

THE OBJECT FORMERLY KNOWN AS NESSIE

A photographic image the size of a grain of sand may be the best stand-alone piece of evidence yet found to reveal the fate of Amelia Earhart. The nearly microscopic dot is in a wallet-size photo of Gardner Island (now Nikumaroro) taken three months after Earhart's aircraft disappeared. TIGHAR and U.S. Government photo analysts agree that the image seems to show the wreckage of a main landing gear assembly from a Lockheed Electra. There is only one possible source for such debris in that place at that time – Earhart's Model 10E Special NR16020.



The Bevington Photo measures 2.5 by 3.5 inches and is reproduced here actual size.

ORIGIN OF THE PHOTO

In the early 1930s, His Majesty's Gilbert & Ellice Islands Colony had a problem. Since "the coming of the flag" in 1892, British administration had resulted in steady population growth. The amount of available land on the colony's low coral atolls, of course, remained unchanged and by 1931 over-population was at crisis level, especially in the Southern Gilberts. It was obvious that new land suitable for development must be found.¹ In September 1937 Lands Commissioner Harry Maude was directed by the Western Pacific High Commissioner to mount an expedition to determine which of the islands of the remote Phoenix Group might be suitable for colonization and settlement.² For an assistant, Maude recruited newly arrived Cadet Officer Eric R. Bevington.

From September 18 to October 31, 1937, sailing aboard the Royal Colony Ship *Nimanoa*, Maude,



Gilbert & Ellice Colony Lands Commissioner Harry Maude (center, hands on knees) and Cadet Officer Eric Bevington (to Maude's left) with the Gilbertese delegates.

Bevington and 19 Gilbertese representatives inspected all eight islands of the Phoenix Group. Bevington kept a journal and took photos. The expedition spent three days at Gardner – October 13, 14, and 15 – and found the atoll suitable for future settlement. Bevington's journal is on the TIGHAR website at http://tighar.org/Projects/Earhart/Archives/Documents/Bevington_Diary.html.

¹ *Of Islands and Men*, Harry Maude, Oxford University Press, 1968, p. 320.

² *Ibid*, p. 321.

In 1939 Eric Bevington, by then a District Officer in the Gilbert & Ellice Islands Colony, sent his expedition journal and a collection of his photos home to his father in England. The negatives of the photos were destroyed when the Japanese invaded the Gilbert Islands in December 1941. Fortunately, Bevington and his family escaped to Fiji. The only surviving prints of the photos Bevington took during the 1937 expedition remained with his father until Bevington retired and returned to England many years later.

What we now call The Bevington Object is a tiny feature in one photo among two hundred fifty-three pictures in the collection of a minor British colonial official. Is this incredibly small speck in an impossibly obscure photograph the long-sought conclusive proof that the Earhart/Noonan flight ended on Gardner Island? Is there other evidence that supports the idea that an object in that place at that time might be wreckage from the Earhart aircraft? What can experts see in such a tiny picture that allows them to identify it so specifically? Do we have to take their opinion on faith or can we see this landing gear wreckage for ourselves?

THE PLANE ON THE REEF – EVOLUTION OF A HYPOTHESIS

The Bevington Object may be the best stand-alone piece of evidence yet found to reveal the fate of Amelia Earhart – but it does not stand alone. It fits perfectly into the puzzle picture that has gradually come together during a quarter century of TIGHAR research.

First Hints: The 1989 and 1991 Expeditions

During the course of TIGHAR's first two expeditions to Nikumaroro we found aircraft artifacts in the island's abandoned village. The Gilbert and Ellice Islanders who lived on the atoll from 1939 to 1963 used salvaged aircraft parts to make fishing lures, combs, and other small items. During the island's period of habitation, no aircraft were lost or even damaged there. Where did the aircraft parts come from?

Most of the bits and pieces found in the village are too generic to be traceable to any particular aircraft type but the handful that bear part numbers are from a Consolidated B-24 Liberator bomber, possibly one that is known to have crashed on Canton Island, about 200 miles away, in 1944. A few aircraft artifacts found in the village, however, do not seem to match any WWII type and appear to be consistent with components of a Lockheed Electra.



Combs fashioned from aircraft aluminum found in the abandoned village on Nikumaroro.

The Lockheed Vanishes

The more we learned about the island's documented history and the more time we spent exploring the island ourselves, the more we came to believe that there was little or no chance that there was an undiscovered airplane wreck lurking in the bush. This presented an interesting conundrum. The radio distress calls heard for several nights following Earhart's disappearance on July 2nd could only be sent if the aircraft landed safely but the failure of the U.S. Navy aerial search one week later suggested that, by July 9th, the aircraft had somehow disappeared. How could that be?

From almost the beginning, one possibility seemed obvious. The following is from an article in *TIGHAR Tracks*, Vol. 5, No. 4, November 1989:

The broad, flat expanse of hard coral which surrounds the island's shore dries at low tide to provide a very attractive surface upon which to make a forced landing. However, a disabled aircraft on that reef-flat would, at high tide, be partially afloat in 3 to 4 feet of water. Over a period of a few days tidal cycles would move the aircraft inexorably toward and ultimately over the edge of the fringing reef. From there it's a steep plunge to depths of 2 to 4 thousand feet.



Nikumaroro is surrounded by a broad, flat reef that dries at low tide.

But where on the atoll's roughly ten miles of reef might it have happened and, if the plane went over the edge and sank in deep water, how did the people who later came to the island end up with pieces of it? Or was there some other explanation for the radio signals and airplane parts? The puzzle was becoming more puzzling.

Bevington Photo: First Iteration, 1992

We first became aware of Eric Bevington's photos when, on January 22, 1992 TIGHAR President Pat Thrasher and I visited Eric and his wife Enid at their retirement cottage in the south of England. The purpose of the visit was to interview Bevington about his participation in the



Eric and Enid Bevington, January 1992.

and delighted to compare notes about our mutual experiences on Gardner Island, but he was highly skeptical of the idea that Earhart had landed there. (A DVD of our videotaped discussion "An Interview with Eric R. Bevington," is available in the TIGHAR Store.)

