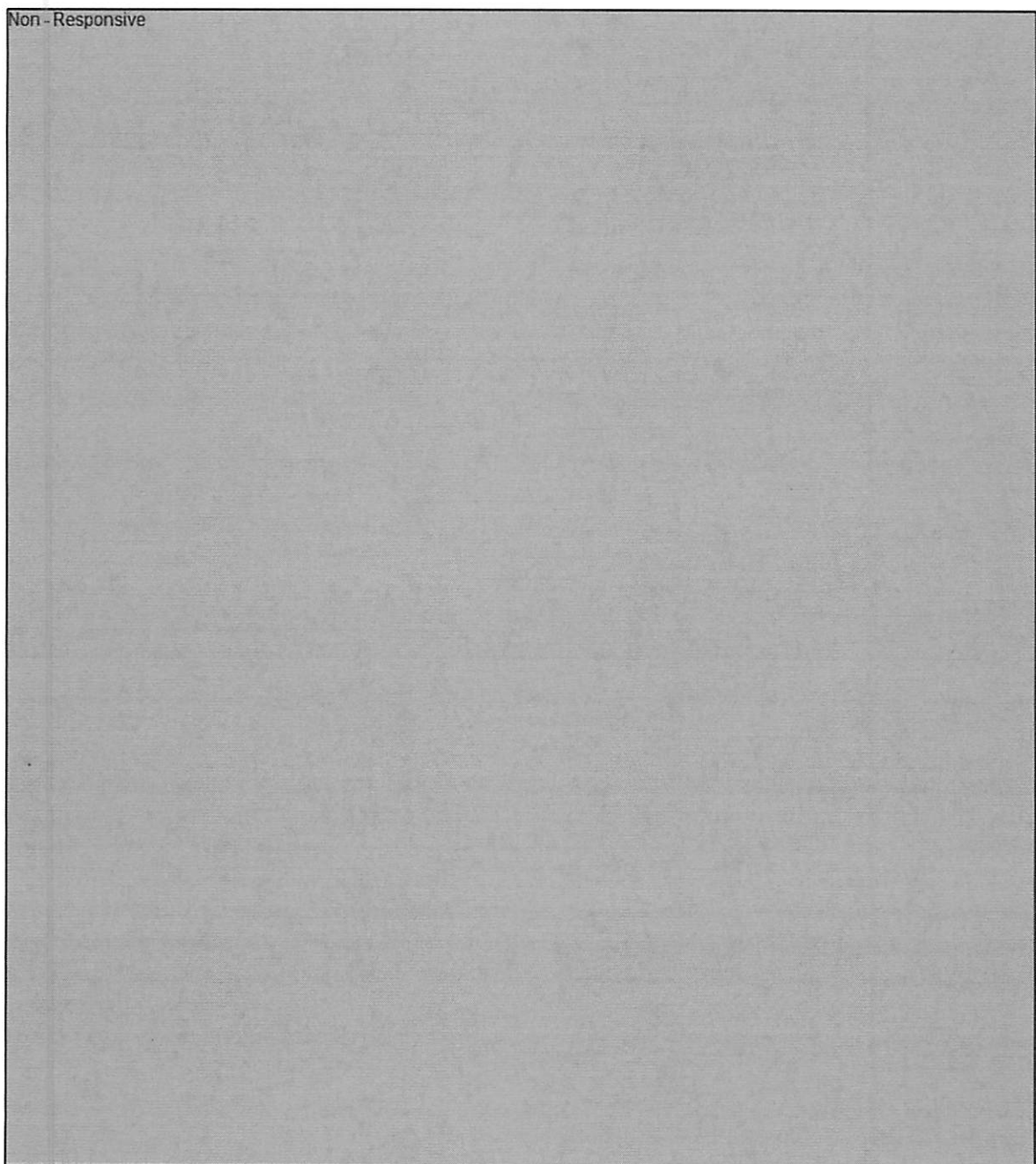


**A History Flight Excavation Report Detailing the Recovery of Captain Richard Vincent
from East Division Cemetery (Cemetery 33), Betio Island, Tarawa Atoll,
Republic of Kiribati**

Non-Responsive



Introduction

From February to December of 2013, History Flight teams conducted full time investigation and recovery operations on the island of Betio, in the Tarawa Atoll of the Republic of Kiribati (Figure 1). During this time period, History Flight teams excavated several thousand square meters of multiple recovery areas to incident-sterile soil. The average excavation depth of excavation reached was approximately 120 cm below surface (cmbs), with a maximum depth of 2.0 m below surface (mbs). On 15 December 2013, the History Flight Director suspended recovery operations and recommended continued excavation in 2014. Over 10,000 elements of human osseous remains, associated with U.S. burials, were recovered during the 2013 phase of the excavation project, along with over 1,000 pounds of associated U.S. Marine Corps related evidence and several hundred pounds of unexploded ordnance (UXO) associated with the recovered burials. On 22 August 2013, the afore mentioned human remains, possible material evidence, and a complete U.S.M.C. coffin burial (believed to be Captain Richard Vincent) were signed over to the Kiribati National Police pending transfer to (b)(6) of the Joint POW/MIA Accounting Command Central Identification Laboratory (JPAC-CIL). This report has been prepared to document the History Flight excavation process of the remains recovered from the East Division Cemetery (referred to from here on out as Cemetery 33) believed to be Captain Richard Vincent, in accordance with the collection and reporting standards established by the JPAC-CIL.

Case Background

This case involves the 20 November 1943 loss of one U.S. Marine, 1Lt. Richard W. Vincent (posthumously promoted to Captain), who was killed on the first day of Operation Galvanic; the U.S. Marine Assault of Betio Island, Tarawa Atoll. Operation Galvanic, the seizure of the Japanese held Gilbert Islands in November 1943, was the largest operation of the Pacific War to that date. Seventeen U.S. Naval carriers and hundreds of support ships delivered the Second Marine Division to the Tarawa Atoll. They captured the island in 76 hours from 5,000 Japanese Rikisentai and Korean slave laborers.¹ Between 1027² and 1266 U.S. Marines³ lost their lives in the invasion, and between 514 and 539 of them remain missing today⁴.

From the early 1950s to as recently as last month, the local population has accidentally disturbed and often discarded remains from these graves in construction activity and by the digging of trash pits⁵. For example, in 1963 a severe storm washed away a portion of the beach on Betio,

¹ "Mantle of Heroism" Michael Graham, Presidio Press, 1997. Graham, M.B. (1993) Mantel of Heroism: Tarawa and the Struggle for the Gilberts, November 1943. Presidio Press.

² "The Battle for Tarawa" Captain James Stockman, Historical Section, US Marine Corps, 1947.

³ "Tarawa 1944 Casualty List", Ray Emory, 2005.

⁴ JPAC and History Flight Tarawa MIA databases.

⁵ Interview with Former British Resident Commissioner on Tarawa, (b)(6) 2009. Personal communication with History Flight office manager (b)(6) January 2014.

revealing the grave of a U.S. Marine, Maurice Drucker (399370) and eleven others, including the ID tag of Tarawa MIA Orville Hutchinson⁶.

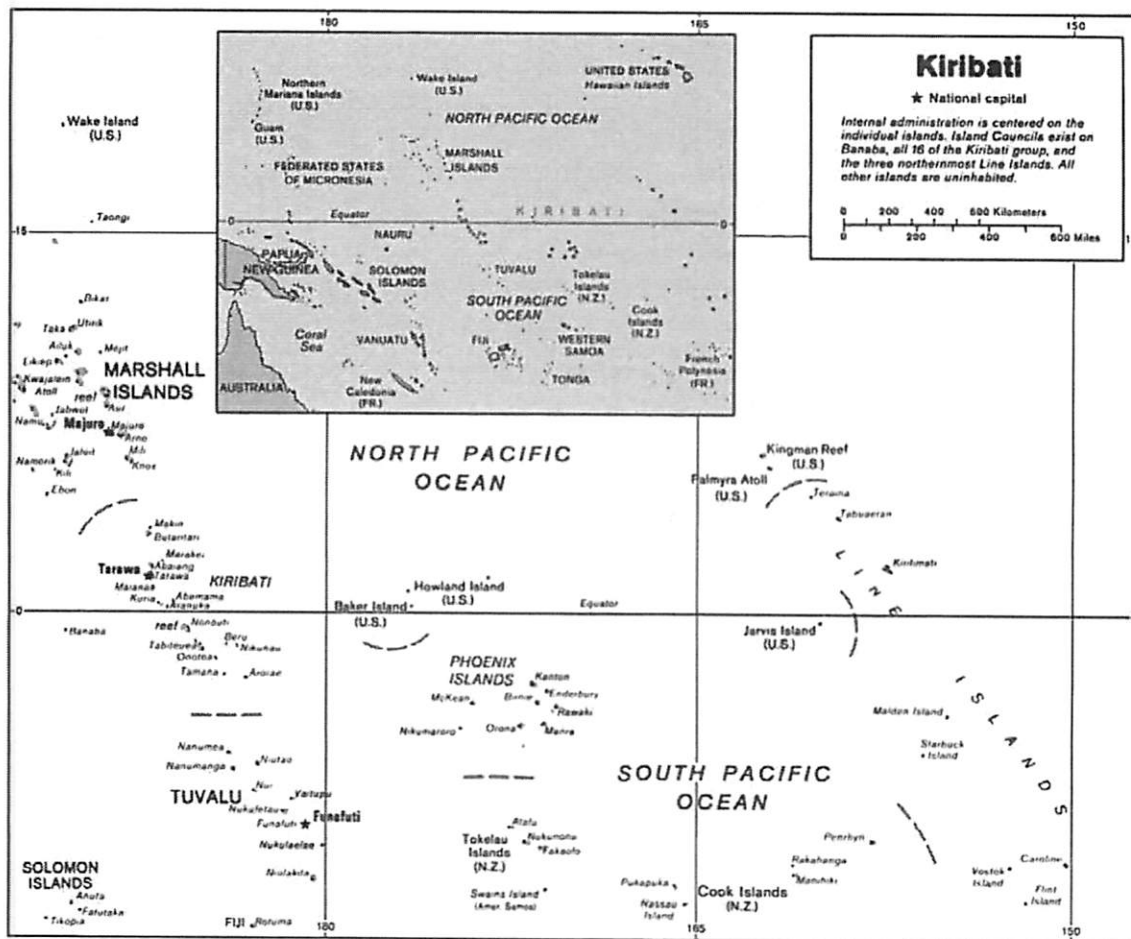


Figure 1. Tarawa Atoll, Republic of Kiribati

A minimum of 335 U.S. Service personnel remained buried on the island of Betio after the U.S. graves recovery effort was completed in 1948⁷. While this report is not meant to directly address the process of accounting for the deceased, it will, at points, discuss certain complexities of taphonomic processes that complicated the visual identification and recovery of casualties immediately post conflict. Captain Richard Vincent was a platoon leader in Delta Company of the 2nd Battalion of the legendary 18th Marines Pioneer regiment, whose members included (b)(6) and posthumous Congressional Medal of Honor awardees 1Lt. Alexander Bonnyman and Sgt. William Bordelon.

⁶ Letter from British Resident Commissioner, (b)(6) to British Consul Honolulu. 1964. IDPF file, Drucker, Maurice, 399370.

⁷ "The Lost Graves of Tarawa" Revision 5, (b)(6) 2014.

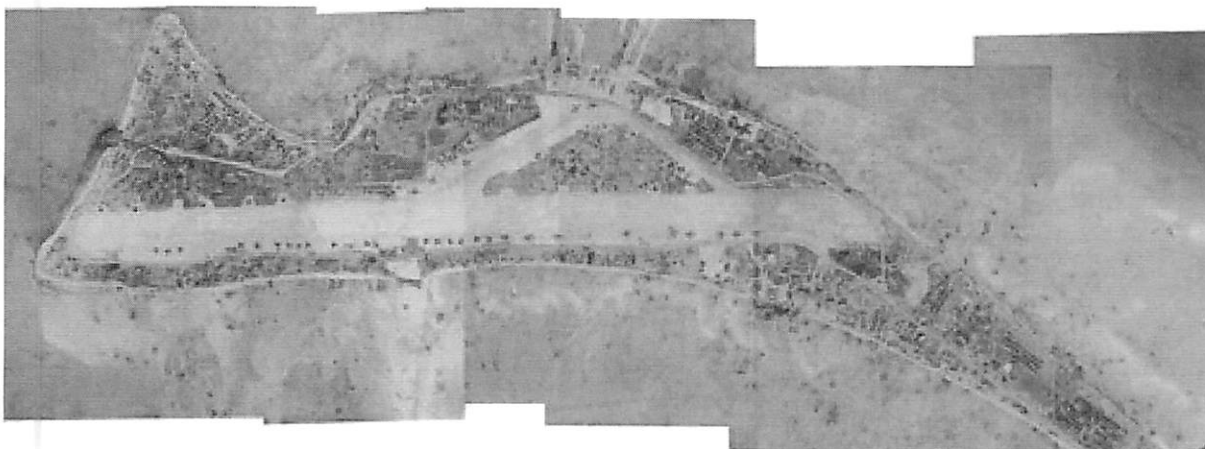


Figure 2. Betio Island after the battle during the reconstruction of the islands and graveyards phase.

Captain Vincent was in charge of a 31 man platoon of the 18th Marines that were attached to 3rd Battalion 2nd Regiment as the shore party for Red Beach 1⁸. Their platoon arrived in the third wave, and their Landing Vehicle Tracked (LVT) arrived on Betio Island at the intersection of Red Beach 1 and Red Beach 2. At that time, their LVT was struck by a large caliber naval artillery gun, which killed many of the occupants of the craft and caused an intense fire that killed all of those who were not able to escape the landing craft⁹. Captain Richard Vincent and eyewitness (b)(6) were able to exit the stricken craft. Only (b)(6) and two others of the thirty-one 18th Marines in the LVT survived¹⁰.

After the battle, (b)(6) led a group of 18th Regiment survivors through the beach head to find deceased members of their unit and bury them¹¹. Captain Richard Vincent was the first buried in a single row of fifteen 18th Marines casualties in a burial ground (Figure 3) they called the D-2-18 Cemetery¹². After the 18th Regiment shipped out of Tarawa, two more casualties were interred there, one of which was reported as 1Lt. Alexander Bonnyman¹³. Sergeant Mike McMasters recalled the scene:

“The first group of Marines were buried where they were found. The sites were marked with crude crosses with their names inscribed. The majority of the Marines were found on the beaches where they had come under withering fire those first three days. Men from our company began scouting the beaches and found about 15 from the first platoon, just yards from the beach where their amphibious tractor had lodged on a barbed wire barricade while attempting to reach the beach¹⁴.”

⁸ Interview with eyewitness, D-2-18 veteran (b)(6) May 2014.

⁹ IBID

¹⁰ IBID

¹¹ “We Buried Our Buddies” Charles Wysocki Jr. Trafford Publishing, 2008.

¹² Interview with D-2-18 veteran (b)(6) April 2011.

¹³ Second Battalion, 18th Regiment, Second Division, Deaths resulting from the Battle of Tarawa, Nov 43.”

¹⁴ Once a Marine, Always a Marine.”Sgt. Mike Masters, ISBN Number 87-91981, 1987.



Figure 3. The original D-2-18 Cemetery with their unit sign in front. Captain Vincent was on far left.

(b)(6) (Figure 4) read a eulogy over the grave site¹⁵ and a sign “D-2-18” was placed in front of the cemetery¹⁶. This cemetery, near the junction of Red Beach 1 and 2, was subsequently renamed Cemetery 20 by the Seabees during the reconstruction project, and, 1Lt. Alexander Bonneyman's reported burial location was changed to Cemetery 27.

It is important to note that most of the “reconstructed” cemetery burial lists are totally inaccurate. Equally important is the fact that many more burials were actually in the ground at some of the cemeteries, than were listed on the burial rosters of the reconstructed cemeteries. Cemetery 25, for example, had 66 men listed on its roster, yet 84 were recovered after the war and three more in 2012 by JPAC and History Flight. In Cemetery D-2-18 had 17 individuals listed as buried there, and 19 were recovered there after the war. In addition Capt. Richard Vincent was moved to the East Division Cemetery after being accidentally uncovered, making the total of 20 recovered from D-2-18¹⁷.

From January to March of 1944, the individual gravesites were “reconstructed and beautified” by the Naval Construction Battalions. Proper cemeteries, with inaccurate lists of the burial

¹⁵ “We Buried our Buddies” Charles Wysocki Jr. Trafford Publishing, 2008.

¹⁶ IBID

¹⁷ “The Lost Graves of Tarawa” Revision 5, 2014.



Figure 4. (b)(6) discussing the burial depth of the D-2-18 Cemetery with Tarawa D-2-18 veteran (b)(6) at the Second Marine Division WWII Days event in April of 2013.

population, were erected in the proximity of the actual burials, but not necessarily directly above the actual internments. During the cleanup of the island, and the “reconstruction” of the gravesites, many of the graves were accidentally disturbed by bulldozers and graders¹⁸. This is documented in the official history of the Navy’s Seabees rebuilding Tarawa:

“Literally every square foot of the island had to be cleaned, cleared and graded to begin with the installations and improvements. The grading was rendered hazardous by the buried mines and unexploded shells, as well as unpleasant by the decomposing bodies frequently uncovered. In the latter connection, Seabees were used extensively as burying details for both enemy and American dead¹⁹.”

Post-battle photos of the reconstruction show that the original grave markers were taken down and the grave sites were indeed run over with graders. The last two years of History Flight’s research and site excavations on Tarawa corroborates the photos in that a two inch thick subsurface layer of crushed coral rock has been found in many of the monument cemetery recovery areas. In addition to this, the crushed nature of Japanese burial #1 found during the Pfc.

¹⁸“Building the Navy’s bases in WWII, Official History of the Bureau of Yards and Docks and the civil engineer corps 1940-46. US Government Printing Office 1947.

¹⁹ “Building the Navy’s bases in WWII, Official History of the Bureau of Yards and Docks and the civil engineer corps 1940-46. US Government Printing Office 1947.

Randolph Allen recovery showed evidence of possibly being crushed by a heavy piece of earth moving equipment. Captain Richard Vincent was buried in a field expedient setting, in the D-2-18 cemetery; yet his remains, identification disc (and the arm of a second individual) were found in a properly built wooden coffin one meter south of East Division Cemetery Grave B, almost a mile away. It is highly likely that the Seabees accidentally uncovered Vincent and the arm of one other individual during reconstruction activity, and reburied them in a coffin just south of East Division Cemetery Grave B, before it was reconstructed and renamed Cemetery 33.

Recovery Scene Location

The recovery scene is located on Betio Island in the Tarawa Atoll of the Republic of Kiribati. On the island of Betio, the site is approximately 31 meters south of the main road on Betio that closely follows the course of the WWII road that was just south of the runway. The site is easily accessed from the main road and was designated by History Flight as "Alley A" during the planning for the geophysical inspection of the area. The recovery of Captain Richard Vincent occurred on the eastern edge of Alley A in units marked for provenience purposes as T13, T13a and T13b (where "T" designates a test trench). Alley "B" is the second dirt alley that runs perpendicular through the original monument cemetery and is depicted in figure 4.

It should also be noted that although remote sensing indicated there were burials present in Alley "B", they proved to be Japanese burials in the western half of the American monument Cemetery 33.

The mapping datum for the site was established by a professional surveyor, (b)(6) who established control points at the northern and eastern edges of the alleys and produced the AutoCad plan shown in the following map (Figure 5).

GPS coordinates were taken with a Lieca Geosystems GNSS GS 14 RTK GPS base station and rover, and locked into the local Betio survey grid with decimeter accuracy.

Following page:

Figure 5. Plan view map of C-33, Alley A and B, with GPR and cadaver dog alerts.

- 1 - N 149685.56
E 29079.90 Alley "B" Station 0+00
- 2 - N 149890.30
E 29121.45 Alley "A" Station 0+00
- 3 - N 149775.40
E 29111.47 Sly End of Alley "A"
- 4 - N 149775.79
E 29074.18 Sly End of Alley "B"
- 5 - N 149777.59
E 29097.34 Center of Sanitary Manhole
- 6 - N 149791.126
E 29040.0848 Center of Sanitary Manhole
- 7 - N 149819.5671
E 29032.7811 N.E. Corner Elec. Pedestal
- 8 - N 149831.3554
E 29030.2668 N.E. Corner Tele. Pedestal
- 9 - N 149869.7205
E 29029.2722 N.W. Corner Unit 4 Cemetery 33
- 10 - N 149869.5425
E 29064.2305 N.E. Corner Unit 4 Cemetery 33
- 11 - N 149855.7553
E 29058.7430 S.W. Corner Unit 4 Cemetery 33
- 12 - N 149853.0737
E 29048.1062 S.E. Corner Unit between "A" and "B"
- 9 - N 149867.0231
E 29098.7947 N.E. Corner Unit between "A" and "B"

Directions for re-establishment of C/L of Alley "B"

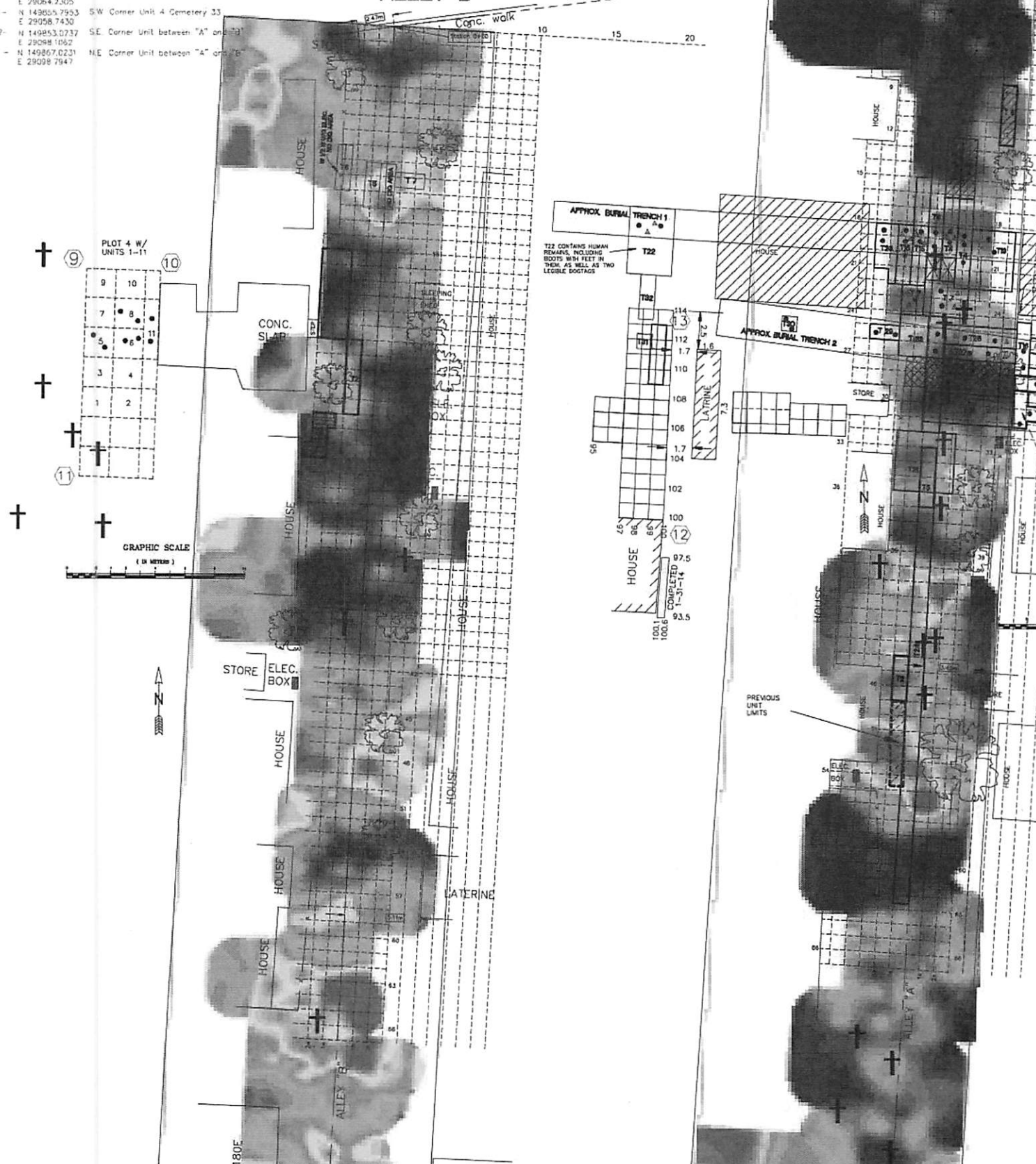
A 60d spike was set on the south edge of the concrete drive approach/back of walk and on it's centerline southerly. (This spike was removed in 2013 by construction.) This is Station 0+00 for the 1 meter grid used on this drawing. If the spike is missing, the position of the north end of the centerline we used can be re-created by using the 2.47 m dimension from the Northeast corner of the store at Station 0+0.5 West, and, the south end can be re-established by the 5.11 m dimension from the Southwest corner of the latrine at station 0+58.5 West. To re-establish the centerline of the grid, we hooked the zero end of a 100 meter tape and laid it out, down the centerline. In our case, we spray painted a "+" at each 10 m Station and developed our units from there.

Directions for re-establishment of C/L

A 60d spike was set on the south as drive approach/Back of walk to Alley centerline southerly. This is Station 0 grid used on this drawing. If the spike is missing, the position of the north end of the centerline we used can be re-created by using the 2.82 m dimension from the the conc. electrical box at Station 0+0.5 southerly and, the 3.45 m dimension from the NE corner of the Store located at Station 0+0.5 southerly. To re-establish the centerline of the grid, we hooked the zero end of a 100 meter tape and laid it out, down the centerline. In our case, we spray painted a "+" at each 10 m Station units from there.

ALLEY "B"

ALLEY "A"



Description of the recovery scene

The recovery scene is located in a densely populated government housing project approximately one meter south of Grave B of the East Division Cemetery. Many sections of the original East Division Cemetery Graves A-C are now covered with roads and housing (Figure 6). Due to the impending road paving project on Betio, the decision was made in late 2012 to excavate this area before Alley A was paved. Below the road surface, in-between the houses, and under pig sties; over 10,000 American remains (including those of Captain Richard Vincent) were recovered. Local residents and the local government were extremely helpful in gaining access to the sites and granting History Flight permissions to conduct the fieldwork.



Figure 6. Photograph of East Division Cemetery grave B and Captain Richard Vincent recovery area as it looks today.

Transdisciplinary Methodology Applied in Alley A and B of The East Division Cemetery/C-33

The first reconnaissance of this site by History Flight was accomplished in the fall of 2008. However a substantial part of the project area was underwater from heavy rains that rendered the area unsuitable for geophysical inspection. In February of 2011, a larger History Flight mission with two remote sensing teams, spent two weeks on the island surveying large, historically relevant, U.S. grave areas. (b)(6) was the first to introduce the usage of GIS into the Tarawa project, and the team was able to re-establish the four corners of the monument Cemetery 33. The team was also able to conduct geophysical inspection of alleys A and B as well as the smaller alleys and walkways that run between the houses in the project area. Several

of the houses were built on top of the graves. Using a GSSI 3000 Ground Penetrating Radar unit with a 250 MHz antenna, a calibrated survey wheel, and a RTK-GPS, the entire historically relevant area that was not covered over by housing was surveyed. Originally an EM-38 magnetometer survey was to be utilized, but it was found to not be suitable because of the large quantity of unground electrical current present from the local power grid. The Mayor of Betio later informed the History Flight Project that as many as seven people die of electrocution each month on Betio because of the ungrounded electrical problems they have on the island.

A cadaver dog named "Buster" and his handler (b)(6) also conducted a survey of the project area. Soil samples were collected and analyzed by (b)(6) at the Oak Ridge National Laboratory for the presence of chemical signatures unique only to human decomposition. All dog alerts and soil samples were plotted into the overall GIS overlay of the GPR data, on top of the 1945 aerial photo, and the UAV aerial photo mosaic generated by (b)(6) and (b)(6) (Figures 7 and 8). The correlations between the dog alerts, soil samples, GPR data, and photo mosaic proved to be very informative and useful in guiding excavation.

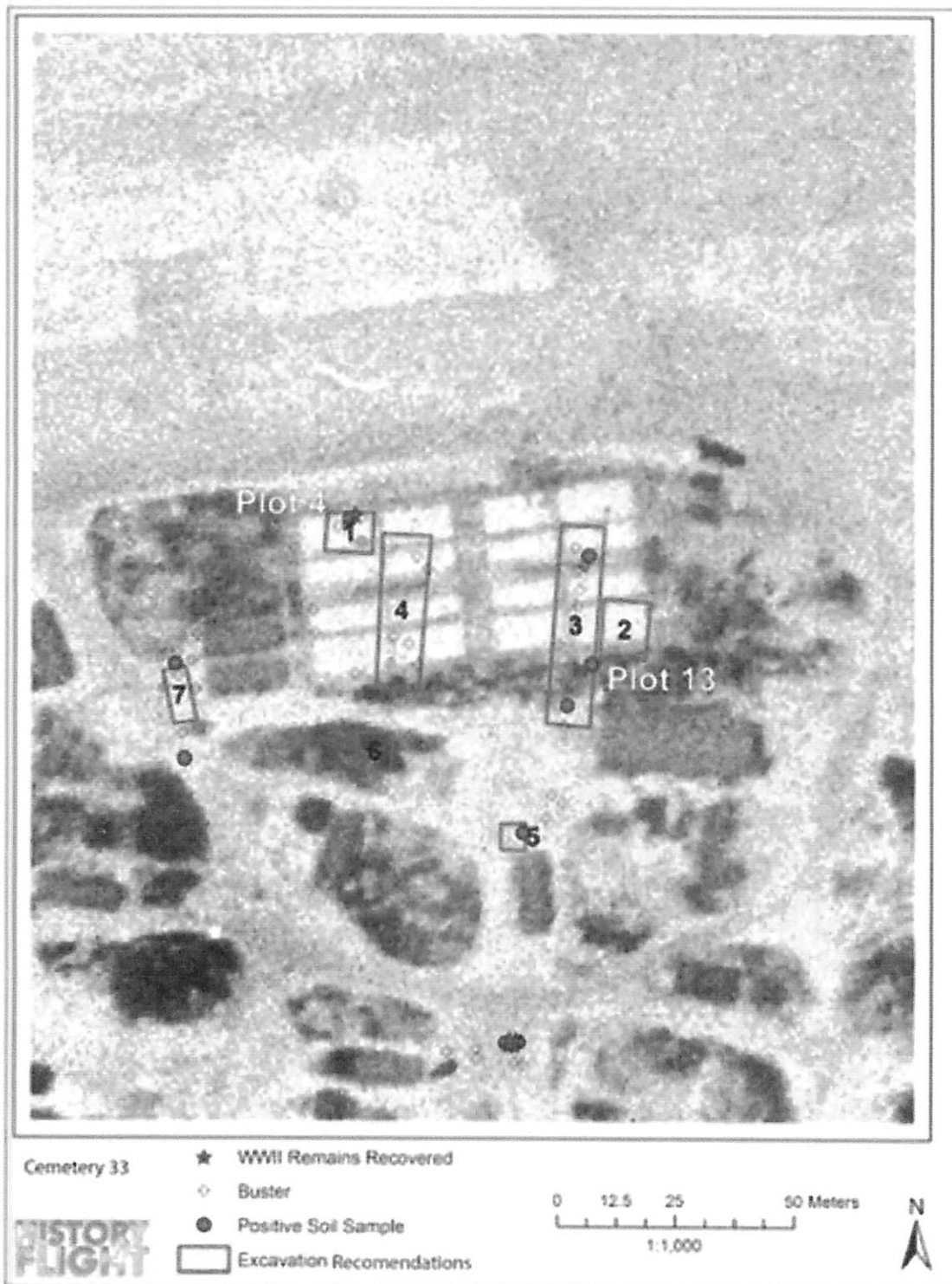


Figure 7. GIS overlay of Historic Cemetery 33 project areas with cadaver dog alerts and locations of soil samples that tested positive for the presence of chemicals indicative of human decomposition.

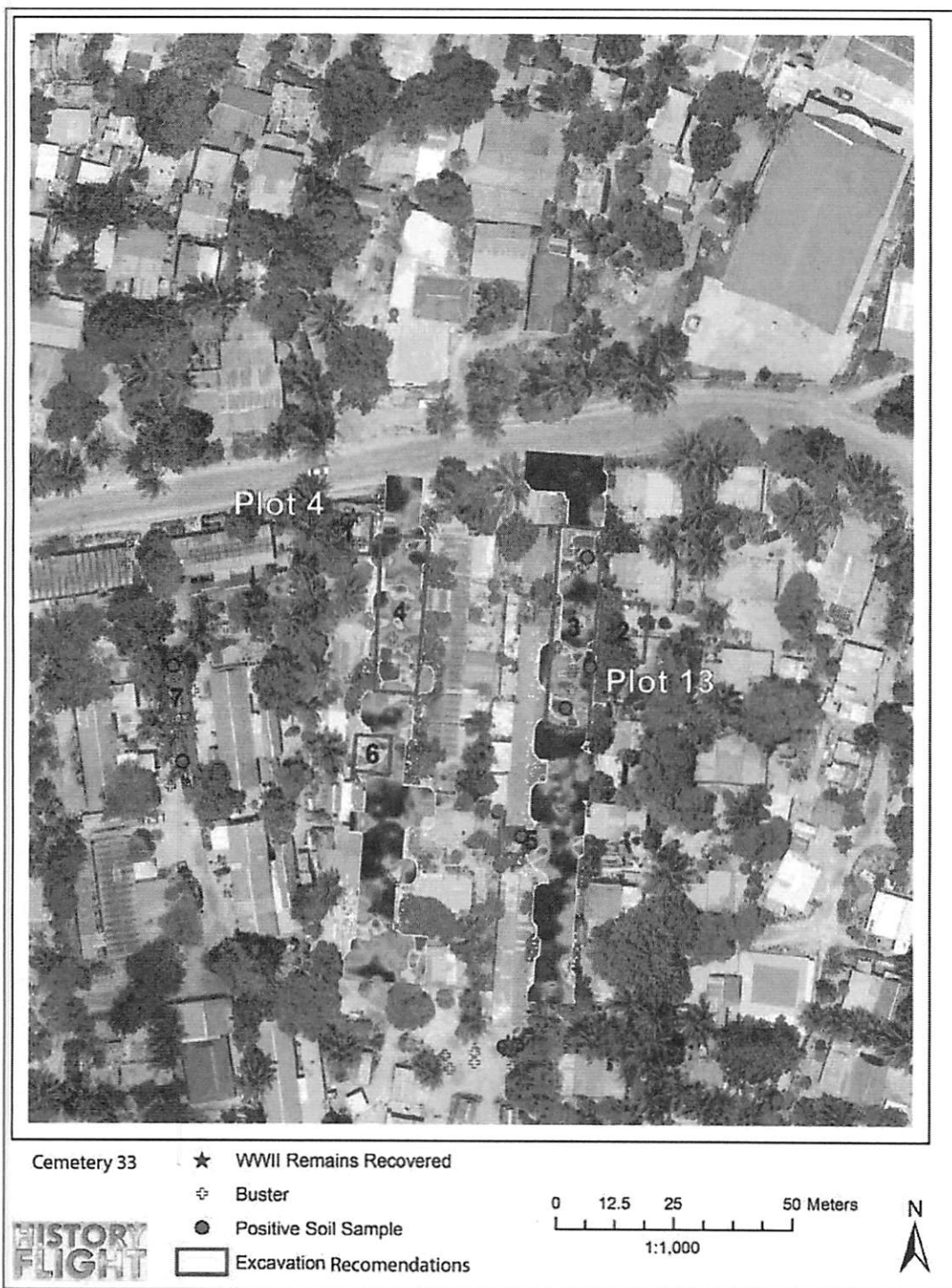


Figure 8. GIS overlay of today's Cemetery 33 area with GPR, dog and soil sample locations.

Data Processing Procedures

From the "Tarawa Trip Summary 2011" document prepared by History Flight, (b)(6) and (b)(6):

The initial data processing for this project involved the generation of amplitude GPR-Slice maps (Conyers 2004). Amplitude Slice-maps are a three-dimensional tool for viewing differences in reflected amplitudes across a given surface at various depths. Reflected radar amplitudes are of interest because they measure the degree of physical and chemical differences in the buried materials. Strong, or high amplitude reflections often indicate denser or differences in buried materials such as archaeological features or burials. Amplitude Slice-maps are generated through the comparison of reflected amplitudes between the reflections recorded in vertical profiles. In this method, amplitude variations, recorded as digital values, are analyzed at each location in a grid of many profiles where there is a reflection recorded. The amplitudes of all traces are compared to the amplitudes of all nearby traces along each profile. This database can then be "sliced" horizontally and displayed to show the variation in reflection amplitudes at a sequence of depths. The result is a map that not only shows amplitudes in a two-dimensional map view, but also the depth within the ground. Usually when this is done, changes in the soil related to disturbances such as archaeological or burial features are recorded, making many features visible to the human eye in a plan view that may not be visible in individual data profiles. For this project, this was done using the software program GPR-Slice.

From the original ".dzt files" (raw reflection data), a series of image files were created for cross-referencing to the amplitude slice-maps that were produced. Two-dimensional reflection profiles were also analyzed to determine the nature of the features identified on the amplitude slice-maps. The reflection profiles showed the geometry of the reflections, which can lead to insights into whether the radar energy is reflecting from a flat layer (seen as a distinct band on a profile), or a single object or burial (seen as a hyperbola in profile). Using these profiles to confirm or refute ideas about the nature of the buried materials seen in the three-dimensional slice maps, features of potential cultural interest were then delineated within the GPR survey areas (Figure 9).

The Cemetery 33 area was the largest and most complex area collected with GPR data. Because the majority of the historic area of interest is densely covered with modern housing, individual transects had to be collected wherever space allowed. These areas included the larger alleyways/roads, front yards, and in between housing. The Cemetery 33 area is also where the greatest number of potential burials have been identified. These possible burials are identified as distinct, strong hyperbolic reflections that occur at relatively consistent depths (Figure 10). Such hyperbolic reflections are consistent with those recorded at other sites on Betio where historic burials are likely to occur. It is acknowledged, and likely, that some of the interpreted burials are not burials, but reflections related to modern piping, sewer lines, or other subsurface disturbances. Preliminary integration of the GIS, GPR, and modern sewer location maps have already confirmed that some of these initial "hits" are related to sewer lines. The presence of modern sewer lines, however, cannot account for every hyperbolic reflection noted in this area. Based on the historic documentation that a large number of U.S. burials were unrecovered in this Cemetery 33 area (b)(6) personal communication), it is highly likely that a number of these reflections relate to burials. No doubt future efforts here can be aided by this type of post-processing where multiple lines of information are incorporated to refine interpretations and further focus on areas with the highest potential to yield unmarked burials.

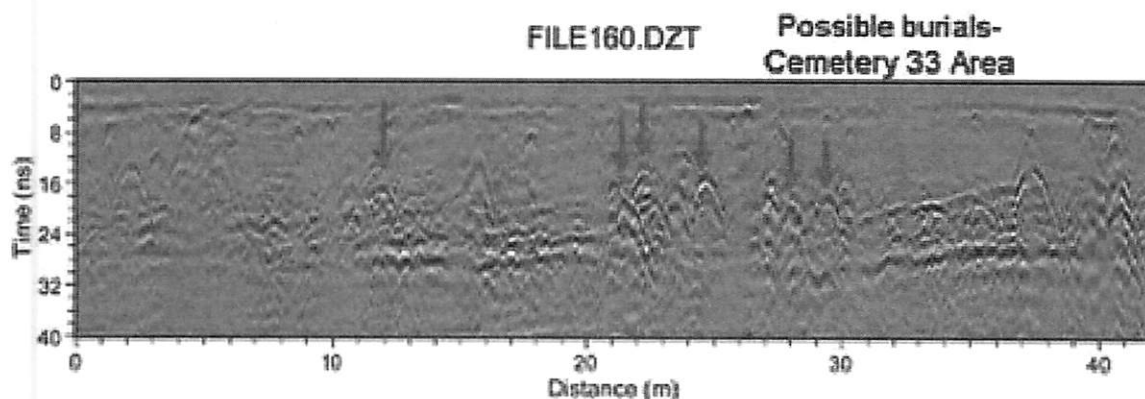


Figure 10. Example of reflection profile from the Cemetery 33 area (collected in one of the larger alleys/roads) showing the hyperbolic reflections from American burials in Cemetery 33.

Three possible burial trenches were found in Alley A by means of a systematic geophysical inspection and cadaver dog survey. Where separate lines of remote sensing evidence concurred, excavations were conducted that yielded positive results based upon the remote sensing data collected by (b)(6) and Buster. The first trench was located just south of monument cemetery 33 and was excavated in March of 2013. It proved to clearly be a WWII trench, however its physical evidence revealed it was trench used as a latrine and not a burial trench. The next two trenches found in Alley A, proved to be U.S. burial trenches, containing the remains of U.S. servicemen, U.S.M.C. military equipment, U.S.M.C. identification tags and unexploded ordnance. A third American burial trench was found in this vicinity in Jan of 2014. Names on U.S. identification media recovered in these trenches verified that they are East Division Cemetery Graves A, B, and C (that were later renamed Cemetery 33). Row D has yet to be found.

Once the burial trenches were excavated, the History Flight Director, (b)(6) instructed Team leader (b)(6) and Recovery leader (b)(6) to widen the scope of the excavation to the east. This was done in order to define the boundaries of the burial area, to find undisturbed burials that might have been unrecovered by the AGRS in 1946, and to follow the remote sensing data that showed additional burials to the east. These excavations proved that the East Division Cemetery Grave B had been disturbed by an Australian Government sewer project which had installed a sewer line right through the middle of the burial row in 1977. Highly disturbed human remains, American military equipment, local trash, Australian coins and beer cans from the 1970s were found here. Fortunately the sewer excavations narrowly missed the coffin burial containing the remains of Captain Richard Vincent by a margin of 50 cm.

Excavation Procedures

While re-writing the History Flight archaeological SOP, (b)(6) wrote:

Upon arrival at a recovery scene it is first necessary to obtain permission from the closest inhabitants of the area as a cultural courtesy. History Flight has permission from the necessary

government authorities, but to maintain the goodwill of the general population individual permission must be obtained from the head of the relevant household. Then the inhabitants are questioned to determine if there are utilities in the area and to inquire if any residents might have additional information regarding the location of any human remains. Most residents have at least a basic knowledge of the locations of their utilities and if there might be remains present in the general area.

A 1-x-1-m grid system is then aligned over the project area using a Brunton compass (or equivalent device), tape measures, and triangulation techniques. If there is trash or vegetation in the project area it is documented before removal and construction of the archaeological grid. Depending on the size and scope of recovery area, an appropriate unit size will be determined by the anthropologist and team leader. The first 10-15 cms of compact soil is typically removed and visually inspected for WWII related materials unless there is evidence of disturbance (i.e. trash pits or pig rooting) that might have brought remains and incident related materials closer to the surface. After the first compact layer of soil is removed, all sediments beneath this layer are screened through 1/4 inch wire mesh by field-trained History Flight employees who collect incident related materials. Excavation then proceeds by hand according to stratigraphic levels by applying shovel skimming. Typical excavation is conducted using low-impact hand tools such as shovels, trowels, brushes, and small wooden or plastic tools which are used around human remains. The use of metal tools in proximity to human remains is restricted to trowels, and when a burial feature or osseous material is encountered only brushes and trowels are utilized. Field notes are recorded on a regular basis by the on-site History Flight archaeologist, and photo-documentation of the excavation is performed on a systematic basis. Once an archaeological unit has reached incident sterile soil, a final metal detector sweep is usually conducted to insure that incident-sterile soil had been reached and was devoid of any military ordnance or artifacts.

All articulated and even disturbed human remains are pedestaled *in situ*, photo-documented, and mapped prior to their removal. Remains are handled with surgical gloves at all times during the excavation and removal process, as well as during the cleaning and processing phase. After the remains are properly documented, conservation protocols of the remains and their provenience is maintained at all times. Excavated remains are then transferred from the site to the secure Betio History Flight facility in paper bags with the provenience information recorded. The standardized use of paper bags helps to ensure that materials dry slowly and remains are not crushed when transported. Frequently when remains are recovered they are extremely wet and waterlogged so slow-drying is often necessary to prevent them from crumbling. However upon exposure to air, other remains not in the water table and higher in the soil stratigraphy tend to dry too quickly, result in potential physical distortion and cracking. To prevent this, these types of remains were covered with plastic while *in situ* and transferred in plastic sample bags to prevent over-drying. Due to the extremely fragile nature of some of the osteological material, some elements are pedestaled, undercut and sealed in aluminum foil for transport and later cleaning at the History Flight facility. Material evidence potentially associated with each individual is documented *in situ* and curated to determine possible associations which could aid in the identification process.

Collected materials, human remains, and possible material evidence are curated and kept in the possession of History Flight personnel at all times until transfer to History Flight's secure, climate controlled facility. The materials are cleaned and stored at this facility until they were ready for transfer to JPAC personnel. Prior to transfer, the remains are cleaned, stabilized as

needed, photographed, re-bagged, and packaged securely for transport in locked Pelican cases. A Chain of Custody is implemented according to the protocols established by the U.S. National Institute of Justice. The Kiribati National Police approved and oversaw the transfer of remains from the History Flight facilities to JPAC custody.

Standard operating procedures regarding leaving excavation areas open overnight are to cover the unit(s) with plastic and/or tarpaulin, and maintaining a security guard during off-duty hours. The excavation area perimeter should be enclosed by plastic "Caution" tape at all times to keep on-lookers at a safe distance. Frequently excavation areas can have anywhere from 5 to 25 on-lookers which requires keeping the crowd at a safe distance for security reasons, project efficiency, and to maintain site integrity. Fortunately, there were no security violations or problems that were encountered during the excavations.

On the island of Betio, WWII UXO is practically ubiquitous. A U.S. military trained explosive ordnance disposal (EOD) technician was part of the History Flight Research Team and available to assist with any potential UXO hazards. Any UXO encountered was treated with the appropriate protocols and then transported to the local Kiribati National Police storage facility.

At the conclusion of the excavation, when all soils with the potential to yield human remains and possible material evidence were excavated and screened, the excavation area was back-filled using the same screened sediments. No excavated area was left open after the recovery process.

Archaeological Findings

In the summer field season of 2013, (b)(6) and a team from Lindenwood University conducted excavation activities in the vicinity of where Cemetery 33 was originally located. During this time period, the team began excavating the historic burial trenches from 1943 that had been located using a combination of remote sensing techniques (GPR, GIS, and cadaver dog surveys) previously described in this report. In this case, the areas where the remote sensing data concurred were primary targets for excavation. The excavation units were numbered in chronological order upon execution. On 26 June 2013, (b)(6) and his team were continuing to their excavation activity in an east/west trending side-alley identified as Alley A2E. The side alley runs east from Alley A and is the second side-alley off Alley A, south of the main road. One of the first positive discoveries that confirmed the remote sensing data consisted of several white-painted wooden crosses. In the disturbed burial trenches, numerous white-painted wooden crosses were recovered that had been used in the monument cemetery. The crosses still possessed legible names, but these names did not correspond to the individuals or the actual burial rows. These wooden crosses were discarded by American Graves Registration Services (AGRS) and reburied within the burial trenches after AGRS had moved the contents of Cemetery 33 to Lone Palm Cemetery on the other side of the island. However when AGRS had attempted to move the contents of Cemetery 33 to Lone Palm Cemetery thousands of human remains, personal effects, U.S.M.C. gear, and even whole individuals were missed and left behind in the Cemetery 33 area. These human remains and material evidence have been recovered by the History Flight Teams from several different areas of Cemetery 33, and a detailed description of those trenches is the focus of a separate report.

The excavation units designated as Trenches 12 and 13 were dug parallel to the 1943 burial

trench and excavation units Trenches 10 and 11, immediately to the south, to ground truth the collected remote sensing data. The alley designated as Alley A2E is not frequently used by vehicles, but had been impacted many times by utilities such as a sewer line, garden hoses (which often pass as water supply pipes to houses), telephone lines, and electrical lines.

Excavation of Trench 13 started one meter west of Trench 12, along the same transect, with the beginning dimension of 1-x-4-m east to west. Excavation was conducted from east to west using picks and shovels. During this excavation process it was first necessary to remove the compact (although not paved) alley road bed that comprised the first 10-15 cm. No WWII related materials were observed within the road bed, and after this depth, excavation was conducted using shovels and trowels. At approximately 15-20 cmbs, the first human remains and WWII related materials (documented as a variety of spent and unspent ammunition) were encountered in the upper strata of Trench 13. In the western end of Trench 13, in an area about 1-x-1-m, a higher concentration of human remains were observed. To ascertain the limits and distribution of the remains, Trench 13 was expanded one meter to the south and 1-x-2-m to the north. At this point, all four sides of a rectangular stain were observed, that were consistent with the decayed wood walls of a coffin (Figure 11). While certain materials preserve well in the sands of Tarawa, it has been documented by History Flight that most organic material such as leather, wood, or cotton materials usually do not preserve in this environment. Wood from the time period in question is frequently only observed as a dark linear stain with small fragments of wood infrequently preserved. (b)(6) labeled this coffin feature and the contents as Trench h 13, Burial 1.



Figure 11. Coffin burial initial exposure (trowel indicates north).



The survival and preservation of Burial 1, was extremely fortunate because previously discussed utility lines had missed the burial and were less than 20 cm away. In close proximity to Burial 1 there were two electrical lines 20 cm to the west, a large diameter sewer line and two telephone lines 50 cm to the north, and additional electrical lines less 20 cm to the south.

Burial 1 in Trench 13, was slowly uncovered, and it was noted that the head of the burial was to the south, in close proximity to a residence fence and a cement electrical box. Upon excavation it was possible to see all four vertical sides of the coffin as stains in the soil (Figure 10), and some wood was also visible, but deteriorated upon contact. Coffin nails were found at the top of the coffin wall stains, all the way around the coffin (lid area,) and again at the bottom of the coffin where the bottom should have been. However, the crew found no evidence of the actual lid or bottom other than the securing nails. When the wood decomposed, the nails were left in situ. They were duly documented and collected upon discovery. The contents of Burial 1 appeared to be complete and mostly articulated. The remains of the individual were supine with both arms extended above the head, with forearms slightly folded across the top of the crania. The left leg appeared to be bent across the pelvic region, and the left boot (containing the remains of the left foot) was separated from the left distal tibia and fibula of the leg. The mandible appeared to have become disarticulated post-mortem. It was no longer articulated with the crania, but was documented slightly anterior to the clavicles and sternum. Based upon the position of the limbs and the separation of the left foot from the leg, it appears that this burial is not the original burial, and that the remains were mostly decomposed at the time of placement into the coffin. In the field, the left foot showed no immediate signs of trauma that would be associated with it being forcibly separated from the leg (Figure 12). This might suggest that normal decomposition allowed for its separation at the time the body was placed in the coffin or during transportation to the burial location.

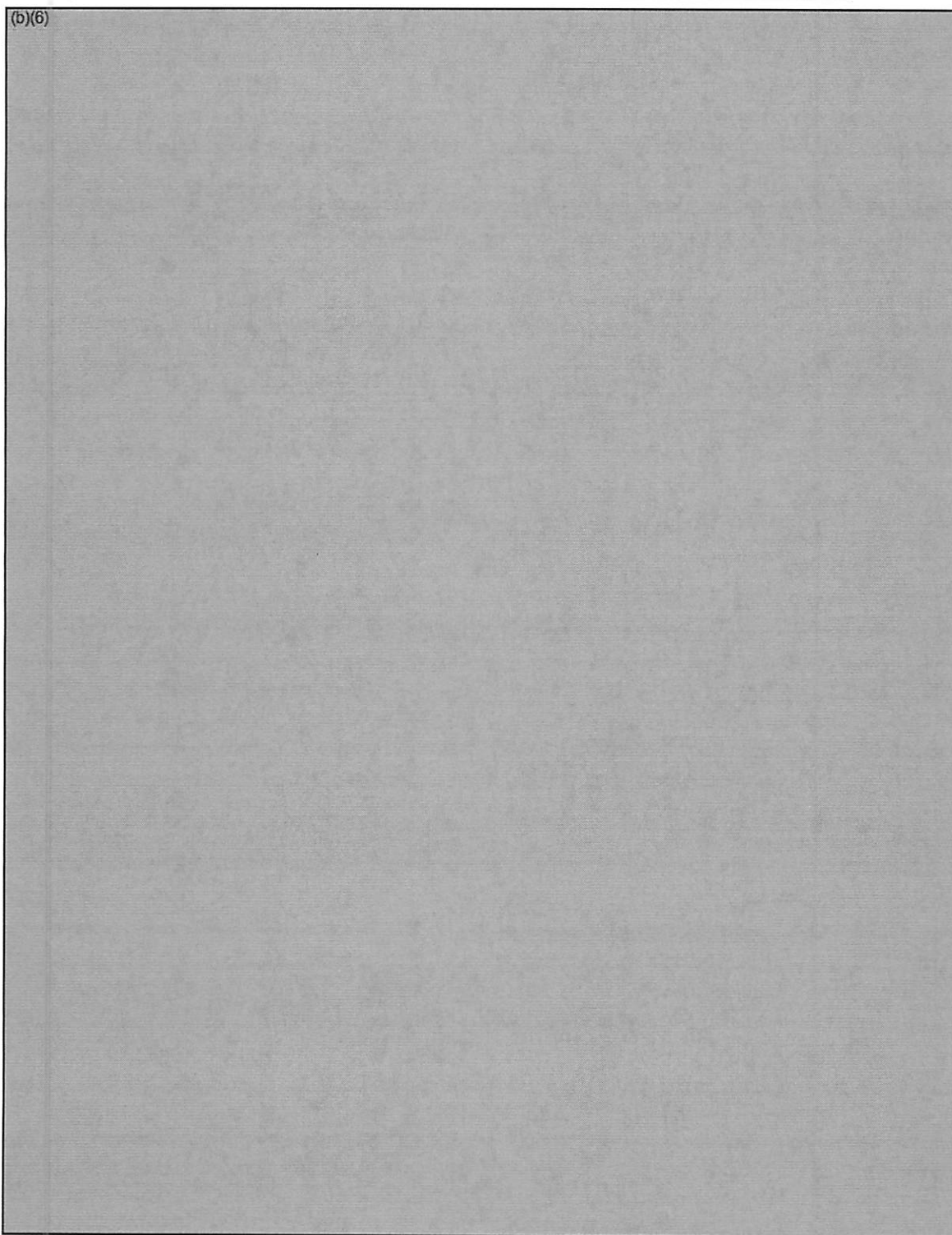


Figure 12. Photograph of Captain Richard Vincent's coffin burial exposure before recovery to the lab for fine screening and analysis.

The human remains contained within the coffin included one complete skeleton and the partial arm of another individual. It is possible that this additional limb was included in the coffin unbeknownst to the burial detail which collected the body. Some remains had staining which appears to be the result of both the oxidation of metals associated with a uniform and/or ammunition. Stains on the remains were either greenish from copper fasteners or brass cartridge cases, or black in the areas where the leather and/or rubber accouterments rested. Other materials in association with the remains included U.S.M.C. uniform equipment and green fabric. The leather material was restricted to the area around and just below the pelvic region. An accumulation of decomposed organic material prevented the crew from exposing the remains for normal photography. At the time of the excavation, (b)(6) and his team took measures to preserve this organic material for analysis and collected the organic material along with the bones with which they were in contact. The crew also recovered numerous buttons, buckles, grommets, and other metal items associated with a uniform and accouterments. All sediment associated with the coffin feature was collected and later screened through wire mesh in a controlled environment. During the screening process, two Japanese projectiles and several buttons and fastener elements were recovered. One identification tag (Figures 13a and 13b) was recovered during excavation from the general region of the mandible and clavicles; however the identification tag was illegible due to corrosion when it was first recovered. The tag was later professionally cleaned by the History Flight staff and yielded the name of the officer. Ammunition from a handgun (.45 caliber) and the remains of what appeared to be a leather belt were also consistent with the fact that the individual might be an officer or aviator.

To fully expose the coffin to its base, (b)(6) team excavated to a depth of 50 cmbs, and the overall depth of the burial ranged from 20-50 cmbs. The remainder of Trench 13 was excavated to a total overall depth of 100 cmbs. Once Burial 1 and the associated materials were fully excavated and removed, the team continued to excavate for another 50 cm to ensure that sterile soil was reached. No other materials were recovered from underneath the coffin feature of Burial 1.



13a



13b

Figure 13a and 13b. Identification tag of Captain Richard Vincent before (13a) and after (13b) restoration.

Anthropological findings

At the conclusion of the excavation process, the remains believed to be Captain Richard Vincent were given a preliminary field analysis after being washed with bottled water and allowed to dry in a secure, air-conditioned environment. While it was possible to determine in a field setting that the remains were in fact of U.S. origins, the actual identity based off the identification tags could only be considered speculative. To obtain a more positive identification from the remains, the teeth from the mandible (Figure 14) were compared to the antemortem dental records (Figure 15) of the name association (Captain Richard Vincent). The teeth of the maxilla were not intact due to the collapse of the coffin during its decay and subsequent crushing of the skull. The following description of the dental remains has been made by the author from gross visual inspection, described using the Universal notation system (Nelson 2009), and is not meant to represent the findings of an actual odontologist.

Teeth No. 17 through 32:

Teeth No. 18-20 have amalgam restorations that are consistent with antemortem dental records.

Tooth No. 21 is missing and gross visual inspection of the socket showed that it was clean and lacked any residue in the socket walls or in the area of the root apex. There was no boney growth or remodeling observed and the sharp clean edges all indicate that this tooth was lost post-mortem.

Teeth No. 22 and 23 were present and accounted for and do not contain any restorations which is consistent with the antemortem dental records.

Tooth No. 24 is missing and gross visual inspection of the socket showed that it was clean and lacked any residue in the socket walls or in the area of the root apex. There was no boney growth or remodeling observed and the sharp clean edges all indicate that this tooth was lost post-mortem.

12b

Teeth No. 25-28 are present and accounted for and do not contain any restorations which is consistent with the antemortem dental records.

Teeth No. 29-32 are present and accounted for and do not contain any restorations which is consistent with the antemortem dental records.

Teeth No. 17 and 32 are un-erupted wisdom teeth and No. 17 could have easily been misidentified as an extraction as was common in this era.

(b)(6)



Figure 14. Mandible from burial recovery believed to be Captain Richard Vincent.

Non-Responsive

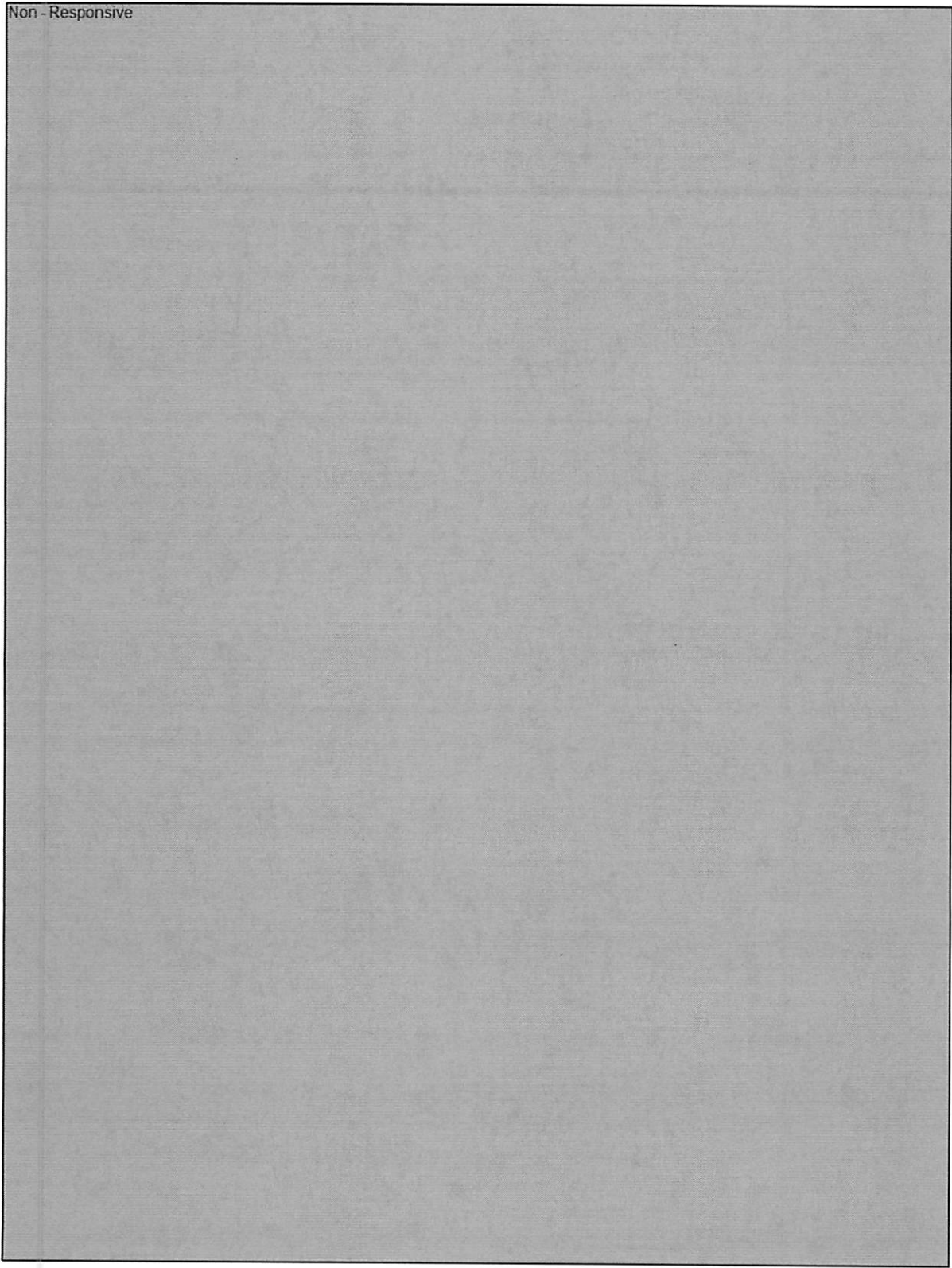


Figure 15. Antemortem Dental Chart of Captain Richard Vincent.

Overall there are six restorations present that correspond to the antemortem dental records of Captain Richard Vincent's mandible. There is an excellent match between the remains seen in Figure 13 and the antemortem dental records from Captain Richard Vincent (Figure 15). Due to the limited time frame available, a full anthropological report or biological profile was not produced and no reconstructions were attempted of the upper row of teeth. An inventory of the remains was created, and the appropriate corresponding photographs were taken. The following additional photographs (Figures 16 through 20), document the material evidence recovered in association with the burial believed to be Captain Richard Vincent.

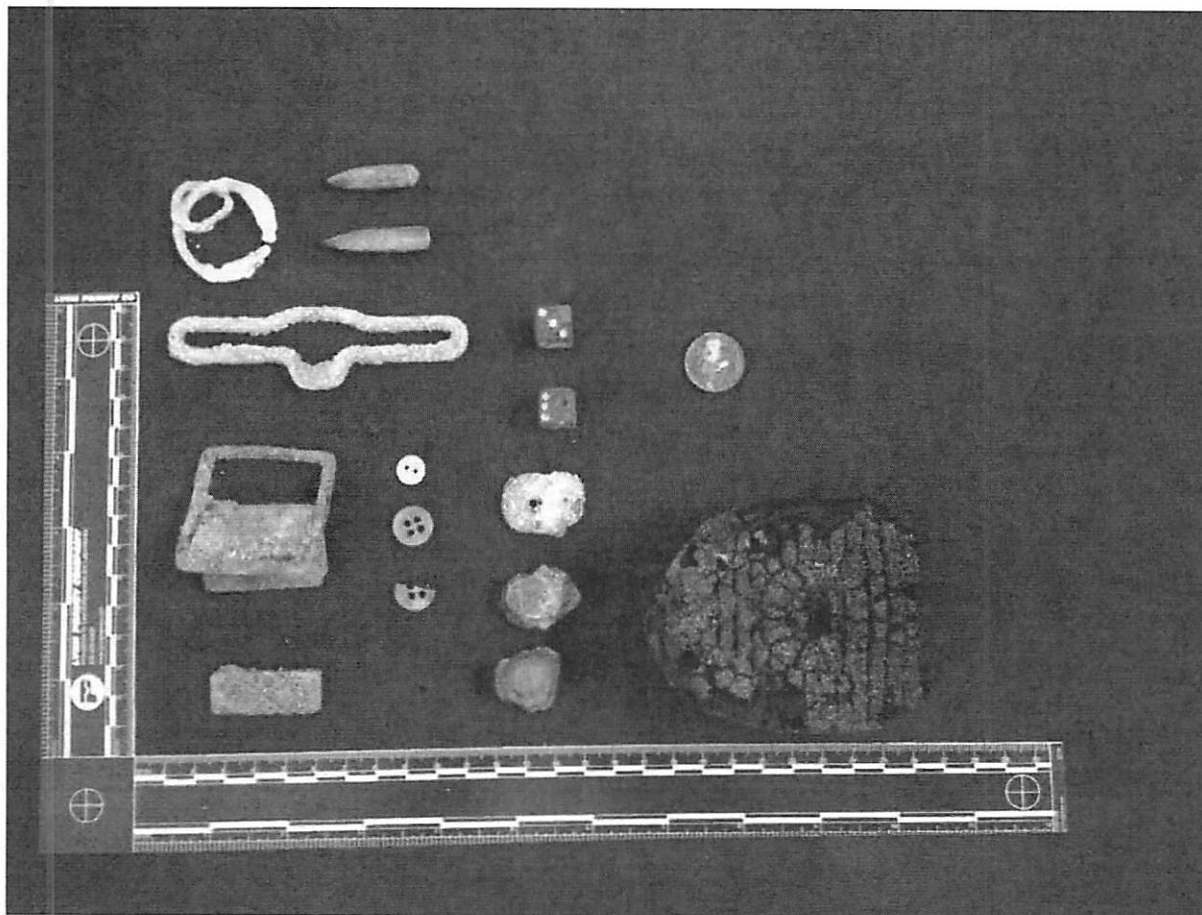


Figure 16. Material evidence recovered with Captain Richard Vincent. U.S.M.C. buttons, 782 gear and load bearing equipment, a U.S.M.C. belt buckle and tab, a buffalo head nickel, two expended Japanese 7.7 mm bullets, a "Cord" boot heel and a pair of dice.

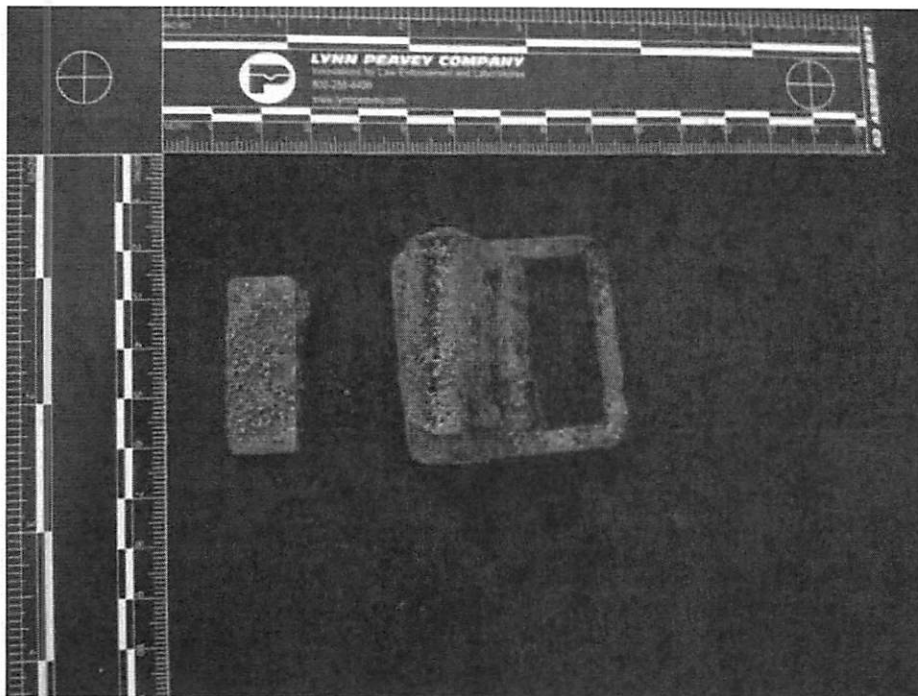


Figure 17. U.S.M.C. belt buckle and tab.

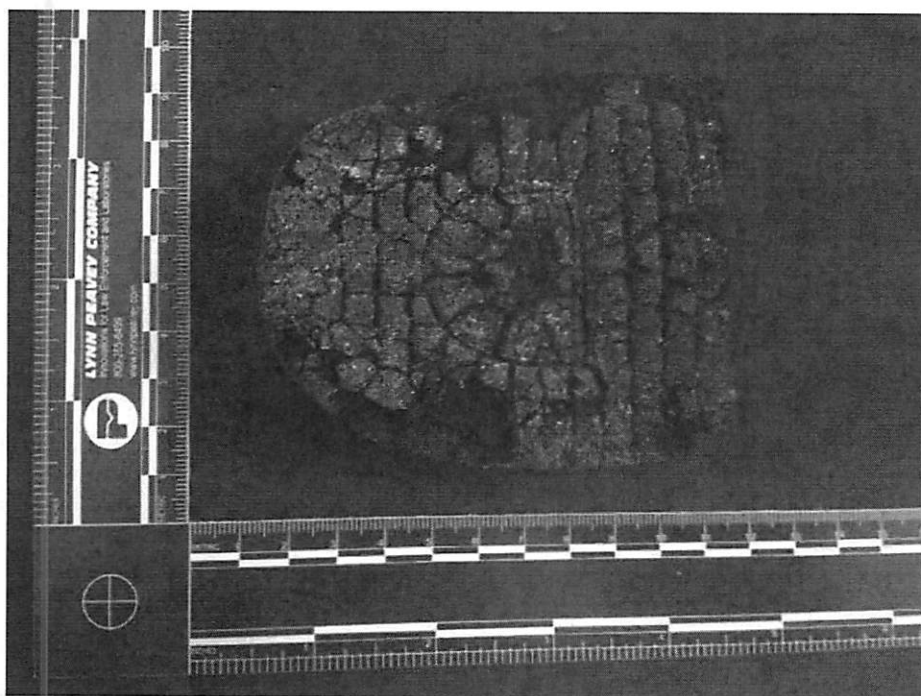


Figure 18. U.S.M.C. "Cord" boot heel.

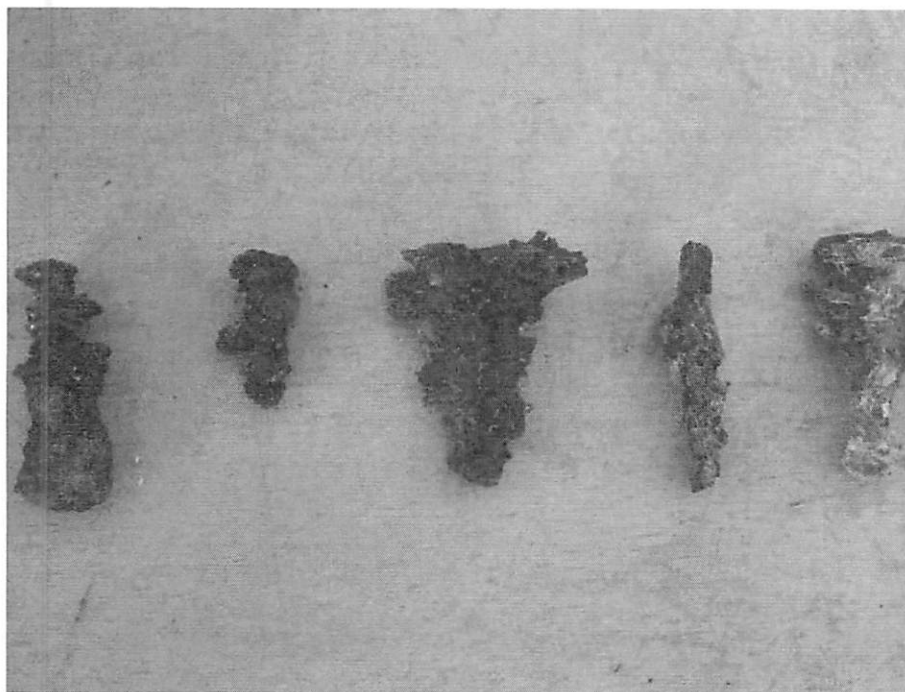


Figure 19 . Coffin nails from excavation.



Figure 20. Fired Japanese bullets recovered with burial.

Conclusion

During the calendar year of 2013, History Flight excavation teams recovered over 10,000 elements of U.S. osseous material that represent a minimum number of 70 individuals from the Island of Betio, Tarawa Atoll. On 26 June 2013 a History Flight excavation team conducted excavation operations within the confines of the U.S. East Division Cemetery/C-33 area and recovered numerous human remains associated with U.S. Marine Corps period equipment and a intact burial with one complete individual (also containing one additional arm, U.S.M.C. equipment, two expended Japanese bullets and a U.S. 1942 identification tag). The identification tag is inscribed with the following:

Vincent, R
BT-AB P
T-7-43
USMC

The remains recovered on 26 June 2013 are believed to be of U.S. origin because they were directly associated with U.S. equipment, and they were recovered 1 meter south of the historically relevant East Division Cemetery, row B. The individual recovered from within the coffin is believed to be Captain Richard Vincent because of the internment style, the U.S. material evidence within the burial context, Captain Richard Vincent's identification tags, and dental characteristics that appear to match Captain Richard Vincent's antemortem dental records. In addition to this, Captain Vincent was recovered with two expended Japanese bullets, and his cause of death is listed as "Gunshot Wounds." The remains of Captain Vincent were recovered in the center of Area 2 of the Excavation Recommendations Document. Human remains were found at 100% of the sites recommended in the History Flight document. These remains were turned over to the Kiribati National Police on 22 August 2013, and the associated material evidence was turned over to (b)(6) of the JPAC-CIL in September of 2013.

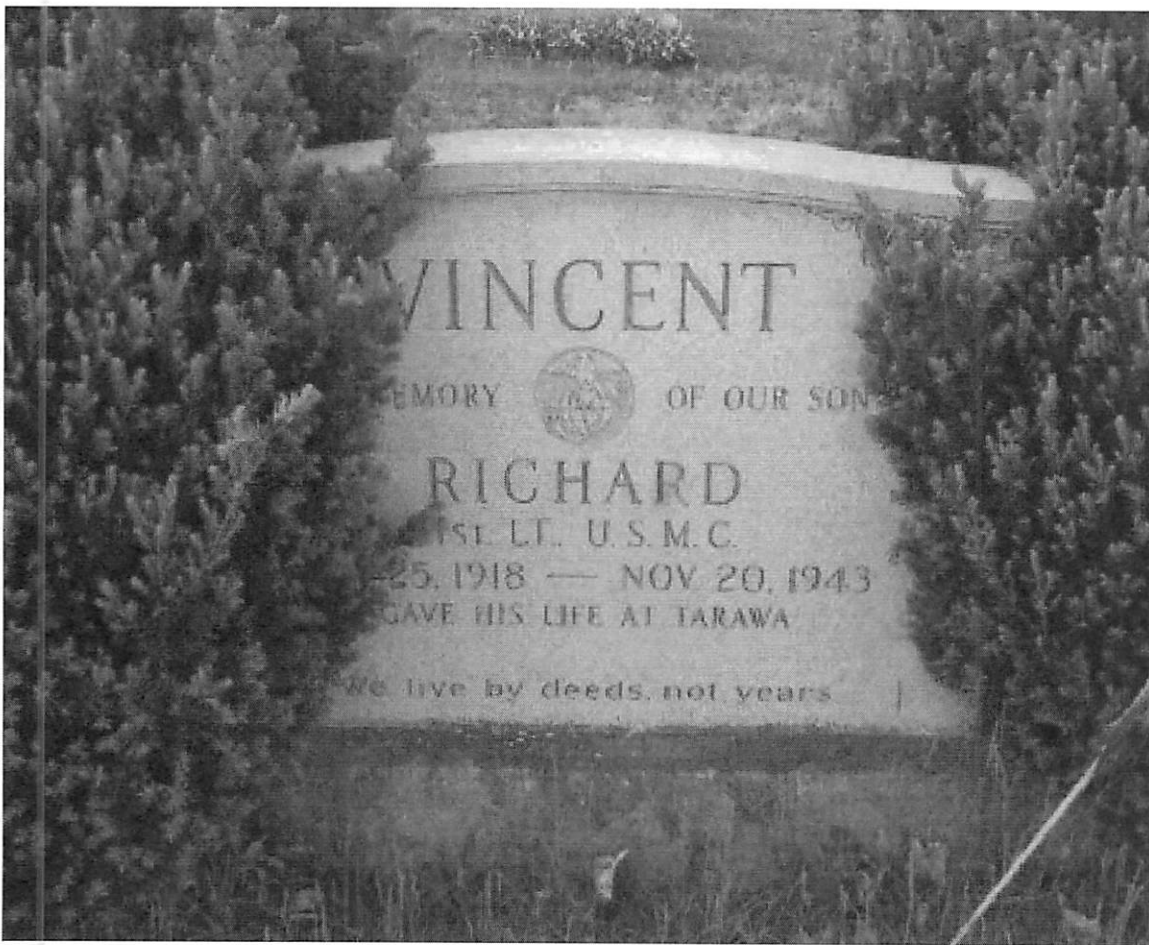


Figure 21. Memorial for Captain Richard Vincent next to his parent's grave in Westover, Massachusetts.

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2011 History Flight Tarawa Team

(b)(6)

2013 Captain Richard Vincent recovery Team

(b)(6)