

## Western Reef Slope

THE PLAN

FOR NIKU VI



Seven Site

*The relatively small size of the areas to be addressed on the Niku VI expedition is the product of twenty years of refining the Nikumaroro Hypothesis through research and field work. Satellite image courtesy of SpaceImaging.*

## ONSHORE ARCHAEOLOGY

This year's expedition to Nikumaroro will continue the archaeological work at the Seven Site, the place deep in the bush on the atoll's remote southeast end that appears to be where the partial skeleton of a castaway was found in 1940. Features such as small cooking fires as well as artifacts discovered at the site during TIGHAR's 2001 and 2007 expeditions support the hypothesis that we have found the campsite where an ethnically European female resided for a time and ultimately died. The oldest datable object found at the site, a small bottle bottom with remnants of lanolin and oil (hand lotion?), was manufactured in New Jersey in 1933. The first permanent settlement on Nikumaroro was established in December 1938. So if the bottle was brought by the castaway, and if we assume that a living castaway would make herself known to the first settlers, it would seem that the castaway arrived, survived, and died sometime between 1933 and late 1938. The only ethnically European female known to have gone missing in the Central Pacific during that period was Amelia Earhart.



*Embossed coding on the bottom of this bottle bottom found at the Seven Site in 2007 shows that it was made by the Owens-Illinois Glass Company at the Bridgeton, New Jersey plant in 1933. Laboratory analysis of the black residue in the corner of the bottle shows it to be lanolin and oil. This was probably a small bottle of hand lotion. TIGHAR photo.*

*Recording artifact locations at the Seven Site in 2007. TIGHAR photo.*

Recent advances in the ability to extract DNA from touched objects as well as human remains make us hopeful that further discoveries at the site will reveal the identity of its unfortunate resident. If DNA from the Seven Site matches the Earhart reference sample now held by the DNA lab we've been working with, we'll have what most people would consider to be conclusive evidence that Amelia Earhart spent her last days on Nikumaroro.



## UNDERWATER SEARCH FOR THE ELECTRA



*Andrew McKenna takes a break during the 2001 shallow water search for airplane wreckage on underwater and can be accessed the Western Reef Slope.*

direct inspection once the vegetation has been removed (no small task). But there's a more important difference between the two locations. The Seven Site is an established archaeological site that has already yielded artifacts and features supportive of our hypothesis. The question there is what remains to be found? We're not likely to know until we've had chance to analyze and identify whatever comes out of the ground. It typically takes months and often years to identify the objects found, if they can be identified at all.

By contrast, the underwater reef slope is unexplored territory. It's where we think the wreckage of the plane should be, but that's a best guess based on stories and logic. Whether our guess is right remains to be seen. Unlike the Seven Site, positive results would probably be immediately apparent.

In addition to the onshore archaeological work, we plan to carry out an underwater search for the wreckage of Earhart's Lockheed Electra using a Remote Operated Vehicle (ROV). All indications point to the aircraft having been landed on a particular strip of smooth coral reef at the island's western end. Our divers have searched the area down to 100 feet on previous expeditions but the reef slope is extremely steep and any wreckage is likely to be at least 250, and perhaps as much as 1,000 feet, down. A sidescan sonar sweep around the perimeter of the island was done by Oceaneering International as part of TIGHAR's 1991 Niku II expedition, but the sonar "fish" struck an underwater obstruction and was lost before the western end of the atoll was surveyed.

The two areas that will be the focus of this year's expedition – the Western Reef Slope and the Seven Site – are fundamentally different. One is search for airplane wreckage on underwater and can be accessed only by remote sensing. The other is on dry land and accessible to



*The sonar tow "fish" struck an underwater obstruction and was lost before Western Reef Slope could be covered. TIGHAR photo.*