Report of Investigations CIL 2007-113-R, a Ground Loss Site Associated with JPAC Incident 235, Iwo Jima, Tokyo Prefecture, Japan, 17 Through 26 June 2007

by

(b)(6)

Joint POW/MIA Accounting Command
Central Identification Laboratory
310 Worchester Avenue
Hickam AFB, HI 96853-5530

10 August 2007

TABLE OF CONTENTS

FIGURES

Report of Investigations CIL 2007-113-R, a Ground Loss Site Associated with JPAC Incident 235, Iwo Jima, Tokyo Prefecture, Japan, 17 Through 26 June 2007

JPAC CENTRAL IDENTIFICATION LABORATORY

10 August 2007

INTRODUCTION

From 17 through 26 June 2007, during 07-01JA, a ground loss associated with JPAC Incident 235 (WWII-235) was investigated on Iwo Jima, Tokyo Prefecture, Japan. The Investigation Team (IT) surveyed the hill and surrounding areas where the loss incident was reported to have occurred. Topographic features possibly relating to the loss location were identified and recorded. Information on the former Japanese defensive positions in the area was investigated for accuracy. In addition, information was passed onto the IT regarding search and recovery missions conducted by the Association of Iwo Jima/Ministry of Health, Labor and Welfare.

No possible human remains or material evidence was recovered during 07-01JA. However, the IT did locate two areas where possible buried tunnel entrances may be. Furthermore, the Anthropologist believes it is feasible to conduct limited mechanical excavation with the aim of uncovering any buried tunnel/bunker features within the suspected loss area. A Recovery Team (RT) or possible enhanced IT should be able to complete investigation of the suspected area within a normal JPAC deployment period.

An additional activity that should be considered would be to send a Research and Investigation Team to Iwo Jima. There are several sources of written material as well as individuals on the island that have information concerning Japanese recovery operations and knowledge of war-time Japanese defensive positions that could be useful to any future JPAC missions. Continued communications and negotiations with the Japanese authorities and concerned parties to allow and possibly assist with all these processes are recommended.

BACKGROUND

JPAC Incident 235 involves the 4 March 1944 ground loss of Sgt William H. Genaust, USMC. Sgt Genaust was seen at a cave entrance and is believed to have been struck down from inside the cave by machine gun fire. The cave was subsequently sealed during the fighting, presumably with Sgt Genaust's remains still inside. Sgt Genaust was not among the casualties recovered by the Search and Recovery Teams operating on the island after the battle and he remains unaccounted for (REF: J2 Investigation Lead Report for Sgt Genaust, USMC, KIA on Iwo Jima and Unaccounted For, undtd).

RECOVERY SCENE LOCATION

Iwo Jima is part of the Ogasawara archipelago (also known as the Bonin Islands) and lies approximately 1200 km south of Tokyo, Japan (Figure 1). The island is administered as part of Tokyo Prefecture. There are no permanent residents living on Iwo Jima, but the Japanese Self-Defense Force (JSDF) operates a naval base and airfield on the island with approximately 400 JSDF members.

