A Sixteenth Century Basque Whaling Port in Southern Labrador
Author(s): Judith A. Logan and James A. Tuck
Published by: Association for Preservation Technology International (APT)
Stable URL: https://www.jstor.org/stable/1504329
Accessed: 05-11-2019 23:01 UTC

REFERENCES
Linked references are available on JSTOR for this article:
You may need to log in to JSTOR to access the linked references.
A Sixteenth Century Basque Whaling Port in Southern Labrador

Archaeologists in Labrador unearth the remains of daily life and death in a sixteenth century whaling port. Preservation of centuries-old artifacts found in the boggy terrain presented an interesting challenge.

Judith A. Logan
James A. Tuck

A sixteenth century Basque whaling port, now known as Red Bay, Labrador, has been the scene of archaeological investigations since 1977. Once known as “Butus” or “Buteres,” the site’s interest can be attributed to its unique nature: in contrast to most early European sites in eastern North America, it was neither a colony nor a trading post. Rather, it was the scene of the first major European industrial exploitation of a North American natural resource—the oil from right and bowhead whales which was used for lighting, soap-making, lubrication, in medicines, and in the leather and cloth industries.

The operators of this industry were Basques, from southwestern France and northeastern Spain, whose skills in
shipbuilding and ironworking also played a major role in the European expansion into the New World during the sixteenth century.

**Background**

The Basques came to Red Bay and other smaller ports along the Strait of Belle Isle to hunt whales, a skill which they had practiced for centuries in waters nearer Europe. Their utilization of the area lasted for about 75 years and resulted in enormous profits for all those who participated.

Aside from the considerable effects whaling profits had on the European economy, other consequences also resulted from the whaling period. Excessive hunting instigated a population decline from which right and bowhead whale stocks have never recovered; neither species is presently known in Labrador waters. Less obvious is the effect that the whaling period had upon Inuit and Indian peoples who visited the Strait of Belle Isle seasonally to exploit marine resources. The latter may have been no more successful than whales in adapting to the European presence: following the abandonment of the area by Basque whalers, Indian sites appear to be absent from the entire southern Labrador coast.

The climate and vegetation in this region have not changed appreciably over the past 400 years. Then, as now, land upon which the Basques built their shore stations is best described as coastal tundra, with the warmest temperatures (of about 10.1°C) occurring in the month of August. Coastal waters are usually ice-free between June and December. Abundant food supplies attracted right whales in early summer, as they moved northward to feed. Bowheads arrived in fall and early winter, as they moved southward from their arctic feeding grounds.

The arrival of the Basques was timed to correspond with the disappearance of the pack ice in early summer. Departure occurred as soon as a full cargo was obtained, sometimes in late summer when the “early” or right whale season ended, but more often during early winter when barrels of oil from the bowhead hunt filled the ships' holds.

Excavations at Red Bay have unearthed the remnants of daily life and death at the whaling port. Basque whalers used the site to process blubber.

**The Importance of Excavations**

Excavations at Red Bay are being carried out to answer questions which range from the purely technical to those of a more abstract nature. The former include the means by which whales were hunted and “flensed” (removal of both skin and blubber) and how oil was produced from blubber thus obtained; the latter range from questions about everyday life to mortuary beliefs and practices.

Documents relating to the whaling voyages still exist in great numbers in the Basque Provinces. They are, however, notarial documents which testify to the sophisticated legal and financial systems (including some of Europe’s earliest insurance policies) under which whaling voyages were carried out. References to actual whaling techniques, organization of the shore stations, and day-to-day life of the whalers themselves appear thus far to be extremely rare.

No log books were kept, nor have journals (if there were any) survived, let alone a single graphic representation of establishments or activities on the southern Labrador coast. Cartouches on contemporary maps sometimes depict whales and whaling scenes, but these are invariably fanciful and were probably drawn by artists who had neither visited the area nor seen a whale. Archaeology, therefore, appears to hold the key to understanding many aspects of this early European industry in the New World.

**The Artifacts**

The variety of artifacts preserved at Red Bay is impressive. Organic materials—particularly textiles, leather, and wood—that would normally have perished shortly after they were discarded have been preserved by the wet and boggy nature of the terrain. The presence of ditches and drains associated with three Basque structures indicates that wet conditions have prevailed since before the whaling period. Occasionally, deposits of organic materials—for example, wood chips from construction activities or refuse from cooperages—are so extensive that they appear to have encouraged plant growth and actually created their own water-saturated burial environments.

Although the variety of artifacts is great, the actual quantity of material is sparse when compared to European sites in North America which were occupied year-round. This relative paucity of artifacts suggests that the Basques regarded each season as a single event and that, except for the buildings themselves, no provision was made for a return the following summer.

No caches of objects have been discovered, and items inventoried in the
notarial documents were probably intended to be returned to the owners and financiers in Europe at the close of each season. Even if the Basques had attempted the practice of caching tools and other objects, it is likely that native visitors to the area during the off season quickly appropriated the materials for their own use and for trade with adjacent peoples. Even the large copper rendering cauldrons, if they were ever abandoned by their original owners, would have been broken up and the fragments reworked into projectile points, knives, scrapers, and other tools and weapons whose stone counterparts had been in use for millennia in southern Labrador.

Despite the relatively small number of artifacts in comparison to that at permanent settlements from the same period, the extensive excavations at Red Bay have produced more than 100,000 individual specimens. From the outset it was clear that even this number of artifacts, and especially the variety of materials and the burial environments in which they were preserved, would pose a massive problem in terms of conservation.

The assistance of the Canadian Conservation Institute (CCI) was solicited in 1978. Over the past decade the result has been a remarkable example of cooperation between conservation and archaeology. This cooperation has enabled archaeologists to recover, preserve, and analyze far more material than would otherwise have been possible, and also permitted advances to be made in archaeological conservation by conservators faced with the unique challenges posed by the Red Bay excavations.

**Artifact Conservation**

Virtually every European artifact recovered from the site requires some type of treatment in order to be stable at ambient conditions. The only exceptions are some of the more durable ceramic fragments and a small proportion of the glass. Even these materials benefit from professional cleaning, for they are often soft and the edges are easily abraded by careless washing. The glass is often prone to crizzling caused by loss of soluble fluxes during burial. Therefore, each piece is cleaned by a conservator who watches carefully for the development of cracking during the cleaning process.

Some of the more interesting challenges that the site has presented include the following:

- Developing a technique for recording, packing, storing, and treating large quantities of iron, much of it nails or initially unidentifiable bits of corrosion
- Adapting a variety of block lifting and packing techniques to excavate and ship large, fragile organic materials, including the use of adhesive-impregnated cloth facings, freezing with dry ice, and packing with sphagnum moss
- Developing treatment methods that can be carried out by non-conservators on large quantities of unstable iron and waterlogged wood
- Recording large features (for example, a section of a tryworks) by moulding and casting
- Developing cleaning and mounting techniques for degraded textiles
- Teaching basic concepts of conservation to summer staff, archaeology students, and the general public

Although there are success stories about the conservation techniques developed for the site, several problems remain to be addressed. The treatment of composite artifacts, those manufactured from two or more metals or having metal and organic components which cannot be separated,
remains a headache for conservators. Tools with iron blades and bone, wood, or baleen handles constitute one such class of artifacts.

Another problem occurs with iron tools having welds or hardened edges. The form of such objects is usually preserved within a thick layer of corrosion, and the working edges are invariably more heavily corroded than the bodies of the tools. Attempts to stabilize these objects result in loss of corrosion in an unpredictable manner, probably because of a “battery-like” effect created in the tools by the superposition of different metallic structures. Conservators presently have little control over this inherent problem.

Architectural Conservation

Another major conservation problem is related to the preservation of architectural remains on the site.

The Tryworks. From the excavation of tryworks, where oil was rendered or “tried out” from chunks of blubber, it is obvious that each shore station consisted of groups of activity areas relating to the processing of whales, assembly of casks, and so forth. The tryworks were built close to and facing the harbour, usually in locations where deep water allowed a whale carcass to be maneuvered close to shore for flensing.

Remains of wharves have been identified and associated with a number of the shore stations. Cooperages are usually located nearby, often on a small terrace overlooking the tryworks.

In general the architectural remains of these structures are incomplete. The tryworks survive only as the lower courses of stone “fireboxes,” usually made of local granite but occasionally containing imported sandstone or limestone ballast rock. The fireboxes, backed by a heavy stone wall and common side walls, number up to seven or eight for a single tryworks; they are mortared with local or imported clay which became saturated and consolidated during use by spilled whale oil which now has assumed the consistency of asphalt.

Except for thick deposits of red tile fragments overlying the tryworks foundations, little evidence of the structures which covered them has been preserved. In one instance, however, a series of large post holes, dug into a sandy beach, revealed the plan of a heavily framed structure approximately nine metres on a side which enclosed the tryworks. Traces of wooden platforms remained behind some of the tryworks back walls; they are thought to have been used by workers who fed blubber into the cauldrons and ladeled the oil into tubs of cold water to cool and purify it.

Although a reasonably complete picture of a composite tryworks can now be drawn, a number of specific details remain to be clarified. For example, there is no evidence for any system of ventilation to alleviate what must have been an appalling amount of smoke produced by the bits of skin and fat retrieved from the cauldrons and used to fuel the fires.

Chimneys do not appear to have existed or, if they did, they must have begun at the roof line. Nor is there any evidence for the control of temperature during the rendering process such as the system of ducts found at early seventeenth century Dutch whaling
stations at Spitsbergen; control of heat must have depended upon the skill of the men who fed the fires and who may have controlled the draft by regulating the size of the small stoke hole at the front of each firebox.

Perhaps the most frustrating part of the rendering process was the nature of the local granites from which the tryworks were built. Much of this rock now has the consistency of coarse sugar and retains no structural integrity. A little experimentation has shown that this condition can be achieved by only a few hours’ exposure to a wood fire.

The rebuilding of fireboxes must have taken place frequently, but there are some indications that provision for deterioration was made at the time of initial construction. Fireboxes near the center of tryworks usually show a great deal more burning than those at the ends. We suspect, therefore, that more fireboxes were built than the whalers had cauldrons. Therefore, as a firebox near the center began to deteriorate to the point of uselessness, the cauldron was simply shifted to one of the “spare” fireboxes so that the rendering process could continue uninterrupted.

The tryworks, cooperages, and associated work sheds are distinguished by the presence of large quantities of red roof tile. Such ceramic tiles appear to have been an impractical roofing material in southern Labrador, given the extremes of temperature and frequent freeze/thaw cycles.

Lists of lading for whaling voyages confirm the friability of the tiles, for they often mention thousands of tiles being shipped for repair of the buildings. Despite this drawback they continued to be used on “official” buildings throughout the whaling period. In the Basque country today, roof tiles continued to be used on “official” buildings as powerful symbols of ownership. It seems likely that they also functioned in this manner at Red Bay, signifying that the tile-roofed shore stations were the property of those who built them and that the “owners” expected to find the buildings unoccupied when they arrived to begin whaling the following year.

The excavated remains provide a reasonably accurate, but by no means complete, picture of industrial activities at the sixteenth century whaling stations. Even without the benefit of reconstructed buildings it is possible for visitors to appreciate the physical layout of individual shore stations, their distribution around the harbour, and the large scale of the whaling operation.

Likewise, excavations have made it possible to understand something of what life was like for the Basque whalers more than 400 years ago; in this respect the cool climate, frequent fog, blackflies, and other natural phenomena are constant reminders of some of the conditions the whalers endured.

**Domestic Remains.** From domestic debris associated with cooperages, it seems likely that the cooper may have lived in the substantial tile-roofed buildings in which they carried out their trade. From the nature of the domestic debris—including fragments of fine glassware, majolica porringers (small, shallow, two-handled bowls), jars, and pitchers, as well as ordinary earthenware vessels and many personal possessions—it appears as if the cooper came to Labrador well equipped with items to make their stay as comfortable as possible.

Quite a different picture emerges from dozens of small living sites scattered among the bedrock outcrops on Saddle Island. Hearths, built in small niches in the rock and sheltered from the winds, constitute virtually the only remaining evidence of dwellings.

A few nails, scraps of baleen, and bits of wood suggest impermanent structures constructed from these materials; the structures may be likened to those built from plywood and tarpaper by Newfoundland fishermen who visit the Labrador coast during the summer months.

“Luxury” goods are virtually absent, and even coarse earthenwares are rare. Bones of birds and fish suggest a diet supplemented by local wildlife. Burned whale bone and bits of burned blubber in these hearths suggest that refuse from whaling was used regularly for fuel, perhaps because of the lack of wood along the coast.

In 1984 a small pond adjacent to a Basque living site was excavated on Twin Island at the southern entrance to the harbour. In the silt on the pond bottom was preserved a large collection of sixteenth century European objects, bird and mammal bones which appear to be food refuse, and a small number of native artifacts, probably of Inuit origin. While the association between the two groups of artifacts is not without question, the deposit suggests that Inuit and Europeans were at Red Bay during the same years; whether there was any actual contact between them, and what form it might have taken, remain unanswered questions. While most of the objects were manufactured by Europeans or made...
This whaler’s grave contained an individual buried quite deeply in soil and gravel. The badly decomposed body was frozen with dry ice for removal from the grave and a subsequent x-ray examination. (Photo: James Tuck, Mem. Univ. of Newfoundland)

from European materials, it is conceivable that either Basques or natives could have brought them to Twin Island.

A “Land of Savages”

The will of Juan Echaniz, written at Carols Cove, a few miles west of Red Bay, on Christmas Eve 1584, refers to the place as a “land of savages.” In addition to the artifacts from Twin Island, other evidence of these “savages” has been found on Saddle Island and on the mainland around Red Bay Harbour.

A sherd of native ceramics, found in one of the work buildings on Saddle Island, bears a remarkable stylistic resemblance to Iroquoian ceramics from farther up the St. Lawrence. Small cones of sheet copper, triangles cut from copper rendering cauldrons, and iron nails with their shafts shortened and flattened by pounding may be the products of native metal workers who visited the area to obtain European materials.

That these visits were not rare is indicated by a collection of more than 100 hearths, many apparently contemporaneous with the Basque occupation, which surround a tryworks on the west end of Saddle Island. Sheltered from the southwest wind by an ancient raised beach, the hearths contain flaked stone tools and weapons typical of the late pre-contact and early contact periods; sherds of coarse, poorly-fired native ceramics; and occasional bits of European material.

Food bone is poorly preserved in the acid soil, but scraps of calcined bone found in the hearths indicate that the diet included very young harp seals, or “whitecoats,” killed in late winter or early spring, a time of the year when the Basques were not normally in residence at the whaling establishments. This evidence suggests that natives were visiting the seasonally-abandoned shore stations to obtain European materials, probably for their own use and for exchange with neighbouring groups.

The ease with which such material could have been obtained may explain why there appear to be few, if any, references to trade with natives at Red Bay. