

TIGHAR TRACKS

THE JOURNAL OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY





*... that they might escape the teeth of time and
the hands of mistaken zeal.*

—JOHN AUBREY
STONEHENGE MANUSCRIPTS
1660

TIGHAR (pronounced “tiger”) is the acronym for The International Group for Historic Aircraft Recovery, a non-profit foundation dedicated to promoting responsible aviation archeology and historic preservation. TIGHAR’s activities include:

- Compiling and verifying reports of rare and historic aircraft surviving in remote areas.
- Conducting investigations and recovery expeditions in co-operation with museums and collections worldwide.
- Serving as a voice for integrity, responsibility, and professionalism in the field of aviation historic preservation.

TIGHAR maintains no collection of its own, nor does it engage in the restoration or buying and selling of artifacts. The foundation devotes its resources to the saving of endangered historic aircraft wherever they may be found, and to the education of the international public in the need to preserve the relics of the history of flight.

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COVER:

T/Sgt. Paul Jones’ journal provides an intimate picture of one man’s war. See “I’m Learning to Curse the Wright Brothers,” p. 4.

The publication of *TIGHAR Tracks* is made possible by a generous grant from

Honeywell
Space & Aviation Control
Phoenix, Arizona

Our sincerest thanks.

TIGHAR Tracks, published four times each year, is the official publication of The International Group for Historic Aircraft Recovery. A subscription to *TIGHAR Tracks* is included as part of membership in the foundation (minimum donation \$45.00 per year). The editors welcome contributions of written material and artwork. Materials should be addressed to: Editors, *TIGHAR Tracks*, 2812 Fawkes Drive, Wilmington, DE 19808 USA; telephone (302) 994-4410, fax (302) 994-7945. Photographs and artwork will be returned on request.

Sixty Years Is Long Enough To Wait

As logistical preparations and fund-raising for TIGHAR's September 1996 expedition to Nikumaroro continue, new research results bolster our hopes for success. Over the seven years of the Earhart Project investigation we have been (and continue to be) astonished at the wealth of new, original-source information TIGHAR members bring to light. We've also been amazed at how many of the supposedly-established facts about history's most famous missing flight are simply not true. What does not, therefore, surprise us is that the fate of Earhart and Noonan has remained a mystery for all these years. July 2, 1997 will mark the sixtieth anniversary of the Earhart disappearance. We think that's long enough for anybody to stay lost.

This issue of *TIGHAR Tracks* details some recently-discovered examples of the kind of erroneous assumptions which have derailed Earhart researchers for over half a century (see "Things Not Said," page 18). We also have some new perspectives on old photographic imagery which may contain important evidence (see "A View To The Sea," page 20).

And the research continues. Recently retired FAA explosives expert Walter Korsgaard, whose successful investigations include the Pan Am 103 bombing, has determined that the type of damage sustained by the section of aircraft skin recovered on Nikumaroro in 1991 (TIGHAR Artifact 2-2-V-1) is not consistent with the detonation of an explosive device (i.e. World War II ordnance) but was

more likely caused by a fuel/air explosion (as we have suspected).

Dr. Randy Jacobson's (TIGHAR #1364) analysis of Fred Noonan's notations on the original charts used during NR16020's crossing of the South Atlantic (sent home and now part of the Purdue University collection) leads us to conclude that yet another famous

Amelia anecdote is apocryphal. In her book *Last Flight* (heavily edited and published posthumously) Earhart describes rejecting, to her subsequent regret, Noonan's navigational advice upon reaching the coast of Africa. The charts tell a different and fascinating story which we'll relate in a future *TIGHAR Tracks*.

As we go to press, a TIGHAR expedition led by Professor Dirk Ballendorf (TIGHAR #0838) of the University of Guam Micronesia Area Research Center has just arrived

on Vaghena in the Solomon Islands. When the British colony on Nikumaroro was abandoned in 1963, its Gilbertese population was resettled on this hard-to-get-to island in the southwest Pacific. Dirk's mission is to find any surviving veterans of the early days on Nikumaroro and record their recollections. He'll also be keeping a sharp eye out for any interesting artifacts they may have brought with them.

With funds raised and pledged approaching 50% of the project's budget, your continued support is more important than ever to assure that the momentum is maintained, the work continues, and the answers keep coming.



March 31, 1945

I'm learning to curse the Wright brothers ...

-7) Sgt. Paul H. Jones, 447 Bomb Group, 708th Sqd.



Back, L to R:

Rad. Op. Paul H. Jones
Waist G. Raleigh Martin
Tail G. Blaze J. Napolitan
Eng. Richard O. Lawrence
Ball G. Francis Frosh

Front, L to R:

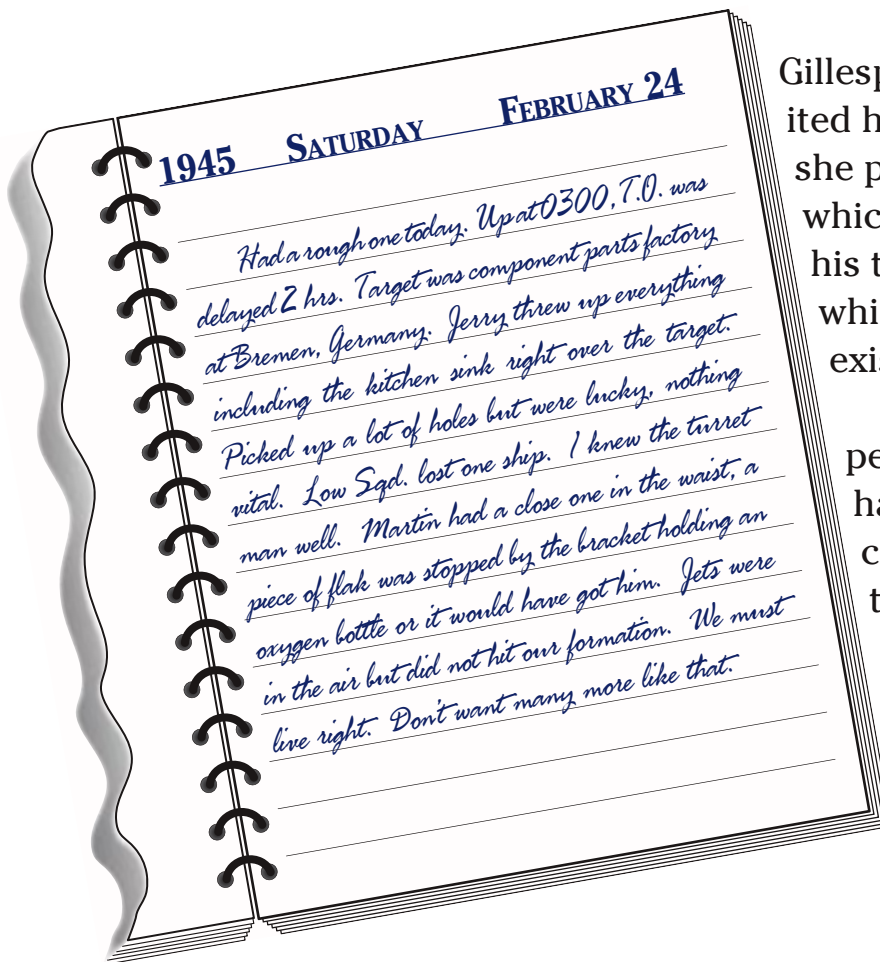
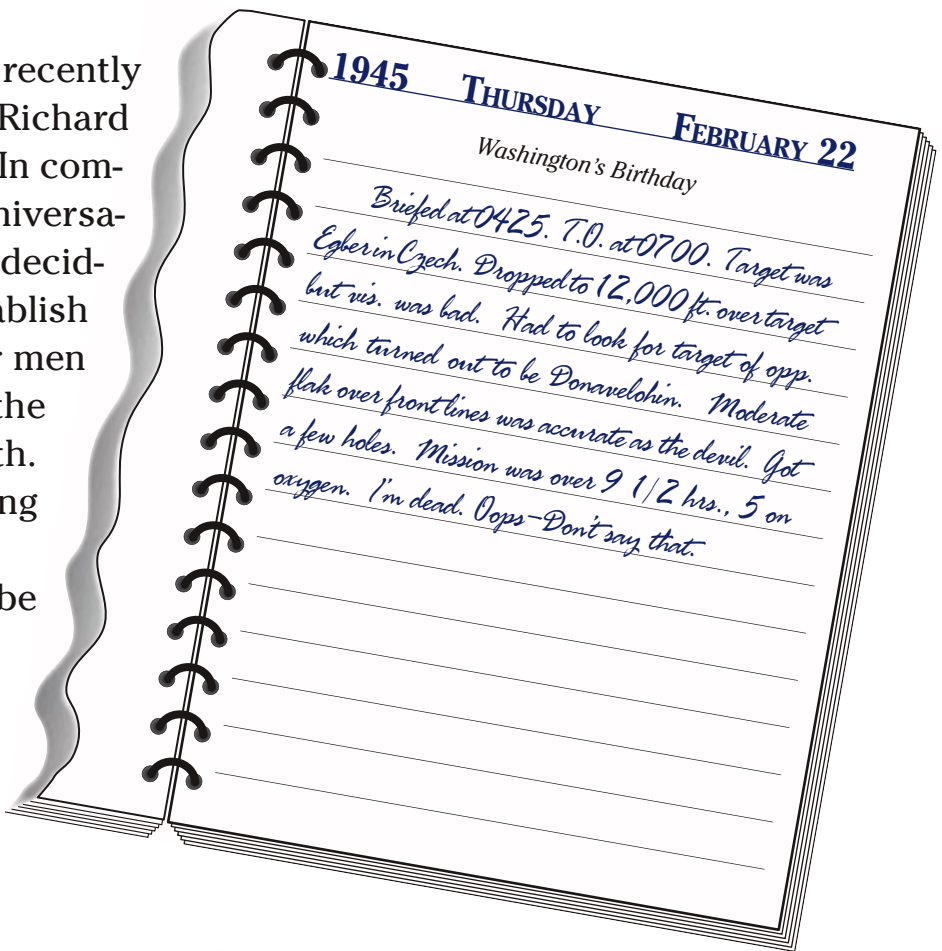
Mickey Op. Joseph Nidich
Bomb. Lee A. Small
Pilot Richard T. Gillespie
Co-Pilot Robert J. Beiting
Nav. Milton A. Trodick

