Two pieces of thin (1/16th inch) broken glass, beveled on the manufactured edges, fit together and have been matched to the mirror of a 1930s vintage American woman’s compact. Three fragments of red cake-like material are chemically consistent with early 20th century cosmetic and fit within the dimensions of a typical 1930s vintage compact.

A 1930s vintage compact at the Seven Site is highly significant because it is female gender and western cultural specific. The presence of such an artifact greatly reinforces other evidence suggesting that the castaway was a Caucasian woman of northern European descent. Earhart is known to have routinely carried a compact.

For full reports see: http://www.tighar.org/Projects/Earhart/NikuV/Analysis_and_Reports/Compact/NikuVanalysiscompact.html
and

Dr. Sharyn Jones of the Department of Anthropology, University of Alabama at Birmingham, is an expert in Pacific island cultures. She examined and categorized 1,401 animal bones we recovered from two “fire features” at the Seven Site. There were 1,168 fish bones, 78 fragments of turtle bone, 155 bird bones, and one small bone from a medium sized mammal. She also examined photos of deposits of clam shells adjacent to the fire features. We asked Dr. Jones whether the species represented and the way in which they were prepared was more consistent with traditional Micronesian and Polynesian subsistence practices or with those of Westerners. She was unequivocal in her judgment that the person or persons who dined at the Seven Site were not Pacific Islanders.

For Dr. Jones’ full report see: http://www.tighar.org/Projects/Earhart/NikuV/Analysis_and_Reports/Faunals/NikuVanalysisfaunals.html.

That lone mammal bone really had us puzzled. The best zooarchaeological opinion so far is that it is a cervical (neck) bone from a goat or a sheep, but there were certainly no goats or sheep on the island when the castaway was picnicking there. We still don’t know for sure how the bone got there, but we do have a reasonable hypothesis. One of the artifacts found on the site was an extremely rusty tin can. We now suspect that it held roast mutton. Canned roast mutton often included a few small pieces of bone to improve flavor. We have long suspected that Earhart and Noonan may have discovered the cache of provisions left on the island for the use of possible
future castaways by the rescuers of the *Norwich City* survivors in 1929. Those supplies might easily have included canned mutton.

A n important potentially disqualifying hurdle was cleared recently when the U.S. Naval Academy Non-destructive Testing Lab conducted eddy current tests on M-1 carbine shell casings found in one of the fire features. We know that the M-1 shells date from the 1944 – 46 Coast Guard period. Heat-damaged M-1 shells would mean that the fire also dated from that period rather than from the pre-1940 castaway. A comparison with other M-1 casings scattered around the Seven Site showed no indication of heat damage.

Recent software advances have made it possible to computer model the propagation properties of the Electra’s transmitting antenna to an unprecedented degree of accuracy. As a result, the long-held assumption that the closer the plane was to Howland Island the stronger the signal heard by the Coast Guard would be, has been shown to be incorrect. A peculiarity in the antenna’s transmission pattern meant that if the plane was closer than about 80 nautical miles there was less than a 10% chance that *Itasca* would hear Earhart on 3105 kilocycles at maximum strength as recorded in the cutter’s radio log. Chances are the Electra was at least 80 and perhaps as much as 210 nautical miles from the ship at the time of the last transmission.

Although we didn’t realize it at the time, material was collected at the Seven Site during the 2007 Niku V Expedition that contains human DNA. Laboratory tests are presently under way to determine whether the DNA might reasonably be that of the castaway who died there. If those tests are positive we will proceed with tests to determine whether the DNA matches either Earhart or Noonan. Such a determination would, of course, be monumental. At this time it is still only a possibility and nothing to get excited about … but as a TIGHAR member and supporter you’re entitled to know the status of the work you make possible and share both the exhilaration and the angst of the investigative process.

The 3105 Donut

At 08:43-55 local time *Itasca* heard Earhart say, “We are on the line 157 337. Will repeat message. We will repeat this on 6210 kcs. Wait. We are running on line north and south.” The message came in at maximum strength. Given a newly discovered anomaly in the propagation pattern of the aircraft’s transmitting antenna, to have even a 10% chance of being heard at maximum strength, the Electra had to be somewhere within the “donut” shown. If on the line southeast of Howland, the plane was much closer to Gardner Island (Nikumaroro) than previously assumed.

Historical research has turned up yet another piece of evidence that appears to connect Nikumaroro to the lost flight, but … before we begin … on a piece of paper jot down two numbers of any length. Any two numbers.

Now, set the paper aside and turn the page.