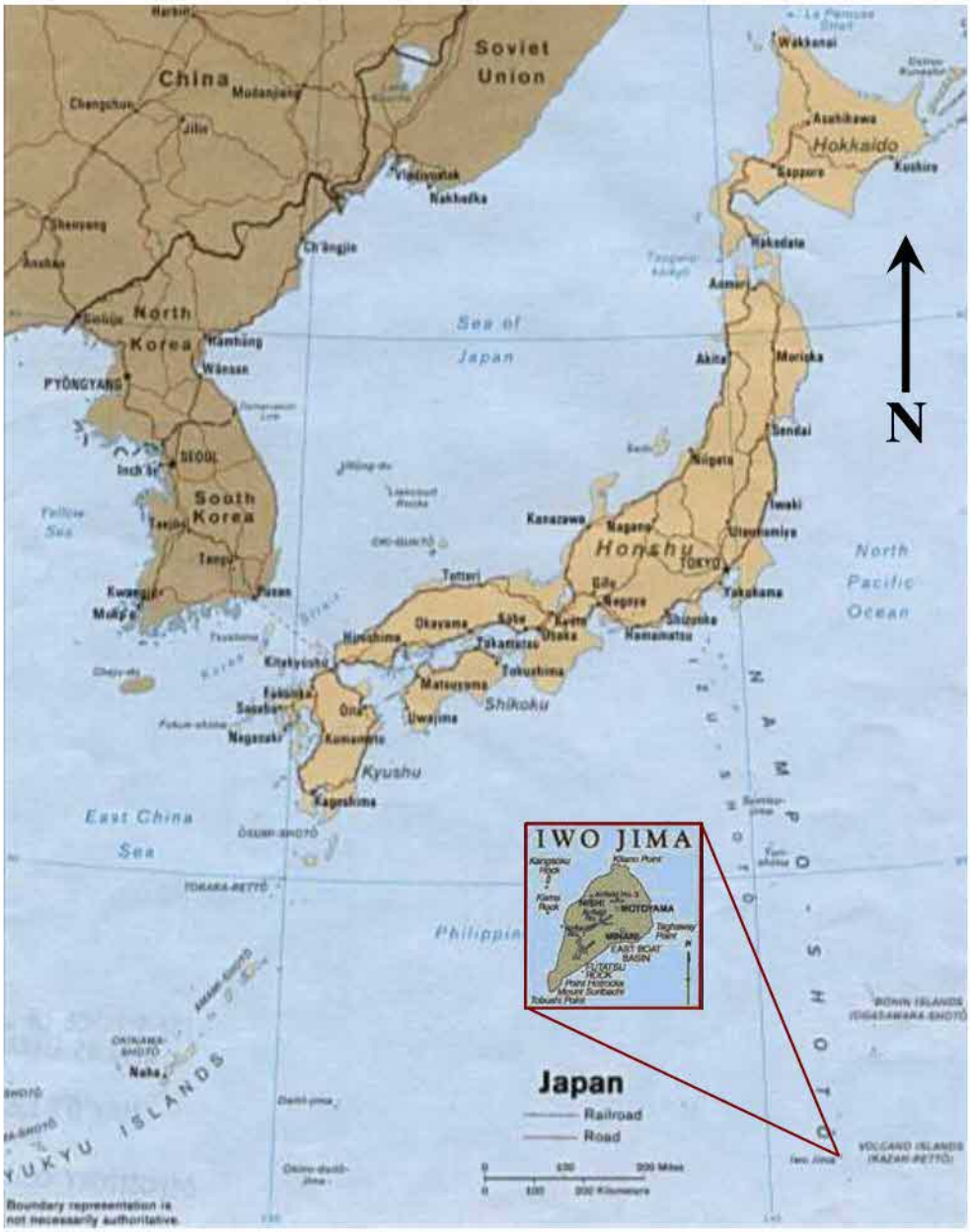

Figure 1. General location of Iwo Jima.

The investigation focused on Hill 362A and its immediate surrounding areas. Hill 362A is located approximately 1000 m due north of the western end of the Iwo Jima airfield (Figure 2). Military Grid Reference System (MGRS) grid coordinates recorded near the western side of the hill with a Garmin GPSmap 60CS Global Positioning System (GPS) using the WGS-84 datum and tracking six satellites are 54R WN 31472 41888 (+/- 10 m) with an elevation of 94 m. Map name: Title: Iwō-Jima; Sheet: Special map; Series: W811; Edition: 3-AMS (AFFE); Datum: Astronomic Station Beacon E (1945); Scale: 1:12,500.

Figure 2. Location of Hill 362A on Iwo Jima.

Access to Hill 362A is easiest from the east by way of an old paved road, part of an abandoned airstrip complex. A Japanese battle memorial marker (marker number 58 in Japanese) denotes the approach point to the hill used by the IT (Figure 3). The marker is located at MGRS 54R WN 31661 41733 +/- 6 m tracking 10 satellites (WGS-84). The roads and hill are accessible to any vehicle, and wide enough to allow construction machinery. Hill 362A begins a few hundred meters north of the memorial marker.

Figure 3. Japanese battle memorial marker No. 58 denotes point of access to Hill 362A. Hill 362A is pictured right center, the IT storage shelter is left center. View north.

DESCRIPTION OF INVESTIGATION SCENE

Hill 362A (Figure 4) is a pyroclastic formation with an inclining slope from the southern side that ends at a high cliff drop off on the north side. A cliff wall on the western side increases in height from south to north with the slope until it reaches approximately 11 m high near its northern extent. A second detached pyroclastic formation, much smaller in size but just as tall, is immediately to the west of the main portion of Hill 362A, creating a narrow, high walled gorge between the two formations (Figure 5). This gorge is approximately 6 m wide at its narrowest point. Several tunnel systems have been dug into both cliff faces within the gorge. A larger ravine is present in the northwestern corner of the hill which houses at least two more tunnel

entrances. The southern portion of Hill 362A contains several smaller ravines, often lined with loose stone and boulders.

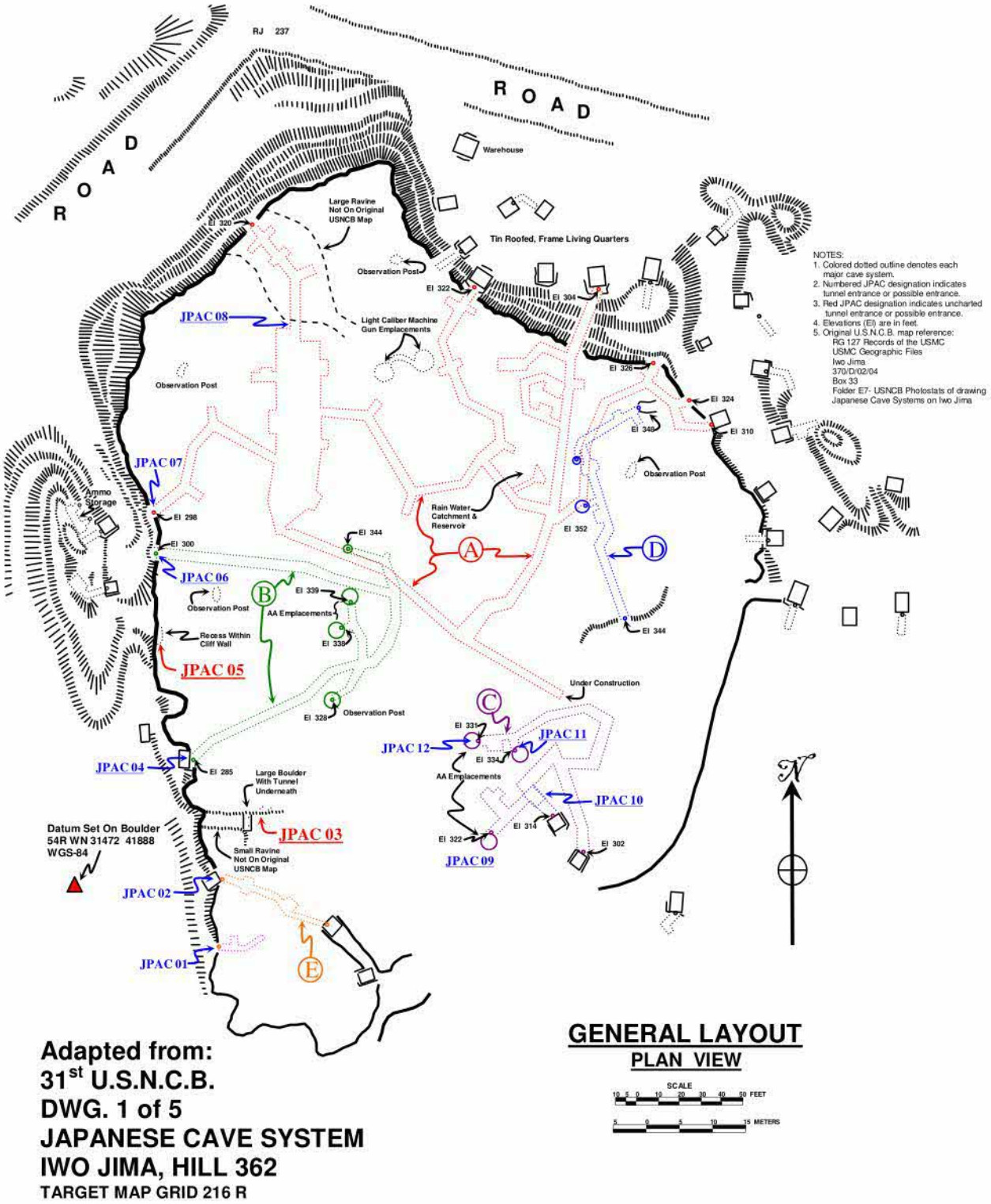

Figure 4. Plan view of Hill 362A.

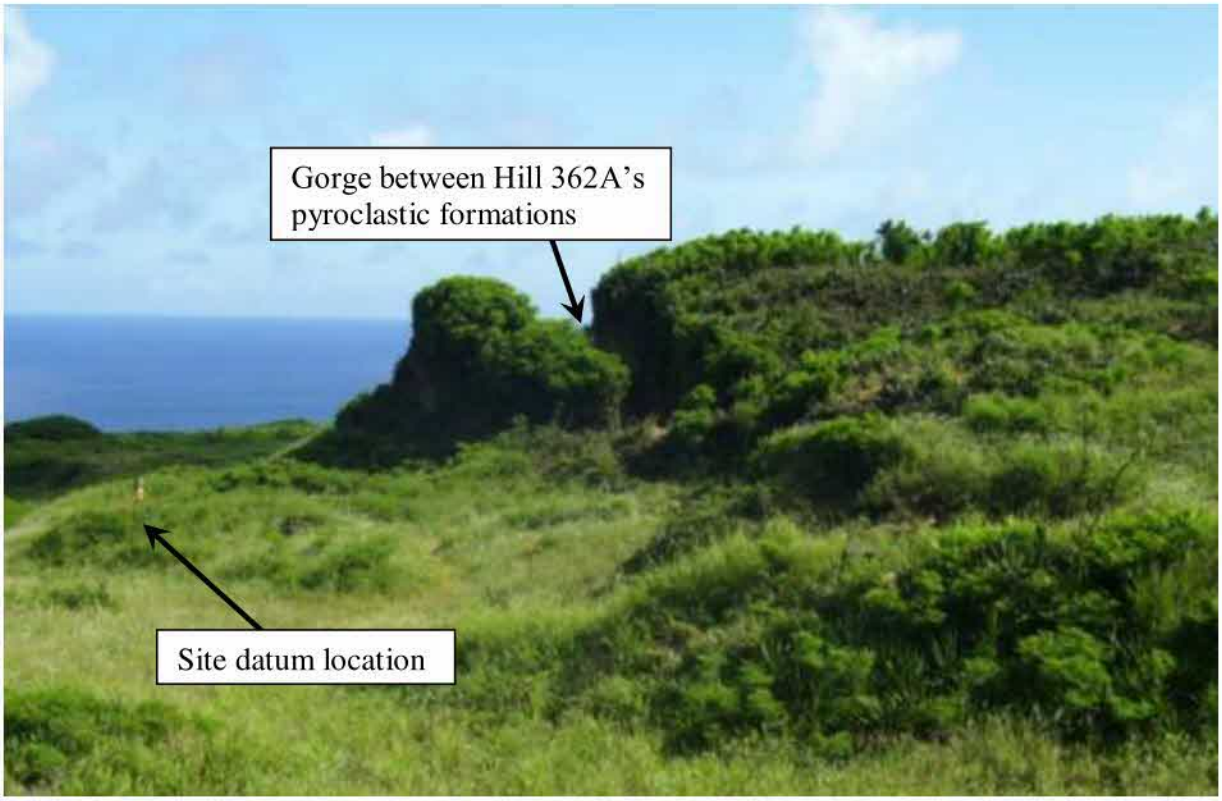

Figure 5. West side of Hill 362A showing detached pyroclastic formation on left side and high walled gorge. View north-northeast.

The stone of Hill 362A is tuff, a soft and porous fusion of volcanic ash with a consistency much like sandstone. The stone is light in weight and easy to dig into or fracture. Talus-like slopes are present in several locations along the base of the hill's cliffs. These slopes are likely a combination of erosion of the cliffs (talus), spoil as a result of digging of the tunnels, shelling and bombing of the area, and possibly activities relating to the sealing of tunnels during combat (explosives/bulldozers).