1945 MONDAY JANUARY 29

Today was the day. Ate, dressed, briefed and took off at 0745. Mission was to jet factories at Kassel, Germany. Bandits in area. Flak was light but accurate. Group ahead lost two ships, one blew up in the air. Mission was 7 hrs. long. Made it back today. Boy I'm tired, going to hit the sack.

Many of us of the baby boom generation grew up with the recollections of fathers, uncles or family friends who served in World War Two. Half a century later, these oft-told tales tend to attain a legendary quality which permits us to embrace them as treasured family lore while not demanding or expecting that the details be absolute fact—after all, it's been a long time. If an original written account of the same stories suddenly appears the effect can be a bit like a surprise witness at a trial: exciting, but disconcerting.

That very circumstance recently arose for former B-17 pilot Richard Gillespie (TIGHAR # 0008). In commemoration of the 50th anniversary of the end of the war he decided to see if he could re-establish contact with the nine other men with whom he had shared the defining months of his youth. A year of research and wrong numbers brought eventual success. One of the last to be tracked down was Paul H. Jones, who was the crew's radio operator. Jones had died in 1993 but his widow, Helen, was delighted when



Gillespie and his wife Jean visited her. To their astonishment she produced a daily journal which Paul had kept throughout his tour of duty overseas and which she had not even known existed until after his death.

Here was a totally unexpected check on memories half a century old. (How careful would we all be in telling our stories about the old days if we knew that someone sitting behind us had been taking notes the whole time?) Any apprehensions Gillespie may



A B-17 from our squadron.

have felt at the discovery, however, were misplaced. Whether due to his powers of recall, his innate honesty, or maybe just a lack of imagination, the journal proved to be a complete validation of the tales he had often told to four wide-eyed sons. There were

even some hairy moments he had neglected to mention.

But far more than the mere documentation of old war stories, Paul Jones' journal is a priceless day to day glimpse into one man's war. He writes to himself, or rather, to the matter-of-fact young warrior he desperately needs to be. His courage is private and fragile. It is real. As for the end of the story, the April 21st rumor was true. The Group was "off opps" and the war in Europe soon ended. The crew did not, however, have to finish its missions in the Pacific. Before they could transition to B-29s the war was over.

1945 THURSDAY MARCH 1

Take off was at 0950. Target was Ulm, Germany. Railways and factories. Entire 8th went again. Bomb load was 9 G.P.s & 4 incendiaries. 2 bombs hung up over the target. Bombardier told me to kick them out. I was so excited I went into the bomb bay without oxygen which is no good at 25,000 ft. I ducked back in to the radio room for a bottle but the engineer got them out. It was easier for him to reach them anyway. I really sweated them out after it was all over with because they were fused, armed, and very much alive. Mission lasted 8 1/2 hrs., 4 1/2 hrs. on oxygen. We were put in for Lead Crew, which means 3 to 6 weeks training.