During the visit, Bevington brought out the album of photographs he had sent home to England in 1939. Pat asked if she might take photos of the pages in the album. Eric readily agreed and gave TIGHAR permission to reproduce his photos. Pat took copy-photos with a Nikon 8008 SLR camera fitted with a Nikon 30/70mm zoom lens and a Nikon Speedlight SB-24 flash. She laid the album on a coffee table and hand-held the camera to photograph each of the pages. We were, of course, especially interested in the fifteen photos taken at Gardner Island during the 1937 expedition. Four of the pictures gave us our first look at the



The page from Bevington's album that includes "Gardiner Island and the wreck."

S.S. *Norwich City* shipwreck as Earhart may have seen it. One photo, labeled "Gardiner (sic) Island and the wreck" provided an excellent profile view of the ship. Neither we, nor Bevington, noticed the tiny dot near the left hand edge of the picture.

Cropped Out

Upon returning to the U.S. we developed the film and made prints of the more interesting photos. Because our primary interest at that time was the condition of S.S. *Norwich City* in 1937, I made an 8 x 10 inch print of "Gardiner Island and the wreck" and, to enlarge the ship, I cropped out the left hand portion of the frame, thus removing the unnoticed anomaly from view. It would remain hidden for the next eighteen years.



1995: The Lockheed Reappears

As TIGHAR's investigation of the Earhart disappearance continued, we encountered more information that supported the theory that the aircraft had been landed somewhere on the reef and was subsequently washed over the edge. In 1995, after seeing a television documentary about TIGHAR's work, Dr. John Mims, a retired physician in Tuscumbia, Alabama, contacted us with a story from his time as a Navy PBY flying boat pilot during WWII. Assigned to Patrol Aircraft Service Unit (PATSU) 2-2 based at Canton Island, Ensign Mims flew regular re-supply runs to the Loran navigations stations in the Phoenix Chain from December 1944 to February 1945. On one visit to Gardner Island the settlers proudly showed him a large fish they had just caught. Mims was astonished to see that the hook in the fish's mouth was crudely fashioned from aircraft aluminum and the "leader" on the fishing line was clearly an aircraft control cable. As Mims described in a March 1995 letter:

I asked the native about the hook and leader, and he promptly informed me that it came from a wrecked plane that was there when he arrived some (?) three years earlier (apparently no one lived on the island prior to 1941). He said the plane was much smaller than mine. The question arose at the time about Amelia Earhart, but we knew that she had a flight plan for Baker Island [sic], which was several hundred miles to the north where a small runway was present. Also, we had no knowledge of any plane lost at that location.

As I got to know these people they started giving me gifts in exchange for the things I would take to them. They showed me crude knives made from aluminum by grinding it with seashells and sand. At the present time I still have some jewel boxes and outriggers with inlaid diamond, heart, and star-shaped pieces of aluminum that they said came from the wrecked plane.



Ensign Mims in 1944.



Dr. Mims in 1995.



Carved wooden boxes inlaid with metal "from the wrecked plane."

Dr. Mims let us remove one of the inlaid pieces of aluminum and have it tested. It's 24ST AL-CLAD, the kind of aluminum sheet used in the construction of Earhart's Electra – and virtually every WWII American aluminum aircraft – but Mims was on Gardner before the locals had access to WWII wrecks.

Dr. Mims' story was fascinating and supportive of our hypothesis, but it was still just a story, an anecdotal recollection that might or might not be accurate, and we still had no idea where on the reef the plane may have landed.

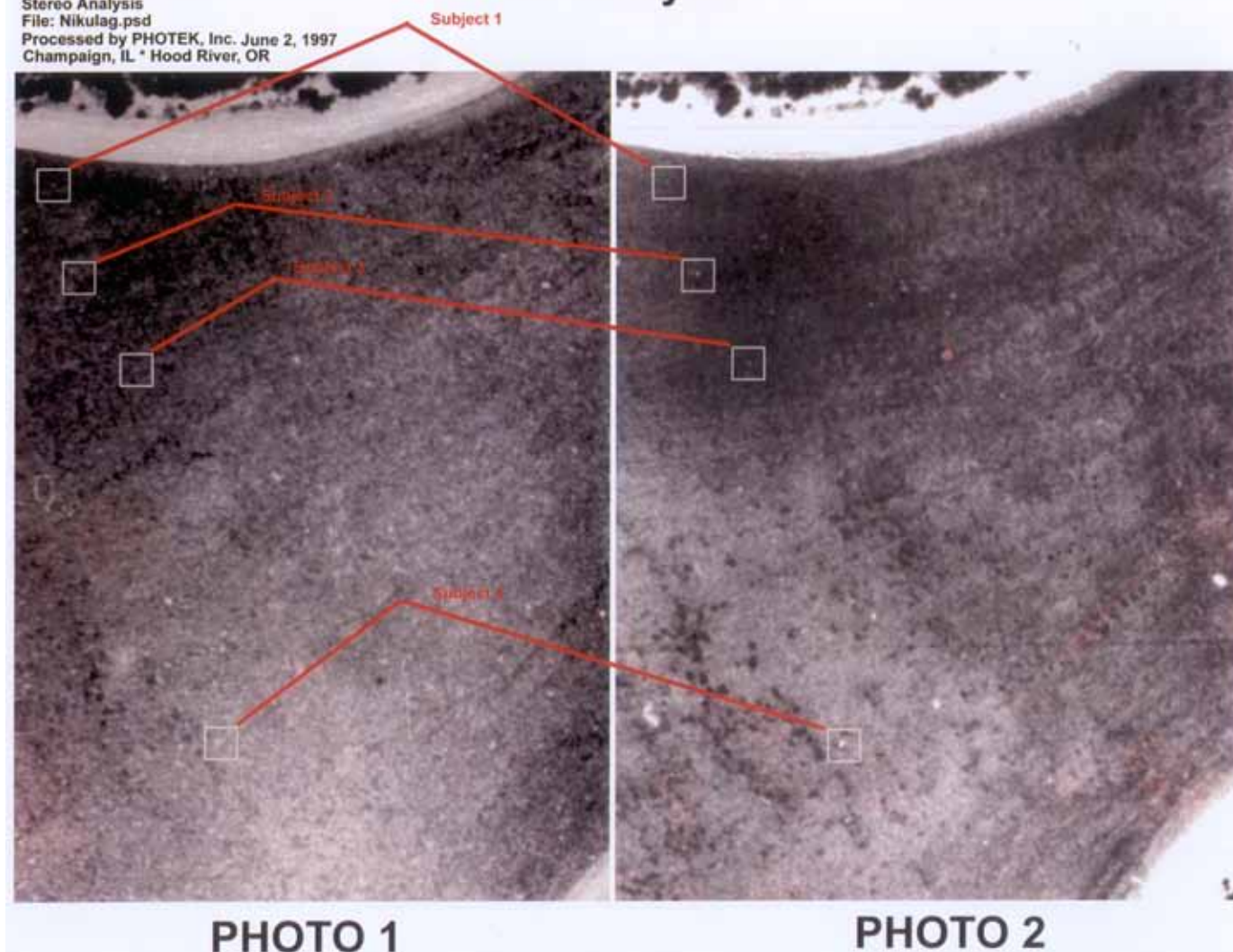
1997: Wreckage on the Reef

Our lucky break came at the end of the 1997 expedition. During an unscheduled stop at Funafuti Atoll we met former Nikumaroro resident Tapania Taeke who told us of seeing aircraft wreckage on the reef near the main lagoon passage in the 1950s. When we got home we asked forensic imaging specialist Jeff Glickman if he could find corroboration of her recollection by examining aerial mapping photos taken in 1953. Jeff was able to find four light colored objects, possibly aluminum, on the reef surface in the area described by Tapania.

If there was aircraft aluminum near the main lagoon passage, where did it come from? Debris from the shipwreck is distributed on the reef surface to the southeastward. If the objects in the 1953 photos were aircraft debris, the aircraft must have broken up somewhere to the northwest. For the first time we had a general impression of where the plane may have landed. As research continued, a picture began to emerge.

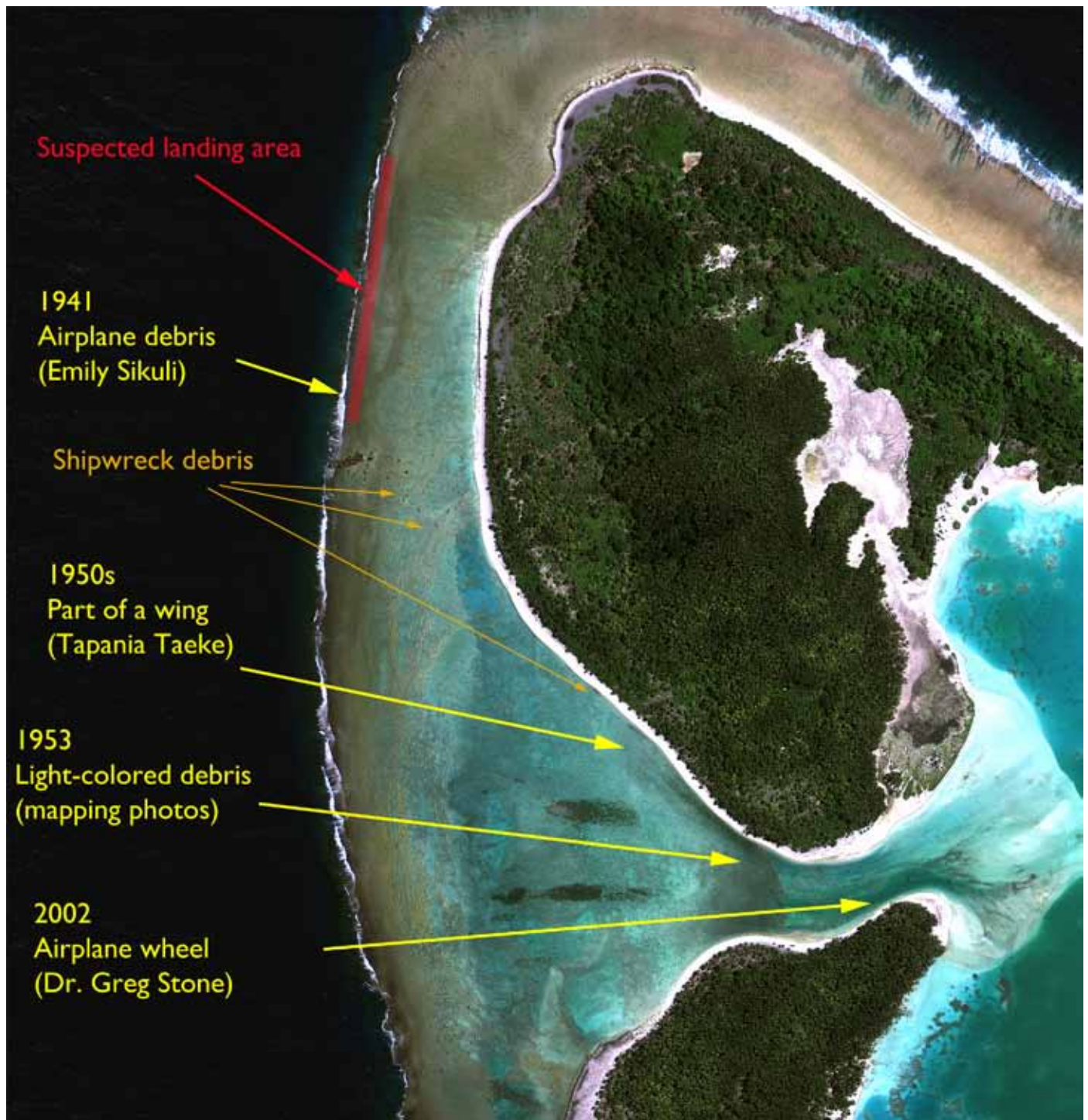
TIGHAR/EARHART
1953 Aerial Recon Photos
Stereo Analysis
File: Nikulag.psd
Processed by PHOTEK, Inc. June 2, 1997
Champaign, IL * Hood River, OR

Reef Analysis



Light colored objects appearing in two 1953 aerial mapping photos.