As Figure 5 demonstrates, the area around and on Hill 362A is covered in thick vegetation. This vegetation consists of small to medium size deciduous trees, large broad leaf cactus-type plants, and grasses. Machetes were needed to cut down the vegetation in order to travel around and on the hill. The ends of the broad leaves on the cactus-like plants are very sharp preventing movment through them without first cutting them down. It was also discovered that many wasps build their nests under the cactus leaves and do not enjoy being disturbed.

Numerous ridges, all with similar ravines and cliffs, surrond Hill 362A. The majority of these ridges form smaller cliffs than those seen on Hill 362A, however, they also contain numerous tunnel/fighting positions. Several areas near Hill 362A have been visibly altered to support airfield activities. The road used to access the site is part of the former airfield and there are several concrete pads visible to the southwest and south of the hill. However, none of these construction activites directly impacted Hill 362A.

FIELD METHODS

During 07-01JA the IT had three investigation goals. First, the IT wished to locate Hill 362A and verify the accuracy of the 31st United States Navy Construction Battalion (U.S.N.C.B.) maps made after the battle which detail the known tunnel systems within the hill. Second, the IT would survey the southwest quadrant of Hill 362A and attempt to locate any additional tunnel entrances not recorded on the U.S.N.C.B. maps that could correlate to the loss incident. If time permitted the survey would be expanded to the surrounding areas. Finally, the IT wanted to ascertain the quality and level of Japanese cooperation and material support available on the island to assist in possible future recovery operations.

Locating Hill 362A was not an issue as it is a well known landmark on Iwo Jima. Members of the Japanese Self Defense Force (J.S.D.F.) and civilian support stationed on the island are well aware of the hill's location and provided the IT with an aerial photograph of it (now stored in the case file). In Japanese the hill is named Osaka Yama (mountain) and all Japanese maps consulted referenced the hill as such.

As Hill 362A was covered with dense vegetation the IT spent the first days clearing portions of the hill and surrounding areas with machetes. A pedestrian survey was conducted in conjunction with the clearing activities. Metal detection survey was not systematically conducted over the cleared areas due to the ubiquitous ordnance fragments found everywhere on the island and the density of the undergrowth. However, if a previously concealed cave/tunnel system should be discovered the metal detector would likely prove a useful tool searching the soil within.

The topography of Hill 362A, some of the surrounding features, and a number of identified tunnels were compared with the post battle U.S.N.C.B. maps. A number of open tunnel entrances were located along the western cliff of the hill and the distances between them were measured using a tape measure. These distances were compared to the distances recorded on U.S.N.C.B. map Drawing 1 of 5, Japanese Cave System, Iwo Jima, Hill 362A (31st U.S.N.C.B. undtd). In addition, limited exploration and measurements within the tunnels was conducted to ensure positive correlation with the U.S.N.C.B. maps. The U.S.N.C.B. Drawing 1 of 5 map was found to be an accurate representative of Hill 362A's external and internal features. While some discrepancies do exist between the hills' features and the U.S.N.C.B. map, they do not negatively impact the focus area of the hill or affect the investigation's conclusions. The U.S.N.C.B. Drawing 1 of 5 map was considered a good platform to build upon and additional findings and information sourced during 07-01JA have been added to it (Figure 4). Any significant inconsistencies and additions to map are discussed below in the Investigation Findings section.

A total station was used to survey the western cliff face of Hill 362A. However, due to time constraints, thick covering vegetation, and some technical problems, the data were not transformed into a map for this report. The total station data recorded would only cover a portion of the west side of the hill, and not include any of the interior features. As described above, building upon the U.S.N.C.B. Drawing 1 of 5 map was considered a more accurate representation of what the IT saw and accomplished than using the incomplete total station data.

The tunnels displayed on the U.S.N.C.B. maps were not considered as possible locations for the remains of Sgt Genaust. To draw the maps, the Navy engineers had meticulously explored accessible tunnels after the battle. Included in the most accurate U.S.N.C.B. map, Drawing 1 of 5, are distance measurements and compass azimuth readings between almost every turn in the tunnel systems. Records indicate that Sgt Genaust died within a tunnel entrance that was subsequently collapsed by demolitions or covered by bulldozer activity. In the confusion of battle the exact location of the tunnel's entrance was consequently lost. Had the Navy Engineers explored the tunnel Sgt Genaust had died in they would have found his remains. In addition, the IT was informed by a representative from the Japanese Ministry of Health, Labor, and Welfare (M.H.L.W) that all the known tunnels in Hill 362A had been explored by the Association of Iwo Jima during their past recovery operations. According the Ministry's representative no American remains have ever been found by the Association. If Sgt Genaust's remains are within a tunnel in Hill 362A, they most likely are within one that has yet to be discovered and explored. Considering this, the IT inspected suspicious areas in the southwest quadrant of the hill for possible concealed tunnels.

Possible tunnel entrances and/or vents (man-made or natural) were identified by locating areas in the ground from where heat was escaping. Heat from the active volcanic processes of the island radiates out of the walls of the tunnels and can accumulate in un-vented tunnels and natural caverns to almost unbearable levels. This heat escapes through small crevices between rocks or loose soil deposits. The heat, if intense enough, can discolor exposed rocks turning them white, and prohibiting moss or other vegetation from growing on the rock. Sometimes this escaping heat is accompanied by puffs of visible sulfur fumes if seen in certain light. The IT attempted to determine if the suspicious areas they found were natural vents or man-made tunnels by digging down into the areas using their hands and a few hand tools.

All tunnel entrances and suspected entrances on the western and southern sides of the hill were assigned numbers, JPAC 01 through JPAC 12 (see Figure 4). Most of these identified areas were marked with red spray paint indicating the mission and feature number.

The IT Anthropologist kept a daily log of the investigation activities, ensured that digital photographs of all pertinent locations were recorded, and mapped the investigated area. All digital photographs are stored in the electronic case file on the JPAC network. Contacts were made with both the J.S.D.F. and the Kajima Corporation, a construction company located on the island, and their cooperation and capabilities to assist a JPAC Recovery Team were assessed.

INVESTIGATION FINDINGS

The original U.S.N.C.B. Drawing 1 of 5 map displayed five tunnel systems (a tunnel with at least two entrances), but for unexplained reasons only labeled four (A – D). The southernmost tunnel system did not receive a letter label. For consistency and discussion purposes, the Anthropologist has designated this southernmost tunnel system as system "E". The IT managed to identify tunnel entrances belonging to all tunnel systems with the exception of system "D." Tunnel system "D" should exist in the northwest quadrant of Hill 362A, and thus not within the investigated area.

On the U.S.N.C.B. map JPAC 01 is displayed as a short tunnel, approximately seven meters deep with a slight turn and an alcove on the left near the entrance. Apparently due to its short length, the Navy Engineers did not list the measured lengths of this feature. The actual length of the tunnel is estimated at a meter and a half with no turns or alcove. It is assumed that the Navy Engineers did not pay much attention to such short, unimportant features during their survey and elaborated its complexity on their design later when drawing their maps.

JPAC 02 is just north of JPAC 01 (Figure 6) and is the western entrance of the "E" tunnel system. However, the entire tunnel is now collapsed. The eastern entrance to the tunnel was not located due to the tunnel's collapsed state. The entire area between the entrances is filled with loose rock and boulders. It is unclear when or how the tunnel collapsed, but as it was mapped (with measurements and azimuths) by the Navy engineers after the battle, it can be assumed to have happened sometime after the engineers completed their work.

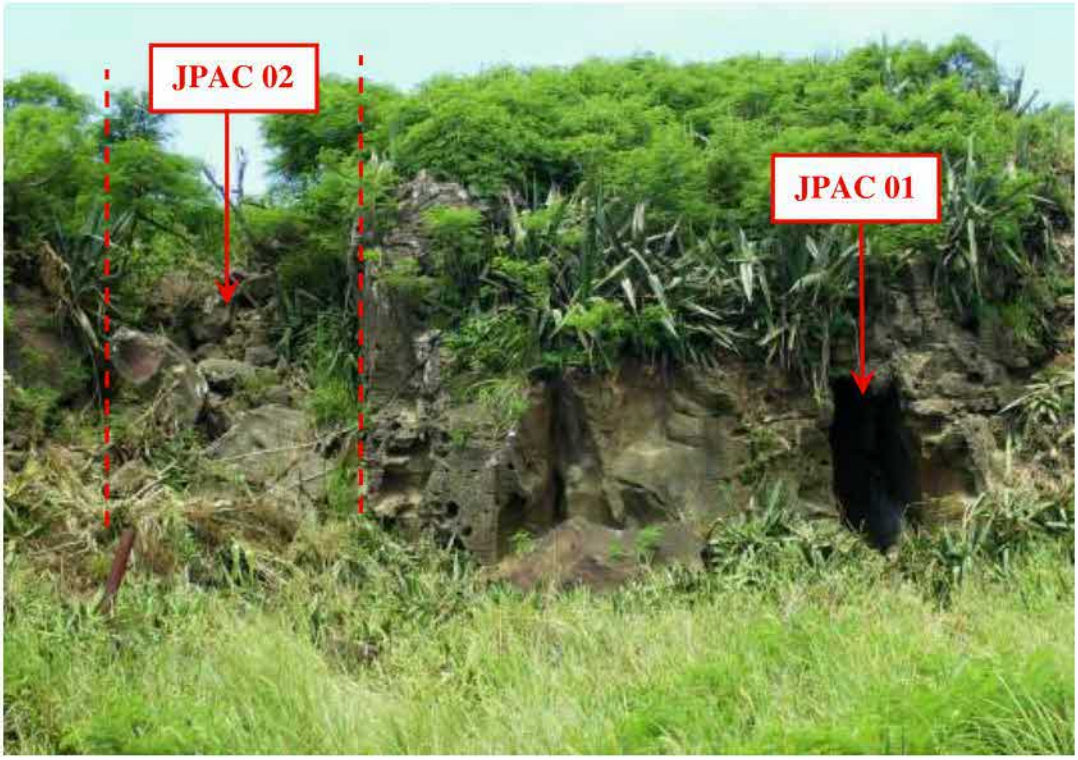

Figure 6. JPAC 01 and 02. View east.

The next tunnel system north of JPAC 02 is the "B" complex. JPAC 04 and 06 are open entrances to this system along the western cliff of the hill (Figures 7 and 8). There are at least four additional entrances to the tunnel system on top of Hill 362A, but these are now blocked with rubble. In addition JPAC 04 tunnel has collapsed approximately 15 m into the hillside.

JPAC 07 and 08 are part of the "A" tunnel system that dominates the northern portion of Hill 362A. JPAC 07, the southern most entrance to the "A" system, is only a few meters north of JPAC 06 (Figure 9). This tunnel leads to a large, partially collapsed chamber with an exit/entrance to the north. This northern entrance is JPAC 08 (Figure 10) and was not marked

with red paint. An additional tunnel runs from this large chamber towards the southeast then branches into a series of other tunnels leading to the north. These tunnels were not investigated closely as they are in the northeastern quadrant of the hill.

Figure 7. JPAC 04, southern entrance to tunnel system "B". View northeast.

Figure 8. JPAC 06, northern entrance to tunnel system "B". View east. Scale is 2 meters long.

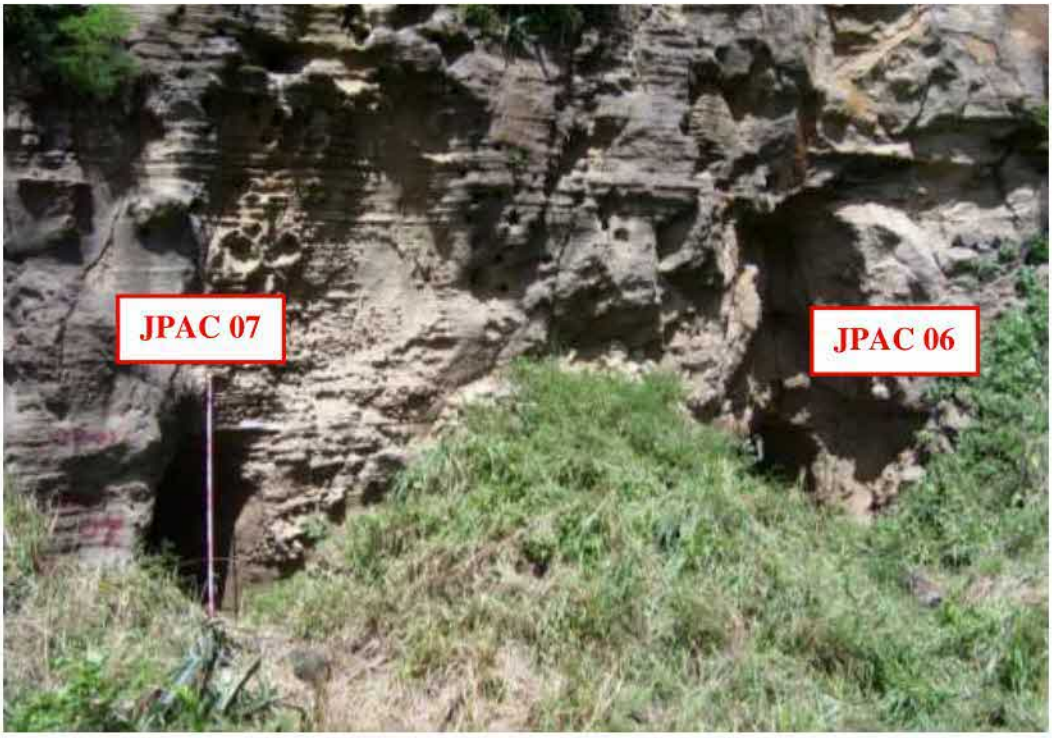

Figure 9. JPAC 07, on left, southern entrance to tunnel system "A". View southeast. Scale is 2 meters long.

Figure 10. JPAC 08, northwestern entrance to tunnel system "A". View southeast

While clearing the southern end of Hill 362A of vegetation a machine excavated trench was discovered. (b)(6) of the M.H.L.W. explained that the A.I.J, with supervision from his Ministry, used a construction machine to dig the trench during a search and recovery operation for Japanese remains. The machine, according to (b)(6), was following a source of heat issuing up through the rocks, but failed to locate a tunnel. The eastern end of this trench is a large circular depression consistent in shape with gun emplacement (Figures 11). This feature was labeled JPAC 09. Referencing the U.S.N.C.B. maps, it appeared possible that this feature was part of the "C" tunnel complex but the machine dug the trench towards the west, away from the tunnel system. The IT did not dig within this circular feature to determine if a tunnel was present to the northwest or not.

Uphill to the northwest from JPAC 09 an open tunnel entrance was located. The opening is rectangular and supported by timber (Figure 12). This entrance was designated JPAC 10. To the west of this hole was a circular depression in the ground approximately five meters away. Soil and broken stone was removed out of this depression by hand and shovel exposing a tunnel entrance. This entrance was designated as JPAC 11 (Figure 13). A third tunnel entrance, designated JPAC 12, was discovered beneath a pile of stone rubble approximately two meters to the west of JPAC 11 where intense heat was escaping (Figure 14). After removing the debris from the entrances of JPAC 11 and 12 these tunnels were explored. The three entrances are connected by a single tunnel. The IT determined that this was the "C" tunnel complex designated on the U.S.N.C.B. maps. However, the map, particularly the location of JPAC 10 does not exactly correlate to the engineer's map. The tunnel running west from JPAC 10 has collapsed blocking exploration in this direction. It is possible that this collapsed portion of the tunnel system leads to JPAC 09. Only further excavation of these two areas could determine if this is the case.

The "C" tunnel system was the most concealed complex the IT located on Hill 362A. Only one opening, JPAC 10, revealed its location. The other entrances were exposed through the IT's digging activities. While a few artifacts were seen within the other tunnel systems in Hill 362A (e.g., empty sake bottles, portions of crates, ration cans, etc.), tunnel system "C" contained numerous artifacts including clothing, remnants of books and written papers, empty ammunition boxes, and other equipment. Several of these items were removed from the tunnel, photographs taken (Figure 15), and then the items were returned to the tunnel. In addition, while digging out JPAC 12, a 3-inch artillery round was found and a number of demolition satchels were noted in a niche at the entrance of JPAC 11 (Figure 16). The IT's EOD technician removed the artillery round, placing it in plan sight on a large boulder near JPAC 12 and left the demolition satchels in place. The J.S.D.F. was notified of the location of these UXO hazards.

Two potential tunnel entrances, JPAC 03 and JPAC 05, are not included on the U.S.N.C.B. maps. These points are therefore assumed to have gone unnoticed by the Navy engineers when they were mapping Hill 362A and should be considered for further investigations. Both areas were initially concealed with eroded soil and radiate different degrees of heat.

Figure 11. JPAC 09, circular feature on east side of trench. The trench continues to the west. View north. Scale is 2 meters long.

Figure 12. JPAC 10, eastern entrance to tunnel system "C". View northeast. Scale is 2 meters long.

Figure 13. JPAC 11, central entrance to tunnel system "C". View northeast. Scale is 2 meters long.

Figure 14. JPAC 12, northwestern entrance to tunnel system "C". View northeast. Scale is 2 meters long.

Figure 15. Photograph of a sample of items found within the "C" tunnel system.

Figure 16. 3-inch artillery round recovered during the excavation of JPAC 12. Scale is in centimeters.

JPAC 03 lies at the end of a short box ravine running west-east between JPAC 02 and 04 along the western edge of Hill 362A. The original U.S.N.C.B. maps did not indicate the presence of this ravine. The ravine has high straight rock walls on both the north and south sides and ends abruptly with a large boulder blocking the way. The boulder appears to be a flat wall similar to the ravine side wall, except that it has a tunnel dug out underneath it (Figure 17). The northern wall of the ravine continues eastward beyond the blocking boulder. However, soil has been eroding down the hillside obscuring the wall at this point. When examined the erosion slope was found to consist of loose, soft soil with heat radiating up out of it. In certain light sulfur fumes were visible coming up through the soil. At the margin where the northern wall and erosion slope meet the stones of the wall have been turned white in color due to the intensity of escaping heat (Figure 18). The IT removed approximately one meter of loose soil and rock at this point using hands and a shovel to expose a small opening in the wall (Figure 19). During this excavation activity one rusted nail and four live rifle rounds were uncovered. One cartridge headstamp was legible and read "SL 43," indicating the round was manufactured by the St. Louis Ordnance Plant in 1943. The length and shape of the rounds suggest they are for a .30 caliber M1 rifle (Huntington 1981).

Figure 17. Box ravine leading to JPAC 03. Red paint on back boulder reads "JPAC 03 OTHER SIDE" (red arrow) View east.

Figure 18. JPAC 03 prior to excavation. View northeast. Scale is 2 meters long.

Figure 19. JPAC 03 after excavating some of the concealing soil. View northeast. Scale is 2 meters long.

The intensity of the heat coming from the opening suggests that the cavern/possible tunnel beyond may be sizable and most likely lacks vents or other entrances. One member of the IT squeezed inside the opening to see if this was a natural cavity or a man-made formation. The IT member reported that it opened into a domed chamber with a continuing tunnel further back. The tunnel had an arched ceiling similar to all the other man-made tunnels examined in the hill. However the tunnel was almost completely filled with sediment and appeared to be collapsed further back. For safety reasons no excavation was done inside the chamber. Because of the amount of sediment and loose rock within the chamber the team member could not be certain that it was man-made. The IT was did not have the proper tools and equipment to investigate this location any further.

JPAC 05 is a wide recess within the western cliff side of Hill 362A between JPAC 04 and JPAC 06 (Figure 20). The recess is similar to the entrance of JPAC 06, but does not have an open tunnel in the rear (Figure 21). It did however appear to possibly undercut the cliff wall at its base. An old wooden crate looked to have been placed within the undercut and loose soil and stone were present at the base of the recess (Figure 22). There also was some heat radiating from the base of the recess, but not as much as at JPAC 03 or some of the other existing tunnels. A talus slope of varying size runs long the entire length of the western cliff base, including in front of JPAC 05. The IT attempted to dig down into the recess using hands and a shovel to determine if the observed undercut leads to a tunnel or is a natural formation. The IT managed to remove approximately a meter of soil from the recess but was unable to locate a tunnel (Figure 23). The

large quantity of rock and soil that needs to be removed from this area was beyond the means of the IT given their equipment and limited amount of time.

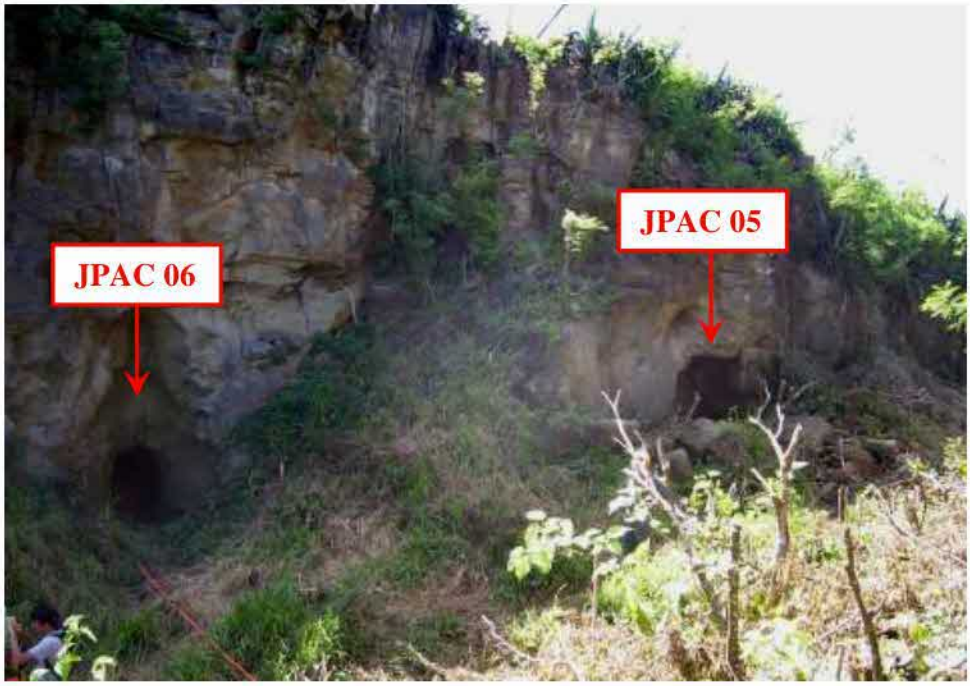

Figure 20. Photograph showing the location of JPAC 05 in relationship to JPAC 06. View southeast.