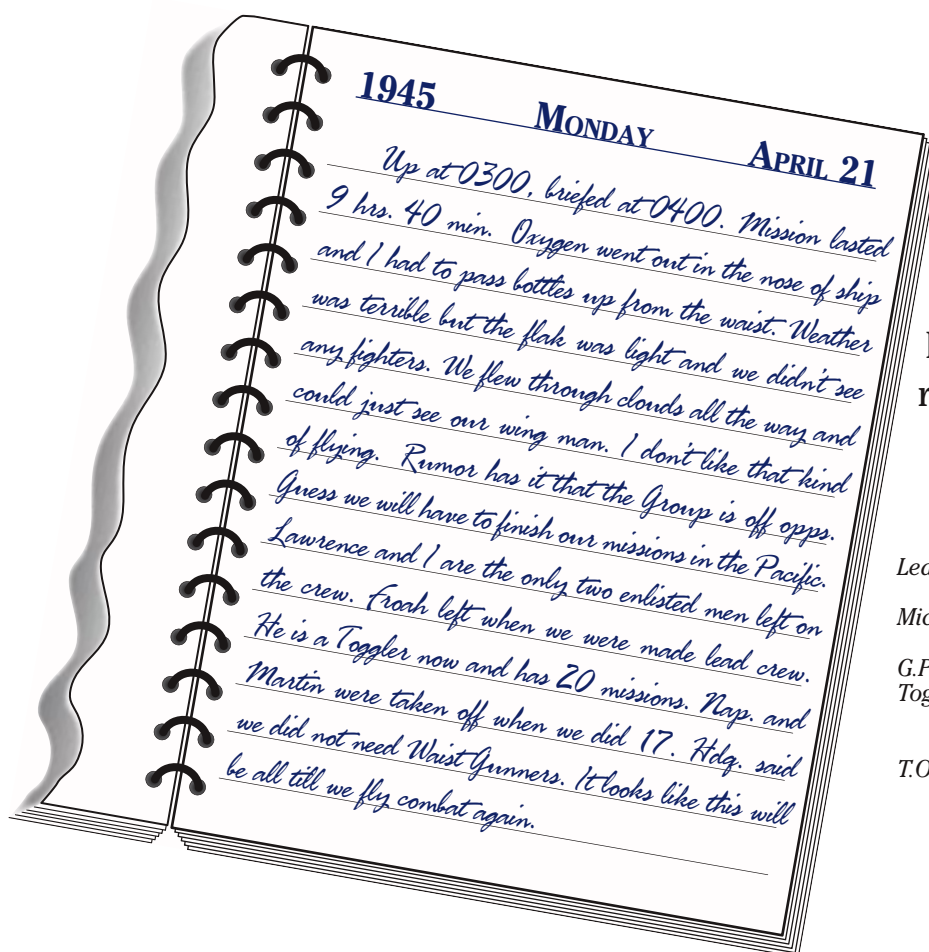
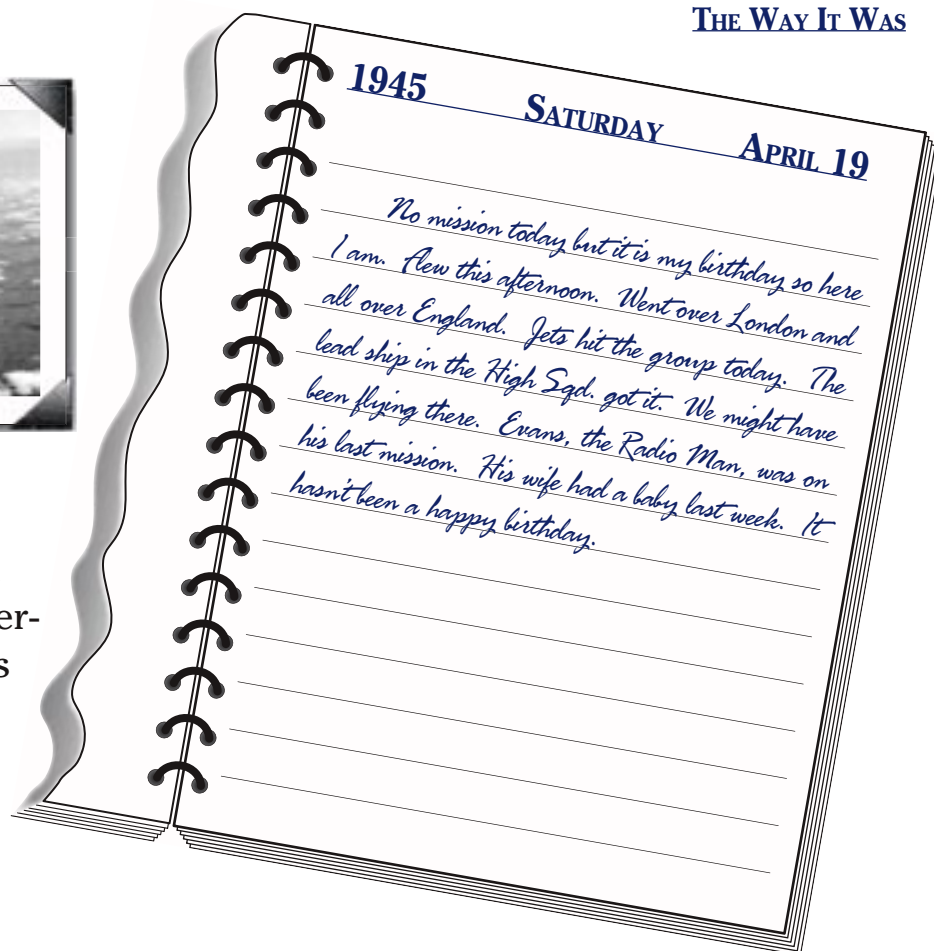
1945 THURSDAY APRIL 5

Up at 0325, briefing at 0425. Target was rail center at Nuremberg. We led the Diamond Sqd. Bombs did a good job on a visual target. Had trouble forming due to the weather over England. Jerry must have been polishing his guns all night because he really threw it up today. It was very accurate because everyone picked up a lot of holes. Pilot did some damned good evasive action and we missed a lot of it. Lost no planes. One plane was separated from the Group and it made the mistake of flying over Dunkirk. Tail gunner had his hand blown off. The ship was a mess when it got back. Two engines out and plenty of holes.



We might have been flying there ...

TIGHAR wishes to thank Helen Jones for giving us permission to publish excerpts from her husband's war journal and for his photo for our cover. To Richard



T. Gillespie, appreciation for the use of photos from his personal collection—and from TIGHAR's Executive Director: for all the flying stories, thanks, Dad.

Glossary

- Lead Crew – Specially trained crew designated to lead the squadron.
- Mickey – Nickname for the H-2-X target imaging radar carried aboard the lead ship in each squadron.
- G.P. – General Purpose bomb.
- Toggler – Enlisted man designated to “toggle” (drop) the bombs in situations which did not require a trained bombardier.
- T.O. – Take off



THE KASSEL UNDERGROUND

by Lou Schoonbrood, TIGHAR #1198
Maastricht, The Netherlands



Part 1: The Politics of Concealment

The “Jägerstab” [fighter command] was established on March 1, 1944. Planned as a temporary solution, it brought together representatives of the airplane industry, and specialists from the departments of the Reichsluftfahrtministerium [Reich Air Ministry] and the Ministerium für Rüstung und Kriegsproduktion [Ministry for Arms and War Production]. Albert Speer was one of the members. The construction of bomb proof underground production facilities for vital industries had top priority. Hitler was very enthusiastic about the idea, ordering “a massive movement of the German industry to underground locations.”

In spite of the fact that the whole idea (at that point in the war) was unrealistic, underground production facilities were planned totaling three million square meters. The project was to be completed by the beginning of 1946. In the Third Reich and the occupied countries the search for suitable locations started; mine shafts, caves, stone quarries, and auto and subway tunnels became objects of interest. In spite of the endless lists of suitable places, only a few could provide industry with the conditions they were looking for. So while the lists became shorter and shorter, the notion was born to construct specially equipped bunkers.

To fulfill the requirements of industry, the bunkers had to be located near rivers, canals and railways, as well as near gravel pits for the production of concrete. Hitler again asked for support for the underground movement. He also formulated a list of demands; one was that the bunkers had to be built on an immense scale: 60,000 to 80,000 square meters for each bunker! On the drawing board they had six to eight floors and were partially underground. Six bunkers were to be completed in seven months. Hitler and Göring were very satisfied by this prospect.

Baudirektor Xavier Dorsch (a brilliant engineer of the Ministerium für Rüstung und Kriegsproduktion), who was head of the Organisation Todt, became head of the project. He answered only to Hitler on this matter. Work started on four of the six bunkers: three near Landsberg, one near Mühlendorf.

At first, Speer was pleased with the whole Organisation, but as time went by, Göring became more and more involved, to Speer’s dismay. Dorsch was asked to do a feasibility study for new “bomb-proof” shelters for the main Luftwaffe fighter bases. Speer was furious. Where to get all the construction material for yet another great project? As a result of the allied bombing, the massive use of concrete and steel for the Atlantic Wall and the planned industry facilities in the new bunkers, hardly any raw materials were left. Speer intervened with Dorsch and urged him to delay as long as possible the realization of Göring’s Luftwaffe dreams. Dorsch, who was caught between Hitler and Speer, chose to launch one project after another to gain time. As he had the raw material production figures in his hands, he knew that Speer was right. On the other hand, the focus of Speer’s Ministry was production, production, production. Large numbers of new fighters had to be built. The latest developments of the German aircraft industries: the jet fighters and bombers (Me-262, He-162 and Arado 234) were Speer’s top priority, so Dorsch’s choice was clear. He was clever enough not to make any of Göring’s plans a point of discussion with Hitler. They simply didn’t exist!

SQUABBLES AND SUBTERFUGE

At that time Hitler wasn’t on speaking terms with the Luftwaffe at all, because Göring had not succeeded in preventing the Allies’ massive bomber offensive against Germany. By mid 1944, after D-Day, the atmosphere between Hitler, the Luftwaffe and Göring was poisoned. And above all this, or rather in the middle, stood Albert Speer, who sought and found a companion in Dr. Joseph Goebbels. They discovered

common ground in their opinion of the priorities now that the Reich was in great danger. Of less importance, but worth mentioning, is also the fact that Dorsch didn't like Speer and vice versa, although they had great respect for each other's skills.

This background of conflicting priorities and personalities may permit us to put the underground construction plans in proper perspective. On April 19, 1944, at a conference in Berchtesgarden, Göring gave Dorsch (among others) the order to start the construction of the so-called "Mushroom" bunkers on Luftwaffe bases [Pilze für Jäger]. The question remains what not only Dorsch, but also Speer and his Ministry did with this order. Did they follow it up? Perhaps they simply put it aside. We don't know. With Speer dead in 1981 and Dorsch in 1986 we can't ask them.

What do we know? So far I have found not one piece of paper in the Todt archives that construction was underway at war's end. Perhaps construction was never even begun; there were too many problems that had to be solved. Not only was there the problem of raw materials, but also the lack of skilled workers. Although thousands of convicts and slave workers from concentration camps were put to work on various projects and in the industry, it still was not enough. The number of casualties was enormous. As an example: in the camp of Kaufring only 8,819 out of 17,000 were able to work on the bunker constructions near Landsberg. Of those 8,819 more than 50% died in the first 4 months. Technicians were brought from the camps to work in specialised branches in the industry, among them a number of highly trained Jews. Speer's Ministry selected them, causing great friction with Himmler and the SS; but German industry needed those skills. Needless to say their treatment wasn't any better than that of any other slave worker. The lack of good craftsmanship was so great that in 1942, when the Third Reich (Germany and Austria) was already declared free of Jews, special permission from Hitler was obtained to gather more than 40,000 skilled Jewish workers under the command of the Organisation Todt. The high death toll, inhuman working conditions, and disease (as well as the difficulties in transportation, the growing shortage of concrete, steel, copper etc.) were reflected not only in the quality of the realised projects, but also in the quantity. Of the planned six bunkers, only one was completed, at Landsberg; it was used later by the West German Bundeswehr.

Given these known figures, the policy of Speer's Ministry, the friction over the use of (raw) materials between the Wehrmacht, Luftwaffe, Kriegsmarine

and the German war industry (they all had their own priorities), as well as the internal differences between the Party, the SS, the Ober Kommando der Wehrmacht, and personal vendettas in the top of the Nazi regime, there is every reason to believe that Speer followed a strategy towards Göring's project (as well as others') of pacifying him with blue-prints of magnificent plans which always had to be altered or up-dated. There was always something that "still had to be taken care of." Speer was intent on buying time to put German industry safely underground. As Speer wrote concerning meetings with high ranking Nazi officials: "During most morning meetings they come up with, in their point of view, 'brilliant ideas' which have to be carried out straightaway. We take a note, say something to flatter their egos, and forget it. By lunchtime, they themselves have forgotten all about it, for they have another new 'brilliant idea' which has to be carried out a.s.a.p."

Among all the people I have been in contact with (whether personally, by telephone, letter or fax), there is not one who believes that the "mushroom" project left the drawing board. In this group are people who, if any attempt had been made to break ground anywhere in the Reich, would have been among the first to know. At least one had a high classified clearance. It seems quite likely that nothing was done.

Part 2: Fliegerhorst Rothwesten

The other possible way to put planes in a safe bomb-free place was to alter already existing airbases: to fortify buildings and bunkers, or build new ones. Dr. William Gore (see TIGHAR Tracks Vol. 11 #2, "Chariots in a Pharaoh's Tomb") suggested that Rothwesten, a former Luftwaffe base near Kassel, could be the place where some remnants of former Luftwaffe planes could lie behind welded doors in some of the sub-basements.

In 1935 Kassel had only a small airfield for pleasure aircraft. Some time later an area between the villages of Westhagen, Rothwesten and the country estate of Eichenberg was chosen as fitting overall strategy, but building an airfield at this site created great difficulties. Not only did thousands of trees have to be removed, but there was also a water problem. The airfield was situated on a plateau, so it was necessary to drill 140 meters for a well. In order to level the area on the east side, they had to excavate seven meters of ground over the whole length of the airfield. This dirt was then used to level the west and south sides.

A runway was constructed which was 600 meters wide and 800 meters long. Later it was extended to 1000 meters. On the east side of the runway the technical buildings were set slightly into the hills. Among them was a wharf, a maintenance building and an engine testing building. Additionally there were three large hangars; later two more were added. Then there was a command post and a building for the aerial photographic service. In the middle stood the control tower.

In order to bring these buildings to the same level as the runway, the foundations were dug very deep—five to six meters. At night these excavations



were lighted. The engineer in charge was asked many times by people from Rothwesten if the crews were digging tunnels in the hill, for that was what these excavations looked like. But what people saw was simply the leveling of the airfield. Seen from a distance, at night, lit with floodlights, with excavators digging their way through the hill, the project could well be interpreted as tunnel construction under way. It wasn't.

As a result of the deep foundations, some buildings could be equipped with basements, and some even with a sub-basement. These were used to store all kinds of things. They were not used as bomb shelters, for the walls were not thick enough. However, there was a "Bierkeller," a canteen for officers from the base, with murals on the walls. It is still in use at the base, which is now a Bundeswehr barracks.

Behind the Bierkeller was an arched gallery which was closed with concrete by the Americans after the war. There was also a junior officers' casino. Beneath this cellar was a bowling alley. Next to the casino stood the officers' houses, which were built on small hills. They were connected with one another by wooden foot bridges which led over the airbase roads. Other buildings (mostly barracks) stood in the middle of the woods. For the soldiers and Luftwaffe men, who were used to old, grey buildings, it was like a resort. In its day it was one of the most modern and best-equipped Luftwaffe bases: it had a swimming pool, hospital, gas station for private cars, barber shop, post office, etc.

When the Americans took over the base in 1945 they inspected every corner above and underground. Every door was carefully examined; there was still a chance that some booby-traps might be found. After inspection, they sealed (welded) all doors of cellars that were not going to be used. Generally those doors were found in the few sub-basements. When the Bundeswehr took over the base from the Americans in 1975 every building was inspected again from top to bottom. Cellars that were not used were closed or sealed off. Some of them have now been returned to use by the Bundeswehr. Neither the Americans nor the Bundeswehr found anything which could lead to a conclusion that old Luftwaffe planes were hidden in those basements.

All this doesn't mean that there wasn't any airplane-related construction activity at Rothwesten during the war. We'll talk about that later.

FLIEGERHORST ROTHWESTEN AND WWII

The first buildings at Rothwesten were put into service on May 1, 1935. In December 1935 the first pupils arrived for the new flying school which had been established there, and by mid 1939 the Fliegerstab Rothwesten was completed and at war strength, hosting a reconnaissance group taking photographs over Poland, France, Belgium, and Holland.

During the war, Rothwesten was of less strategic importance. The new planes could not use it. The runway was too short, and it was not concrete. Nevertheless, parts of the maintenance crew stayed behind to serve the flying school which still had its facilities there. The most important task for the base was as a service center for night fighters. Aircraft that had to refuel during battle could land there, and minor repairs could be made. It was not a real night fighter base, and played a minor role during the war.



Main building of the photo reconnaissance Staffel. Note the difference in ground levels.

Facing page: Drawing of Rothwesten under construction—using horsepower for the excavation.

GERHARD FIESELER WERKE GMBH, KASSEL

From 1944 until April 1945, the remaining larger buildings of Rothwesten were used by Fieseler aircraft industries as a small production line for planes. According to eyewitness reports, most were Me-109 fighters of the later types (probably G versions and perhaps a few Ks). Another unconfirmed source says that during the winter of 1943/1944, there was a very small production line for the Ju-87D. Spare parts for these machines were eventually stored in some of the basements, but by March/April 1945 production stopped as supplies ran out. Orders were issued to dismantle the production line. This work was about 90% complete when the war ended. The unfinished wings and fuselages had already been moved to an unknown place. There is a chance that some smaller components might have been left behind in the hangars or even in the sub-basements, but as mentioned above the Americans as well as the Germans cleared those basements. Certainly no completed planes were hidden. They simply wouldn't have fit in the cellars.

One must conclude that there is little chance that the aircraft in the cellar story is true. As on nearly every airfield in Germany, the allies might have found some intact or damaged planes from the flying school on the runway, or perhaps even a few night fighters, but that was not unusual in May 1945.

It is worth noting that during my research for this part of Operation Sepulchre I discovered that an unknown quantity of files, papers, documents etc. at various German archives are still waiting for an inventory. With the unification of Germany, the former East German archives are added to that pile. So there is still a tremendous job to be done there, with no way of knowing what might be found.



SOURCES

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 Bundesarchiv, Zentrale Nachweisstelle, Aachen
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 Bundsarchiv, Abteilung III, Potsdam
 Bundesarchiv, Leitstelle Zehlendorf, Berlin
 Mr. Johann Meierhof, former employee of Fieseler Werke, Kassel—Bettenhausen
 Mr. Emil Lütke, former pilot, Nachtjäger Geschwader IV (Junkers Ju-88 G1), Braunschweig
 Mr. Georg Löwig, former architect with the Organisation Todt, Abteilung Bau; assistant to Ing. Werner Noel, head of the Bauverwaltung (construction department) of the Fliegerhorst Rothwesten in 1935.
 Liaison during the construction activities for the RLM (Reichsluftfahrtministerium), Minden
 Mr. Walter Sobowski, former senior official with the Sicherheitspolizei und SD, Amt II, Technische Angelegenheiten, Berlin
 Mr. Alfons Kössinger, former pilot of Dornier Do-17, I Staffel, Fliegerhorst Rothwesten, Kassel

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Great Hammer, Lousy Screwdriver

Burning Bright

In the last issue of *TIGHAR Tracks* (Vol. 11, No. 3) we described the frustrated and frustrating efforts of the National Park Service to deal with the question of aviation historic preservation. The initial draft version of a new federal publication, National Register Bulletin #25 Guidelines for Evaluating and Documenting Historic Aviation Properties sought to present a brief recap of American aviation history and provide guidance for applying the National Register's criteria to aviation-related properties, including aircraft. Circulated in the historic preservation and aviation historical communities for review and comment, the draft bulletin elicited such a storm of criticism that its September 1995 publication deadline was abandoned. TIGHAR has been active in encouraging the Park Service to take the time to get it right and, in the last *TIGHAR Tracks*, we published our suggested re-write of the bulletin's history section (see "Aviation In American History—A Preservation Perspective" in *TIGHAR Tracks* Vol. 11., No. 3). For this issue of *TIGHAR Tracks* we struggled (and struggled) to come up with a suggested rewrite of the bulletin's section entitled "Evaluating the Integrity of Historic Aviation Properties." The problem lies in trying to define what constitutes a historic airplane using a system of criteria designed to define historic properties of a very different nature—sort of like trying to use a hammer as a screwdriver.

Movable Places

It is important to understand that the National Register was never designed to be a catalog of all the historic things in America. Indeed, museum objects are not generally considered to be eligible for inclusion. The Register is, instead, a way of investing places and things which might otherwise be discarded, destroyed or developed with a special status which encourages their preservation, building a virtual museum around something that can't or shouldn't be moved. The National Register's evaluation standards are, therefore, easily adapted to hangars, airfields or even navigational aids such as airway beacon towers.

In addition to "places," certain "objects" such as statues, ships, trolley cars, railroad cars, and airplanes have generally been considered eligible for inclusion in the register. Automobiles, interestingly enough, have always been excluded. The rationale would seem to be that historic objects (cars, carriages, kitchen chairs, etc.) that can be preserved in museums, should be; while those which cannot should be afforded National Register protection. It's a good principle but it does seem that the line has been poorly drawn.

Clearly, for some objects museum preservation is not an option. Removing the statue of a general from the park which bears his name is inappropriate. Likewise, putting a battleship in a museum is pretty tough so it makes sense to call it a movable historic "place" and give

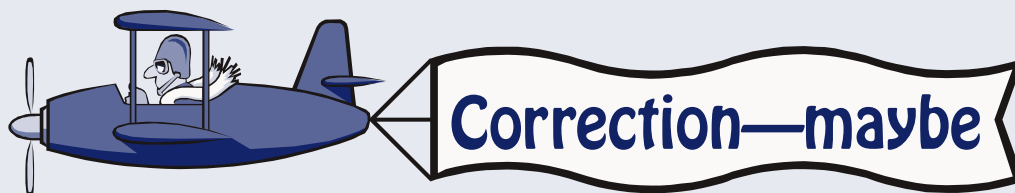
it National Register recognition. However, for those categories of objects, especially vehicles of one kind or another, which can realistically be afforded museum protection, the question of National Register eligibility becomes inherently contradictory: it must be historic to be in the Register, but if it's historic it should be in a museum and museum objects are not eligible for inclusion in the Register. Many of the objects now listed in the Register are, in fact, in museums (where they belong). In the nearly thirty years since the Register was begun, only six airplanes have been listed and four of them are now in museums.

When An Airplane Is More Than An Airplane

An aircraft (or a trolley car or a locomotive, for that matter) does not belong on the National Register of Historic Places except in cases where its historical significance is inextricably linked to a specific non-museum location. Although there may be others, the examples

which come to mind are historic crash sites such as the two WWII wrecks, a B-24 and a P-38, now listed in the Register. Located on remote Aleutian islands, the significance of these sites as weather-related crashes so tragically typical of the Aleutian Campaign is greater than the importance of the aircraft themselves as examples of their WWII types. Because removing the aircraft from the site would destroy the context which gives them significance, National Register recognition seems appropriate. The same is true of underwater wrecks. If the significance resides more in the relationship of the object(s) to the place, than in the airplane as a stand-alone object, National Register recognition and protection is merited. Over time, just as with a battlefield, the physical relics will inevitably degrade, but the point is to preserve the memory of what happened here.

With Bulletin #25 the Park Service has an opportunity to make needed adjustments and put the National Register of Historic Places to work in the interest of aviation historic preservation. TIGHAR is ready to help in any way we can. 🐾



Robert Taylor, President of the Antique Airplane Association, says we “really failed our WWI test” when we stated in “Aviation In American History—A Preservation Perspective” (*TIGHAR Tracks* Vol. 11., No. 3.) that “no American-designed aircraft saw action in W.W.I.” Mr. Taylor sent reference material to support his observation that Curtiss “Small America” and “Large America” flying boats were used by the Royal Naval Air Service “as early as 1915 and into 1918. The improved version of the Curtiss H-12 designated the H-16 also served in the R.N.A.S. with Liberty engines with 69 being delivered to England by Curtiss as of October 1918.” In our own defense we would suggest that the question of whether or not our statement was in error depends upon whether any of those flying boats saw “action.” (Certainly the American-designed Curtiss JN4-D, the legendary “Jenny,” saw service as a trainer, but not action in combat.) If any of those Curtiss-designed flying boats fired shots in anger or perhaps tangled with U-boats then we’re guilty of omitting the exception that, frankly, proves our point that the Great War was fought by airplanes of other than American design.

The Vietnamese Air Force Museum

*Truong Chinh Street
Dong Da District
Hanoi, Vietnam*

Open daily. Admission: 5000 Dong (\$.50 US)

While spending a year teaching English in Bangkok, Thailand, I visited aviation museums from Thailand to Japan. One of the most interesting was the Air Force Museum in Hanoi, Vietnam. The museum's displays, photos and artifacts describe the birth of the North Vietnamese Air Force in 1954 through to the united country's air force and general aviation today. The main emphasis is on the years from 1963 to 1975 during the war with the U.S. and South Vietnam. It is a fascinating account of the aerial war seen from the North Vietnamese standpoint.

Outside on wide grounds stand jet fighters, helicopters, trainers and ground support vehicles such as radar trucks and bulldozers. Signs posted on various aircraft and vehicles state the locations and



MiG-21 display with 2nd MiG-21 and a MiG-19 in left background.

dates they saw action. Aircraft such as MiG fighter planes that saw combat have signs explaining the aircraft and sometimes the pilot who flew it. Kills are indicated by red stars painted near the cockpit. The MiG-17, MiG-19 and MiG-21 fighters are on the grounds outside. Rocket pods, Atoll air-to-air missiles and bombs are still mounted on the airframes. In addition to the fighters are several helicopters, a Soviet MI-4 used to transport the North Vietnamese leader Ho

Chi Minh, and a gargantuan MI-6 used in transporting heavy cargo loads. One photograph showed a MiG-21 slung under the belly of the huge chopper en route to an airfield. Several other helicopters as well as jet and prop trainers rounded out the Soviet collection. A second series of aircraft consisted of equipment captured from the former South Vietnamese Air Force after war's end in 1975. These are an A-37 Dragonfly, Northrop F-5 and an U-17 trainer.