- ◆ In 1999 we interviewed a woman in Fiji who had lived on Nikumaroro as a teenage girl in 1940 and '41. Emily Sikuli described rust-colored metal debris on the reef edge that her father told her was part of an airplane. On a map of the island, she marked a spot north of the shipwreck.
 - ◆ In 2001, we inspected that part of the reef at low tide and found it to be suitable for landing an aircraft like the Electra.
 - ◆ In 2002, marine biologist Dr. Greg Stone reported seeing what appeared to be an airplane wheel near the shore in the main lagoon passage. When we got there to check it out in 2003, storm activity had swept it away.
 - ◆ In 2007, we surveyed the height of the reef surface to find out how water levels at various states of the tide in July 1937 correlate with reported post-loss radio signals from the Electra. Analysis based on that data revealed that, almost without exception, the credible signals were heard at times when the water level on the reef was low enough to permit Earhart to run an engine to keep the batteries charged.
- By the time preparations were underway for the 2010 expedition, we had a string of anecdotal, photographic and analytical data suggesting that Earhart had landed the Electra on the reef somewhere north of the shipwreck and sent radio distress calls for several nights until rising tides washed the aircraft over the edge where it broke up in the surf.



By January of 2010 the available evidence pointed to a relatively safe landing on a smooth stretch of reef north of the shipwreck, the subsequent break up of the aircraft in the surf, and the eventual distribution of some of the wreckage southeastward.

As part of the preparations for the Niku VI expedition in May and June of 2010, we put together a collection of all of the historical aerial photos of Nikumaroro and sent it to all of the expedition team members. On March 17, 2010 Arthur Carty suggested:

... since Jeff [Glickman] looked at some of these pictures quite a while ago, have there been any significant advances in photo/image processing tools or software that would justify taking another look at some point?

Jeff replied,

Yes, there have been advances that warrant looking at the images again.

Fortunately, Jeff didn't limit his review to the aerial photos and he already had the negatives of the 1992 Bevington copy photos. On April 1, 2010 he called me and asked, "What's the thing sticking up out of the water at the left hand side of Bevington's photo of the western shoreline?" I looked at



The full-frame 1992 copy photo. "What's the thing sticking up out of the water...?"

my copy of the photo (forgetting that it had been cropped) and replied that I didn't see anything. Jeff then sent me a scan of the full frame image derived from the copy negative.

There was something there – no doubt about it – but what could it be?

- ◆ A flaw in the photo? Jeff said no.
- ◆ A coral block thrown up onto the reef surface by a storm? No. Wrong shape and too complex.
- ◆ *Norwich City* debris? Too far from the shipwreck and in the wrong direction.
- ◆ Airplane wreckage? Maybe.

When something seems too good to be true, it usually is. The more exciting a new piece of evidence looks, the more caution is warranted. All we knew for certain was that we had an unknown something sticking out of the water. With tongue firmly in cheek, I dubbed it "Nessie."



Nessie

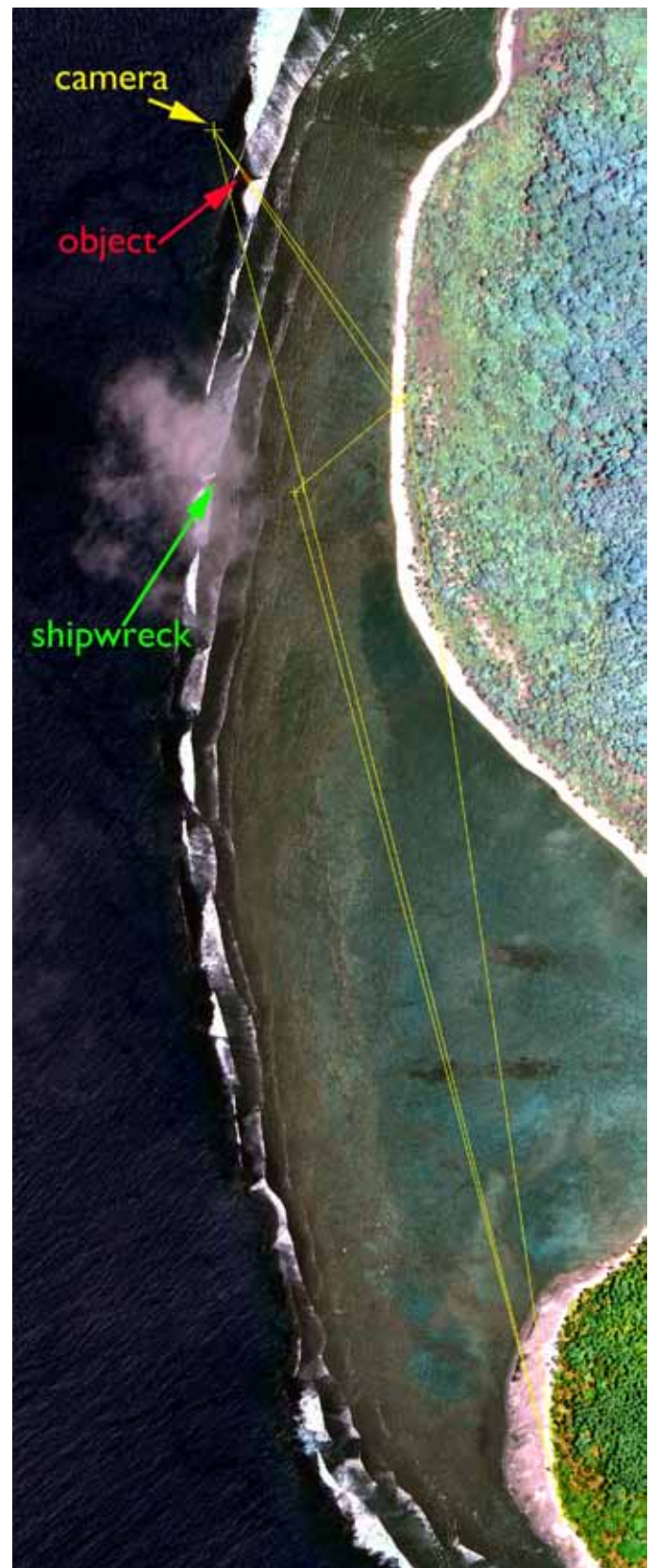
Jeff calculated the object's position by triangulating features that are identifiable in both the 1937 photo and in a modern satellite image of the island. With the ship of known dimensions providing a convenient scale, Jeff was able to place Nessie 416 meters – about a quarter of a mile – north of the shipwreck and at the very edge of the reef flat. It was the same spot Emily Sikuli had marked on our map eleven years earlier.

Could this be the “part of an airplane” Emily's father pointed out to her in 1941? Emily had given us a simple sketch of what she saw, a long shaft with a small round thing on the end. Enlarging the copy photo of Nessie as much as possible resulted in a fuzzy image that didn't look like Emily's sketch but did seem to resemble the main landing gear assembly of a Lockheed Electra standing upright on the reef. How could that happen? We wondered if perhaps a wheel had dropped into a groove in the reef surface and become jammed there. The force of the surf might then have torn the aircraft free and into the ocean, leaving the landing gear assembly behind.

Second Iteration

Nessie clearly had the potential to be an extremely important piece of evidence but, just as clearly, we needed something better to work with than the casual 1992 copy photo.

Before his death in 2004, Eric Bevington donated his papers and photos to the Bodleian Library of Commonwealth and African Studies at Rhodes House Library, Oxford University, England. Within a week of Jeff Glickman's discovery of Nessie we ordered a scan of the photo from Rhodes House. The best the library could do was 600 dpi, but the new image revealed far more detail and a very different picture of the object. It no longer suggested an intact landing gear assembly standing upright but rather a jumble of wreckage made up of distinct and measurable components – but did those components match the size and shape of anything on a Lockheed Electra?

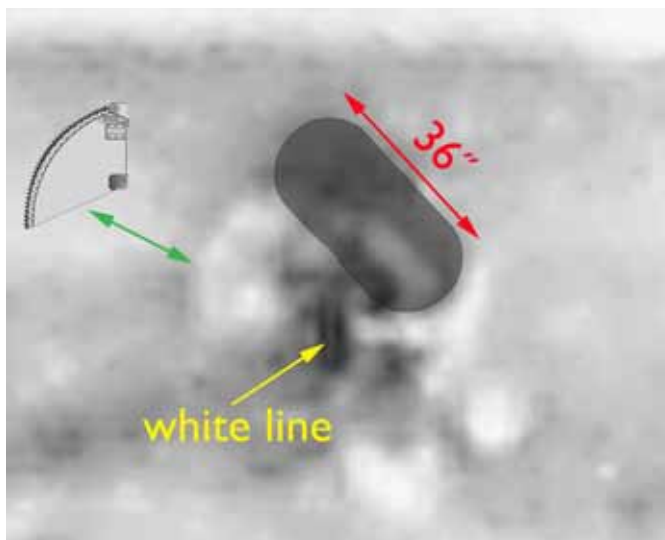


By identifying features visible in both the 1937 photo and a modern satellite image, Jeff Glickman was able to triangulate the position of the camera and the object.



The 600 dpi scan of Nessie.

Using data TIGHAR had collected from Lockheed c/n 1052 at the New England Air Museum in Windsor Locks, Connecticut, Jeff was able to match the size and shape of components of the Electra landing gear to specific elements in the new scan of Nessie.



Elements in the scanned image resembled components in the landing gear of Earhart's Electra.

The first item of interest was that the diameter of what might be a tire appeared to be roughly 36 inches – the Goodyear Airwheels on Earhart's Electra had a diameter of 35 inches. The second item of interest in the new image was a fine white line on the central dark area. The line is an illusion caused by image processing software in the scanner but the fact that the scanner put a line there suggests a cylindrical shape consistent with a landing gear strut. A third item of interest was a light colored section on the left side of the strut-like area. The size and shape was similar to the worm gear on the landing gear of Lockheed Electras – or rather, some Lockheed Electras. (See "Part No. 40776" page 45.)



The first 55 Lockheed Electras featured Lockheed Installation 40650, a main landing gear assembly that featured a heavy steel "worm gear" as part of the retraction mechanism.

The Niku VI expedition departed for Nikumaroro on May 17, 2010, six weeks after Jeff first discovered Nessie and less than a month after we received the new scan from England. If Nessie was landing gear wreckage that was still on the reef edge three months after the plane was washed into the ocean, the jammed-in-a-groove theory still seemed like the best explanation, but was there a groove in that location and, if so, was there any chance that some part of the object was still there? At low tide on May 27 Gary Quigg and I

went to the GPS coordinates calculated from Jeff Glickman's placement of Nessie. We didn't expect to find surviving debris on the reef surface, and we didn't, but we did confirm that there is a deep natural groove in the reef surface in that location.



TIGHAR's Gary Quigg beside the reef groove at the Nessie location, May 27, 2010.

Art Carty and I again inspected the area on June 8. Although the sea was relatively calm on both occasions, the slippery reef surface and the force of the tidal surge made it difficult to remain standing. The constant patrol of sharks was a reminder that falling on the sharp coral and floundering around in the surf would not be a good idea. An inspection of the groove itself was out of the question.

By the end of the Niku VI expedition we had found nothing to disqualify the hypothesis that the object in the 1937 photograph was landing gear wreckage jammed in the reef. So far, so good, but failure to disqualify is not the same as confirmation. Further research was clearly indicated. To better evaluate whether the shapes visible in the photograph matched the components of Electra landing gear, Jeff wanted hands-on, in-person familiarity with those components. So, in September 2010, Jeff Glickman and Niku VI expedition veteran Karl Kern paid a call on Lockheed

Model 10A constructor's number (c/n) 1011, the eleventh Electra built, at the Pima Air & Space Museum in Tucson, Arizona. The measurements and photographs they took reinforced Jeff's opinion that Nessie was the wreckage of Lockheed Electra landing gear, but in reporting his findings he had one request.

"Don't call it Nessie."

"Why not?"

"Because that name trivializes it, and this is not a trivial piece of evidence."



Forensic imaging specialist Jeff Glickman with Lockheed Electra c/n 1011 at the Pima Air and Space Museum, September 2010.

In twenty years of working with Jeff Glickman I had never known him to be so sure of anything as he was about this photograph. If he was right, we not only had photographic proof that the Electra had been there but we also knew where the plane went over the reef edge and, therefore, where we should look for the rest of the wreckage. That was too many eggs for one basket. We needed an independent expert opinion. With the help of Dr. Kurt Campbell, Assistant Secretary of State for East Asia and the Pacific Islands, we were able to get photo analysts from the Imagery Center of the State Department's Bureau of Intelligence and Research to examine the photo. On November 16, 2011 I sent a confidential report to TIGHAR's board of directors.

On Monday I had a meeting in Washington at the State Dept. Bureau of Intelligence and Research regarding the Nessie photo. I had sent them the hi-resolution version and asked them to evaluate it. At the meeting were three photo analysts. The senior analyst is about my age. He had a 20 year career in photo analysis with the USAF before coming to work at the State Department and is experienced in finding aircraft wrecks through photo analysis. The other two analysts looked to be in their early 30s.

"My colleagues and I have spent time with this photo and have also done some background research. We feel that what you have here may well be what you think it is - the landing gear of a Lockheed Electra."

They see the same things in the photo that Jeff Glickman sees - the strut, the mud flap, the worm gear, possibly the tire. What puzzles the senior analyst is that the assembly seems to be not only damaged but upside down. "The gear cannot still be attached to the airplane or we'd see more of the plane. If it's detached from the plane, why is the heavy side up?" He is under the impression that the tire end of the assembly would be heavier than the attach-point end. I don't think so. That worm gear is heavy and I think the tire would be buoyant - not buoyant enough to keep the whole assembly afloat, but enough to account for the assembly being upside down when it gets jammed in the reef.

He said, "In this business we have three levels of certainty - Possible, Probable, Confirmed. That this photo shows the landing gear of a Lockheed Electra is somewhere between Possible and Probable."

The principal reason he was that cautious was not anything about the photo but the fact that we don't have the original negative. "What are the chances that the print you photographed was made from a negative that had been doctored sometime between the time the photo was taken in 1937 and when you photographed the print in 1992?"

(Subsequent research has shown that the original negative was destroyed when the Japanese invaded Tarawa in December 1941. The prints in the album and the journal of the trip to Gardner in 1937 survived because Bevington had sent them home to his father in England in 1939.)

About the project in general, the senior analyst had this to say:

"You have a strong circumstantial case. You're not trying to sell anybody a bill of goods. You're doing good work but you've chosen a tough mission." His only criticism of TIGHAR is that we call the anomaly Nessie. "You're selling yourself short. Nessie was a fraud."

Regarding attribution, he said,

"What we've given you is our opinion as private individuals. The U.S. Government does not offer opinions on things like this. If the people I work for knew I was even talking to you about this they would have a fit."

This presented something of a quandary. We had independent support for Jeff's findings from an unimpeachable source, but we weren't going to get a written report and we couldn't even talk about it publicly - and they didn't like the name Nessie either. Still, it was good to know we were on the right track.

Third Iteration

When you're on the right track, it's important to keep moving along that track. What more could we learn from Nessie - or (ahem) the Bevington Object? The 600 dpi scan done in 2010 was a big improvement over the casual copy-photo taken in 1992 but, as Jeff Glickman explained,

When images are taken at a lower resolution, curved edges have the appearance of being sharp and are straight due to aliasing by the image sensor. This illusion is further exacerbated by image processing software in the scanner which attempts to increase the local contrast at these aliased edges.

What we needed was the best possible copy of the original print and the only way to get it was to go to Oxford ourselves. On April 26, 2012, with the

full cooperation of the Oxford University Rhodes House Library, Jeff Glickman used a state-of-the-art Nikon D800 camera with a Nikon AF-S DX Micro-NIKKOR 40mm f/2.8G lens and a Sigma EM-140 ring light to take copy photos that provide sixteen times better spatial resolution than the 600 dpi scan. A short video of our trip to Oxford is on the TIGHAR Youtube channel at <http://www.youtube.com/watch?v=Zcqb26Lz6V8&feature=plcp>.

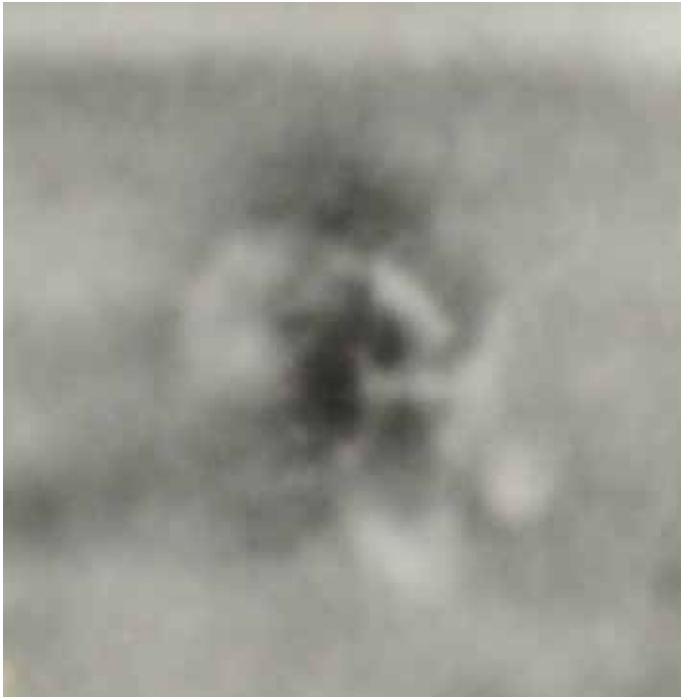


Jeff Glickman at Rhodes House Library, Oxford University, England, April 26, 2012.

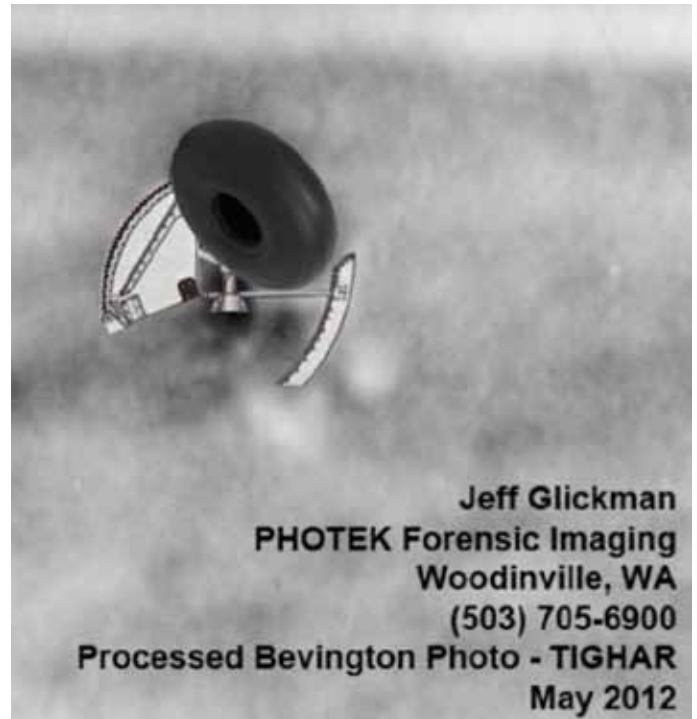
The resulting image is a bit counterintuitive. As Jeff explained:

While the eye reads the D800 photograph as being less sharp, this is because the curves and the correct levels of contrast in the photograph have been preserved. This preservation provides the higher resolution necessary for more complete photointerpretation.

The new image confirmed what we had deduced from the earlier iterations. Discernible elements in the object match the shape and dimensions of components in the main landing gear of Earhart's Lockheed Electra - but the components are not oriented in the way they would be in an intact assembly. If this was Electra landing gear, it was the jumbled wreckage of Installation 40650, as it should be if our hypothesis is correct. The next job was to sort out the jumble and see if it was reasonable that a landing gear assembly could end up looking like Nessie - sorry - the Bevington Object.



The max-resolution image of the Bevington Object.



Initial parsing of the Bevington Object.

Jeff Glickman's initial parsing of the image, as presented at TIGHAR's Earhart Search 75 symposium in Washington on June 2, 2012, postulated that the strut was intact but partially submerged and the tire/wheel separated from the fork. An abbreviated video of Jeff's presentation is on the TIGHAR YouTube channel at <http://www.youtube.com/watch?v=iLxjEU1VJHA&feature=plcp>.

It seemed like a reasonable interpretation except that it was difficult to understand how the tire and wheel could separate from the fork and remain with the rest of the assembly.

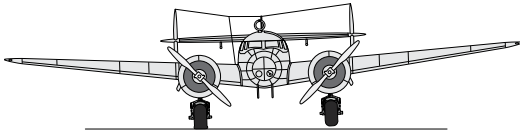
In September 2012 I stumbled upon a brief clip of old newsreel footage in the 2010 Discovery Channel special "Finding Amelia" that I had not previously noticed. The film was shot at Luke Field following the accident that ended Earhart's first world flight and showed two Army officers crouched over the Electra's right main landing gear. Although not mentioned in the extensive U.S. Army accident report, it was apparent from the clip that the entire landing gear assembly had separated from the airframe – and it looked startlingly familiar. Further research was clearly needed.



The clip in the Discovery Channel show was only three seconds long and did not show the entire landing gear but there was enough of it visible to reconstruct what had happened.

THE LUKE FIELD GROUND LOOP

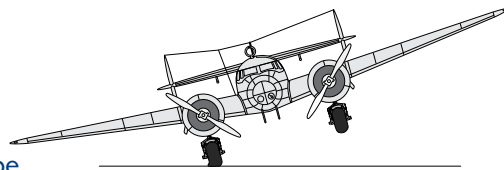
From the statement of 1st Lt. Donald D. Arnold, Air Corps, Engineering Officer, Hawaiian Air Depot, Luke Field, T. H.:



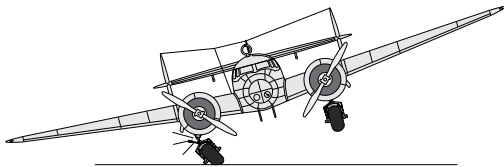
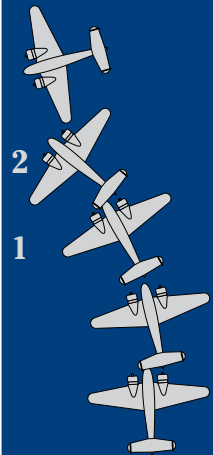
1. Before the airplane had reached the halfway mark on the field the right wing seemed to drop slightly lower than the left and the airplane made a slow even forty-five degree turn to the left.



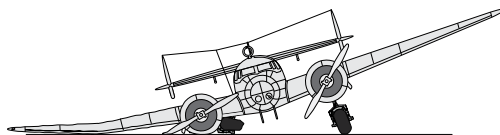
2. Suddenly, the airplane was seen to be veering to the left with increasing rapidity as in the initial stage of a ground loop; as it swung it tilted with the outer (i.e. right-hand) wing almost scraping the mat.



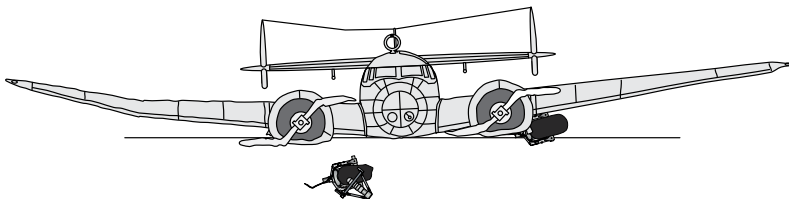
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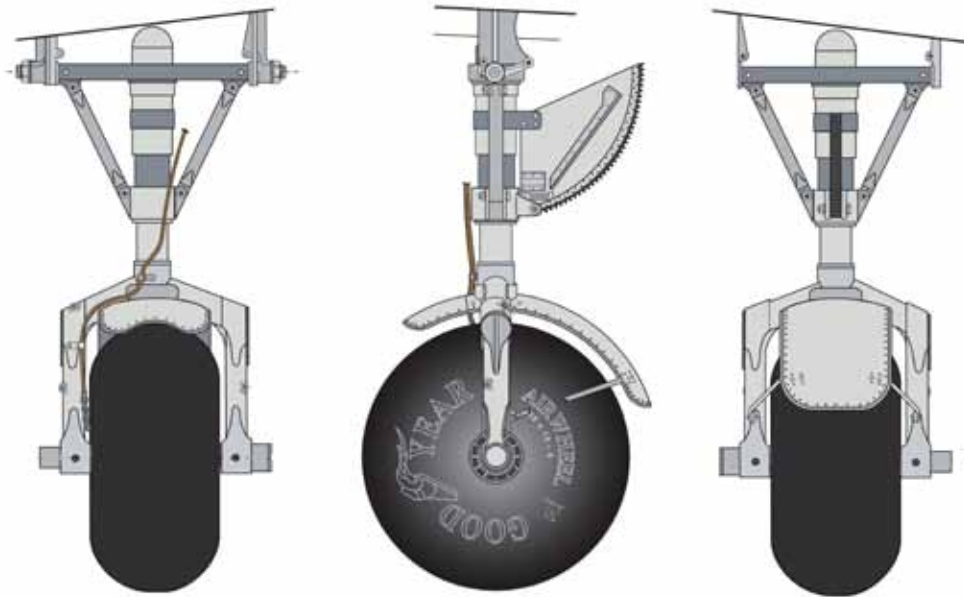
3. The right hand landing gear suddenly collapsed followed by the other and the airplane slid in an abrupt left hand skid on its belly.



4. Half way between the center of the runway and the Navy side I saw a long streak of flying sparks under the airplane, followed instantly by the sound of grinding metal. The airplane instantly dropped on its belly and slid to a stop, right side up, but headed in the direction from which it had come.



With a real-life model of how the landing gear on NR16020 could fail, the Bevington Object seems to pop into focus. The distinctive shapes of the tire, fork, and worm gear are clearly visible to the untrained eye. These three elements in the image are the right color, shape, and dimensions, and in the correct proportion to each other, to be the Goodyear Airwheel; Lockheed Part No. 40776 Fork, landing gear; and Lockheed Part No. 41065, Gear, worm – components of Lockheed Installation 40650. The assembly appears to have failed in much the same way it did in the Luke Field accident.

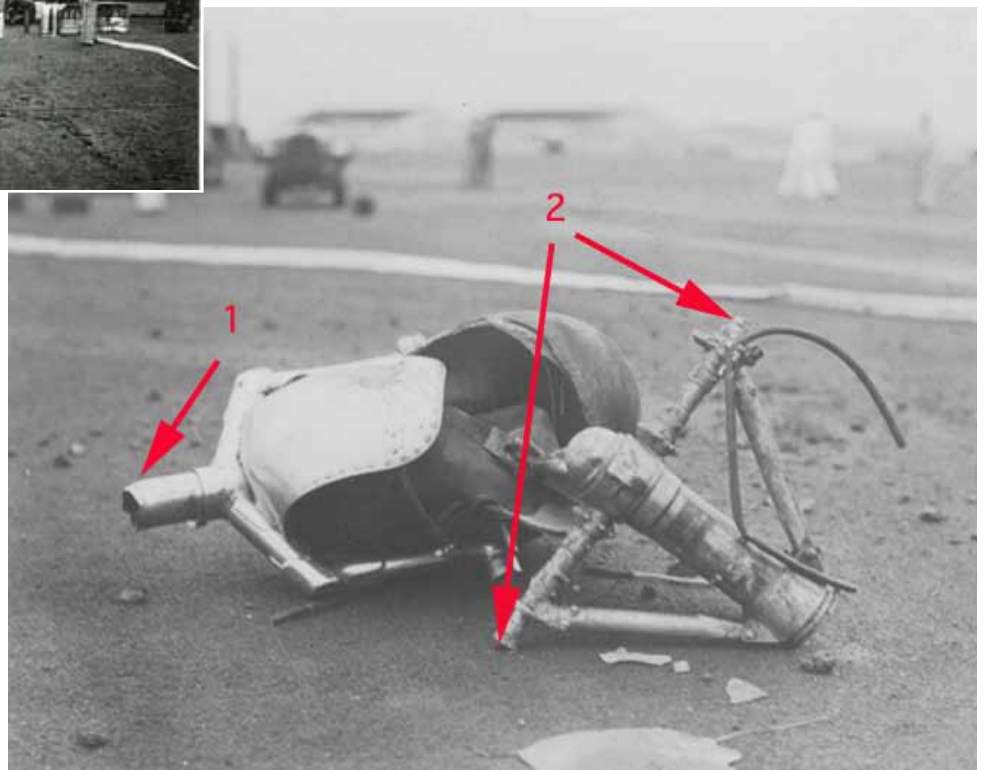


Front, profile and rear views of Lockheed Model 10 Landing Gear Installation 40650.



A photograph taken by Gerald Berger, the Navy mechanic who drove the crash truck at Luke Field, shows the mangled wreckage of the right main landing gear assembly where it lay after separating from the airframe during the crash. TIGHAR photo courtesy of G. Berger.

It appears the shaft of the oleo strut (1.) failed, dropping the full weight of the aircraft onto the upper part of the strut which separated from the airframe at the attach points (2.). The broken-off lower section rotated as it collapsed and the tire was torn open by the worm gear. San Diego Air & Space Museum.





The distinctive shape of “Lockheed Part No. 40776 Fork, landing gear” had been there all the time but we hadn’t recognized it. The tire remained on the axle just as it did at Luke Field.



The upper part of the oleo strut appears to be inverted and, in this case, “Lockheed Part No. 41065, Gear, worm” does not appear to be inside the tire. Part of the worm gear may be underwater.



The curved light-colored shape may be part of the fender.



The identifiable elements in the Bevington Object are consistent in size, shape, and color with the components of the landing gear of Earhart’s Electra and are distributed in much the same way they were in the Luke Field accident.

The statistical probability of an unknown object that is not the wreckage of Electra landing gear having all of the quantifiable characteristics present in the Bevington Object is vanishingly small. The fact that the object is in the area where abundant other evidence had already led us to conclude the aircraft was landed adds a further level of likelihood that the object in the photo is what it appears to be: a photo of wreckage from NR16020 on the reef at Gardner Island in October 1937. ◆