Figure 21. JPAC 05 feature before excavation. View east.

Figure 22. Close-up photograph of JPAC 05 showing the wall undercut. View east.

Figure 23. JPAC 05 near the end of the IT's excavation. View southeast.

While excavating the base of the JPAC 05 recess, the IT recovered numerous artifacts (Figure 24). The majority of these are unidentified, heavily corroded, metal tubular objects. There is no indication that the tubular objects belong to an old weapon system. (b)(6) an employee of the Kajima Corp who has been involved with numerous Japanese recovery operations on the island, speculated that the tubes were part of an old water pipe system. Other items recovered were a small sake bottle and very large shrapnel fragments. The artifacts were put back into the recess after photos were taken.

Based on observations of the recess and artifacts present, JPAC 05 is believed to be one of three things: A tunnel entrance, a fighting position, or a feature created by a large artillery shell or bomb. Further excavation to remove the soil and rock in front of and within the recess should help to determine what the feature is.

Figure 24. Photograph of artifacts recovered during the excavation of JPAC 05. Scale is in centimeters.

An additional area with heat radiating up through the rocks was found on top of Hill 362A to the northwest of JPAC 12 in the direction of the western detached pyroclastic formation. According the U.S.N.C.B. map, this is an area in which an observation post and anti-aircraft gun emplacements connected to tunnel system "B" were. Exploration of that tunnel system revealed that these entrances were sealed off. The IT did attempt to dig these "hot spots" out a little, but because of their location in relation to the probable hilltop entrances to tunnel system "B," the team instead focused their energy on JPAC 03 and JPAC 05. Further investigation of this area would determine if they are indeed the observation post/anti-aircraft gun positions to the "B" complex.

Additional pedestrian surveys were conducted to the west and north of Hill 362A. Numerous ridges with tunnels are present in these areas. A full accurate survey of the surrounding terrain would take weeks.

Cooperation with the J.S.D.F. and civilian support on Iwo Jima was outstanding. The J.S.D.F. provided accommodation, meals, and transportation to and from the site at a minimum cost. A positive relationship was established with (b)(6) Project Manager of the Kajima Construction Corporation. The Kajima Corp. has several different construction machines that could assist in moving the talus slope along the west cliff of Hill 362A as well as soil from machine accessible areas on the south side, particularly at the JPAC 03 site. (b)(6) (b)(6) provided the IT Anthropologist with estimated operating costs for a number of construction machines (the documentation is now within the case file).

(b)(6) also has numerous photos, some written documentation, and specific knowledge of the past recovery activities of the Association of Iwo Jima. There is also a small museum and a store with Iwo Jima related literature and documents at the J.S.D.F. airfield facilities.

CONCLUSIONS AND RECOMMENDATIONS

During 07-01JA, the IT conducted pedestrian surveys on Hill 362A with the aim of locating potential tunnel entrances that may relate to JPAC Incident 235. The surveys concentrated on the western and southern portions of the hill. Copies of U.S.N.C.B. post battle drawings of Hill 362A and its known tunnel system were evaluated for accuracy and used to assist in the survey.

Two specific areas, designated as JPAC 03 and JPAC 05, are recommended for further investigation. Both locations are potential previously unrecorded tunnels. Appropriate equipment for excavation within a tunnel should be considered. The talus-like slope along the western cliff of Hill 362A, including the area in front of JPAC 05 could conceal additional unrecorded tunnel entrances. It is recommended that the Kajima Construction Corporation be contracted to assist in the removal of this slope and expose any concealed tunnel entrances. An excavator may also be able to get to the southern side of Hill 362A, including where JPAC 03 is, and probe additional areas. It is estimate that a large excavator could clear the soil along the western cliff and accessible portions of the southern side of Hill 362A within ten days.

In addition to a recovery operation, it is recommended that a Research and Investigation Team be sent to Iwo Jima to examine written documents and interview sources regarding the Japanese defensive positions during the battle and the Association of Iwo Jima's past recovery operations. The museum, small book store, and (b)(6) personal collection of photographs and documents at the Kajima Corporation facilities could be consulted. Further information may be gained from interviewing Japanese and American veterans of the battle who regularly attend the March anniversary of the battle on the island.

(b)(6)
Anthropologist

REFERENCES

Huntington, R. T.

1981 *Small-Caliber Ammunition Identification Guide, Volume 1: Small-Arms Cartridges up to 15 mm.* Revised ed. Foreign Science and Technology Center, U.S. Army Material Development and Readiness Command.

U.S.N.C.B., 31st

n/d *Japanese Cave System · Iwo Jima · Hill 362A, Target Map Grid 216 R, Dwg 1 of 5.* RG 127 Records of the United States Marine Corps, USMC Geographic Files, Iwo Jima, 370/D/02/04, Box 33, Folder E7-1 USNCB Photostats of drawing Japanese Cave System on Iwo Jima.