Inside the museum the displays range from a mix of U.S. and Soviet aircraft equipment to photographs, documents and artifacts. There are photos of North Vietnamese "Top Guns," ground crews, support units, air defense units and so on. Mixed in with these are many political photographs (actual caption: "Prime Minister Pham Van Dong & Mr. Van Tien Dung came to air force headquarter to control & encourage airmen while B52 hysterically attacking Hanoi"). Although some are interesting the majority of shots with politicians and bureaucrats have little relevance to an American visitor.

The artifact collection ranges from the interesting to the devastating. Gunsights and control sticks from victorious MiG fighters are mounted with captions explaining their significance. Detailed drawn and painted maps as well as scale landscape models show famous air battles with US planes. Stills from gun camera footage from MiGs show F-4s and F-105s in their final moments. Other pictures show smoke trails of falling aircraft hit by SAM missiles or flak. Nearby in a glass display case were possessions taken from Colonel Norman Gadix, USAF, a pilot who according to the display sign was shot down on May 12, 1967 and captured. Other photos of captured U.S. pilots are also displayed.

Besides the photos of shot down U.S. aircraft, there are piles of debris from fallen aircraft both inside and outside. There are jet engines, fuselage parts, metal chunks, etc. I recognized the tail boom of a Huey chopper in one pile of scrap. In one corner there is a fully intact Sidewinder air-to-air missile inside the museum hall. The only historical fact I really wanted to know about this exhibit was if it had been disarmed

or not! Other ordnance (both spent and questionable) is on display inside. For any Top Gun daydreamers there is a nose section from a MiG-21 fighter complete with preserved cockpit. Visitors are encouraged to climb in and have their picture taken. But sorry, you'll have to bring your own flight gear.

This museum is seldom seen by tourists despite its fascinating array of exhibits. It's dusty inside the museum halls and worn looking. Every aircraft and vehicle outside exhibits some sort of damage from the tropical weather: corrosion, rust, fading paint, glazed and cracked glass, and flat tires. It was no help that just before the 20th anniversary celebrations of the end of the war every aircraft outside received a fresh

coat of paint, some in hideous colors and patterns. My questions about the historic value of the aircraft there went unanswered. I could not find anyone who could speak English with me about the displays and my Vietnamese is pretty poor.

Bicycle parking is free at the museum. The operating hours are unknown at this time, but the doors close from 12 to 2 pm for lunch like most other businesses and institutions. I would encourage anyone with an interest in the history of the Vietnam air war or just aviation itself to pay this museum a visit. It's an experience in Vietnamese aviation in war and peace.

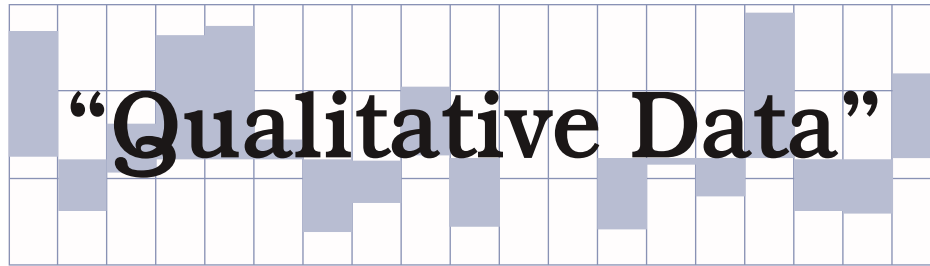
—Michael Mullen



Possessions from Colonel Norman Gadix: flight helmet, dog tags, photo of the colonel after capture, pilot ID card, ID cards of plants for survival measures, shoes and cloth stating situation of pilot in several languages after being shot down.

Michael Mullen, TIGHAR #1410C, has been a member since his junior year of college. Following his graduation in 1994, he took a position teaching English in a secondary school in Bangkok, Thailand. Using his time wisely, he spent vacations visiting air museums throughout southeast Asia. Mike now lives in Boca Raton, Florida.





Amelia Earhart—Case Closed? by Walter Roessler & Leo Gomez with Gail Lynne Green. Aviation Publishers, Markowski International Publishers, Hummelstown, PA: 1995. Soft cover, \$16.95.

This year's what-really-happened-to-Amelia-Earhart book was co-authored by two retired airplane mechanics who are quite convinced that she simply ran out of fuel and "plunged into the Pacific" not far from Howland Island. Right up front they avow that "This book is not based upon speculation. Everything you are about to read is derived from factual information." To further assure the skeptical reader, the book leads off with endorsements by Earhart biographer Doris Rich ("... a riveting account of exactly what happened"), National Aerobatic Champion Patty Wagstaff ("The authors give us the facts..."), EAA Chairman Paul Poberezny ("...the most accurate philosophy of what happened..."), and retired Brigadier General Chuck Yeager ("...factual and very good. It contained all qualitative data"). Whew! After all that, it's really a shame that the book is so riddled with factual error.

Some of the mistakes are as obvious as they are harmless (Earhart's first flight across the Atlantic was in 1928, not 1929). Unfortunately, however, this sloppiness carries over into substantive issues and presents a distorted and inaccurate picture of the circumstances surrounding the disappearance. For example, the authors state:

On June 28, they [AE & FN] took off for Darwin, Australia. They stayed two days, apparently for some much-needed rest,

since no mechanical repairs were reported. While there they shipped their parachutes back to the U.S., to save weight. On June 30 they arrived in Lae, New Guinea...

Well—that's not what happened. Earhart and Noonan did not stay at Darwin for two days. They departed at 0600 the next morning. During their short stay, some repairs were, in fact, accomplished and are well documented. Also, Earhart picked up (rather than discarded) two parachutes which had been shipped to Darwin (see *TIGHAR Tracks* Vol. 10, No. 1 "Hit Or Myth"). She arrived at Lae, New Guinea on June 29, not the 30th. In short, the authors got everything wrong except the date of arrival in Darwin.

It's impossible to reach good conclusions from bad facts. Roessler and Gomez think that the Electra's Radio Direction Finding loop antenna was non-rotatable (even though there is plenty of newsreel footage which shows it being rotated); they think the airplane's maximum fuel capacity was 1202 gallons (although Bureau of Air Commerce records clearly show that it was 1151 gallons); they think the airplane left Lae with 1,150 gallons of fuel aboard (although both of the two expert contemporaneous written accounts say 1,100 gallons); they think the engines burned 56 gallons per hour (instead of the 38 gph shown in the power profile prepared for Earhart by Lockheed's Kelly Johnson); and so on.

About a quarter of the book is taken up by the authors' exposition of their theory about the cause of Earhart's March 20, 1937 groundloop in Hawaii. They are quite certain that a failure of the right-hand propeller to go

into low pitch/high RPM for takeoff resulted in asymmetrical thrust which caused the loss of directional control. Proof is offered in photographs taken shortly after the accident which supposedly show the offending propeller in the high pitch/low RPM setting. It's an interesting hypothesis and it is certainly true that problems were experienced with the right-hand prop during the Oakland–Oahu leg of the flight. The trouble is, the pictures don't seem to show what the authors say they show. Maybe we're dense, but we just can't see it. We also have to wonder why, if the starboard prop

was in coarse pitch when take-off power was applied, the first indication of trouble wasn't the sudden appearance of pistons punching through the cowlings?

Little need be said about the authors' accusations that TIGHAR's findings regarding the Earhart disappearance are an outright hoax. Their representation of our work is as inaccurate as the rest of the book. In the end, *Amelia Earhart—Case Closed?* is yet one more example of the kind of research and reasoning which has kept Earhart's fate a mystery for nearly sixty years.



Amelia Captures the Japanese

This is the newest book about Amelia Earhart. Unfortunately, we can't read it, so we can't review it. Anyway, we've got it. If you would like to have a copy of this book, you can write to the author, Fukiko Aoki Hamill, 95 Horatio Street, Apt. 602, New York, NY 10014. If any of our members who read Japanese would like to review this book for *TIGHAR Tracks*, we can arrange for a review copy to be sent to you.



A Matter of Fact ...

Things Not Said
Things Not Said
Things Not Said
Things Not Said
Things Not Said

Whose last words have been studied more than those of Amelia Earhart? Set down within moments of being heard by the *Itasca's* radio operator, the hurriedly typed phrases paint a maddeningly incomplete, and too often cryptic, picture of tragedy. In the untidy pages of the Coast Guard cutter's original radio log some see the cynical fabric

of a government sham; others hear the desperate cries of a little girl lost; still others perceive only the hand of a hopeless incompetent. That there should be multiple interpretations of these final

communications is hardly surprising given the many ambiguities they contain. TIGHAR researchers have recently discovered, however, that some key entries in the *Itasca* radio log have, from the very beginning, been misinterpreted.

radio log shows that Amelia probably never said "about one hundred miles out" at all. It is clear from the platen mis-alignment that the phrase was later added to the 0646 entry in which Earhart says she "will make a noise in the microphone" upon which she hopes *Itasca* will take a bearing. It is also clear from an earlier entry that this operator uses a dash to separate his own comments from the text of the message. With the added knowledge

I WILL MAKE MOISE IN MIC -ABT 100 MILES OUT

that it was part of the operator's duty to judge distance based on the strength of reception, it becomes apparent that the "one hundred miles out" estimate is the operator's, not Amelia's.

Going In Circles

A similar controversy has swirled around the 0758 transmission from Earhart in which she said that "We are circling but cannot hear you.

KHAQQ CLNG ITASCA WE ARE CIRCLING. BUT CANNOT HR U GA ON 7500 WID A
LNG COUNT EITHER NW OR ON THE SKD TIE ON 1/2 HOUR (KHAQQ S5 A3)

Far Out

Why, at 0615 local time, did Earhart report that she was "about two hundred miles out" and yet, only half an hour later at 0646 claim to be "about one hundred miles out"? If the 150 mph Electra is really making 200 mph then either Amelia has firewalled the engines and is burning fuel at a suicidal rate, or her secret spy plane has unsuspected capabilities. The other possibility is that one of her position estimates was wrong, but which one? And what does that say about her navigation, and about her navigator?

The correct answer, as it turns out, is none of the above. A close examination of the *Itasca*

Go ahead on 7500 [kilocycles] with a long count either now or on the scheduled time on the half hour." Why is she burning precious fuel circling and why is she willing to wait fully half an hour for *Itasca* to comply with her request?

To decipher this message it is important to understand that Earhart's radio schedule called for her to transmit at a quarter to and a quarter past each hour, and to listen for messages on the hour and the half hour. In accordance with that schedule, at 0742, she said, "We must be on you but cannot see you, but gas is running low. Been unable to reach you by radio. We are flying at 1000 feet." Sixteen minutes later, at 0758, having heard no reply, she tries again—but does she say that she is "circling"?

A close look at the *Itasca* radio log shows that another word was originally typed in that position but was erased. “Circling” was later inserted with, again, a slight misalignment of the typewriter’s

IG OK PLS Y WI
ARE CIRCLING
OR ON THE SKJ

platen. By computer manipulation it is not difficult to remove the strike-over and reconstruct the erased word. The operator originally thought Amelia said, “We are drifting but cannot hear you....” For whatever reason,

IG OK PLS Y WI
ARE DRIFTING
OR ON THE SKJ

perhaps because “drifting” doesn’t make any sense, he went back and changed the word to “circling.” We strongly suspect that what Amelia

IG OK PLS Y WI
ARE DRIFTING
OR ON THE SKJ

really said was, “We are listening but cannot hear you.”

Amelia’s request for the *Itasca* to transmit “...either now or on the scheduled time on the half hour” makes perfect sense in light of the fact that, for her, it was 19:28 Greenwich Time. Amelia was really saying, “Send me a signal either now or in two minutes.” Contrary to her earlier requests, however, the Coast Guard persisted in using local time, and because they used half-hour time zones, their entire radio schedule was thirty minutes out of synch.

The Lost Messages

Conjecture has always swirled around the oddly long time lag between Earhart’s two final transmissions. At 0800 local time she responded to the *Itasca*’s broadcast on 7500 KC by saying that, although she had heard the signal, she was “unable to get a minimum” (take a bearing using her Radio Direction Finder). She then asked them to take a bearing on her and sent long dashes on 3105 KC. Nothing further was heard from the aircraft until suddenly, at 0843, she was back on the air with what proved to be her final message. “We are on the line 157-337....” Why, if she was so concerned about fuel, so concerned about her inability to find Howland Island, so concerned about the lack of radio contact, was she silent

for nearly forty five minutes? But was she?

Despite her difficulties, Amelia had faithfully maintained her announced radio schedule of transmissions at a quarter to and a quarter past the hour. *Itasca* heard her at (give or take a couple of minutes) 06:15 and 06:45, but from 07:14 to 07:16 *Itasca* was blocking the frequency with attempts to call her. Earhart transmitted faithfully again at 07:45 and acknowledged the *Itasca*’s signals at 0800. But once more, at her scheduled broadcast time of 08:15, *Itasca* was blocking the frequency with calls to her. She was heard again, and for the last time, at 08:45. It would appear, therefore, that Earhart was conducting herself in a calm and professional manner throughout the crisis and that it was the men of the *Itasca* who were flustered and breaking schedule. Earhart probably transmitted at 07:15 and 08:15 local time but was blocked by *Itasca*. What she said we’ll never know.

TIGHAR has determined that there was, in all probability, no discrepancy in Earhart’s position estimate, no irrational “circling,” and no significant deviation from her announced radio schedule. At the time the *Itasca* stopped hearing transmissions from NR16020 there is every indication that its crew was dealing with the emergency and exercising its options in a rational manner. The same can not be said for the crew of the *Itasca*. 🐾



USCG Itasca

Photo courtesy National Archive

A View To the Sea

I consulted several things in my situation, which I found would be proper for me.

First, health and fresh water...

Secondly, shelter from the heat of the sun.

Thirdly, security from ravenous creatures...

Fourthly, a view to the sea, that if God sent any ship in sight I might not lose any advantage of my deliverance...

—Robinson Crusoe, *His Life and Strange Surprising Adventures*
D. Defoe, 1719



Continuing research into an unnatural-appearing area visible in early aerial photography of Nikumaroro (see *TIGHAR Tracks* Vol. 11 No. 3, “The Gilligan Hypothesis”) has prompted further speculation about its cause and possible significance. Whether this highly uncharacteristic break in the island’s beachfront vegetation is associated with the Earhart disappearance is still an open question. That the area (long since grown back to dense bush) merits detailed on-the-ground examination when TIGHAR returns to the island in September seems obvious. In the meantime, there are some observations which can be made through comparison of the four photographic images and their correlation to available historical and environmental data.

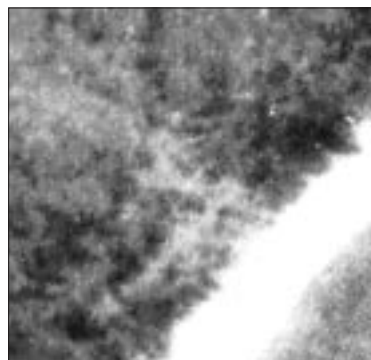


July 9, 1937

This is a detail from a photo taken at about 08:30 in the morning, one week to the day after Earhart’s *Electra* disappeared. The picture, shot from one of three float-planes launched from the

battleship U.S.S. *Colorado*, is the earliest known aerial photo of the island. Although the quality of the image is not good, the opening in the beachfront vegetation is clearly visible. Historical records show that the region is receiving normal rainfall during this period and the island’s foliage is green and lush.

The next time the island was photographed from the air was fifteen months later when a New Zealand survey team arrived to assess the island’s suitability as a refueling stop for transpacific air commerce (“not suitable” was the verdict). In this enhanced detail, the opening in the beachfront vegetation is more pronounced than it was

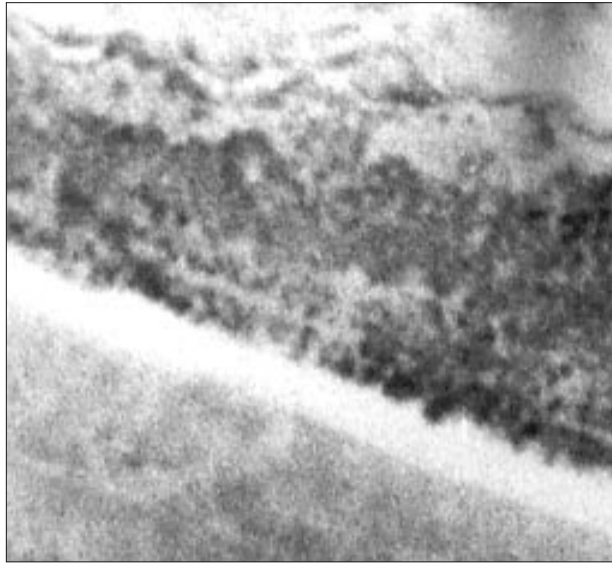


December 1, 1938

in 1937, possibly because the region had been experiencing a severe drought for the past year. It is apparent that the bare areas are oriented along straight

lines—a strong indicator of human rather than natural causation. At the time this photo was taken the island had been uninhabited since 1892.

The first overhead mapping photos of the island were taken by the U.S. Navy as part of a survey of the entire Phoenix Group. The detail below appears to show some recovery to the area, which



April 30, 1939

makes sense given that the drought broke in January and the region had once again been experiencing normal rainfall. Oddly, however, there now seems to be a plume of discoloration on the reef-flat which appears to

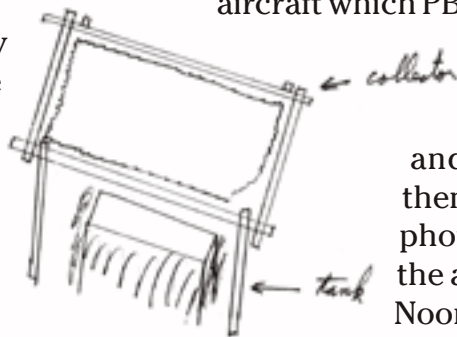
emanate from the beach directly in front of the open area and trail off to the southeastward. At this time there were roughly two dozen Gilbertese settlers on the island clearing land for a village three miles from this spot.

The latest view we have of this feature (below) is also the best. As tensions in the Pacific rose, the U.S. Navy started to gather information about various islands. As part of that process, at least four PBYS of VP-22 visited Gardner and took a number of low altitude oblique photographs. This is a detail from one of those photos and, although there is no indication that the Navy thought this feature was interesting, we find it rather intriguing. In the two years since the last photo, there appears to have been a considerable deterioration in the vegetation, despite the fact that the region's rainfall had been normal and the rest of the island looks healthy. Not only has the clearing grown, but we can now see individual features which differ in appearance from the bushes and seem to be more characteristic of structures, as if coverings of some kind have been erected on poles to provide shade. The discoloration of the reef-flat seen in the 1939 photo is still apparent. At the time this photo was taken, about 57 Gilbertese were living at the other end of the island.

June 20, 1941



At this time, all we can say with certainty is that there was, for several years, an opening in Nikumaroro's beachfront vegetation which exhibited features characteristic of *Cistern sketch* human activity and that this was present well before any documented settlement of the island. Without a photo pre-dating July 1937 it is impossible to know whether the opening was there prior to Earhart's disappearance. However, if these are the "signs of recent



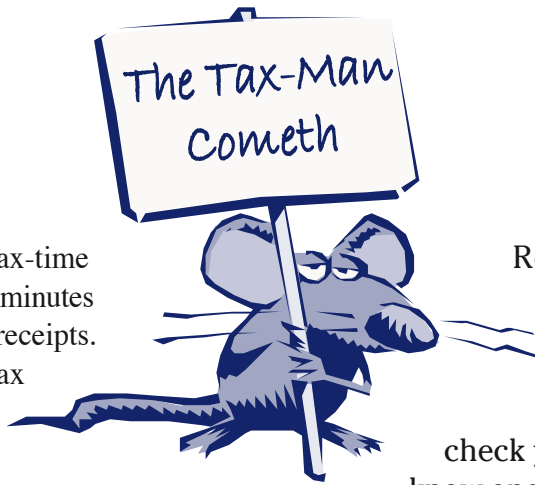
habitation" reported by Colorado's Senior Aviator; if one of the objects visible in the 1941 photo is the "water collection device" seen in 1944 by Coast Guardsman Richard Evans; if somewhere back in the bush is the aircraft which PBY pilot John Mims was told about in 1945; if the aircraft parts TIGHAR found in the abandoned village in 1989 and 1991 came from here; then the implications of these photographs with respect to the amount of time Earhart and Noonan may have survived on the island are staggering.

Stand By

Originally scheduled for this issue of *TIGHAR Tracks*, the concluding installment of our series on the Earhart Electra is waiting on further research. Parts One (*TIGHAR Tracks* Vol. 11 No. 2) and Two (*TIGHAR Tracks* Vol. 11 No. 3) traced the many changes in the external appearance of Lockheed 10E Special c/n 1055 from its delivery in July of 1936 to its disappearance a year later. Part Three will document the evolution of the airplane's internal fuel and communications systems and that (surprise, surprise) is proving to be very difficult indeed. So far, we have most of

the fuel system documented through Bureau of Air Commerce inspection reports, a few photographs and a blueprint schematic found in the Purdue University Archive Special Collection. The communications gear is proving much tougher to pin down, in part because of the many post-loss proclamations by various parties as to what radios and accessories were and were not aboard for the final flight. We're getting there, but it's taking longer than we thought it would. We'll publish Part Three as soon as we're sure we've got it right. 🐾

As the end of the year and tax-time approach, please take a few minutes to review your TIGHAR receipts. Due to changes in the tax laws, effective for 1995, you can no longer take a deduction for any donation in excess of \$249.99 without a receipt. If you have made such a donation to TIGHAR and do not have a receipt, please call or write Pat and a new one will be issued immediately.



Receipts are issued for all donations made to TIGHAR. If you do not have a receipt for every check you have sent, let us know and we will be happy to provide duplicates. Thanks for your generosity this past year. Happy holidays!

CYBER TIGHAR

Change is once more coming upon us in the computer world. Due to lack of maintenance time here at headquarters, we have decided to abandon the TIGHAR Bulletin Board. Instead, we are going to put a home page on the World Wide Web. This will be a much more flexible and wide-reaching medium for us, and will also free up a little table space in the mail room.

We don't expect to be able to get the home page up and running before about the end of January. That gives us the time to find out from you what you would like to see there—all ideas gratefully accepted.



Until our web site is ready, TIGHAR's Email address is:

TIGHAR@AOL.com

This address is accessible from all other systems, as far as we know. We are able to access all major networks and the Internet from AOL and can send Email across all the boundaries. So keep those flashes and postings coming, and we'll let you know as soon as our home page is ready to roll.

The bulletin board hardware, all of it donated, will be stored against a need to do DOS processing. If no such need is encountered inside 6 months, we will donate the system to a local school. Thanks to everyone who donated hardware to the TIGHAR BBS, and to everyone who signed on and used it. See you on the Web.



Honeywell helps the TIGHAR keep on tracking

For several years, Honeywell has provided funding for TIGHAR's important historic aircraft recovery work. We are now taking a role as a dedicated sponsor for this worthwhile publication.

This is especially appropriate, we believe, for a company like ours. Honeywell itself has been in the aviation electronics business since World War II. But with our acquisition of Sperry eight years ago, we trace our heritage to the very beginning of powered flight.

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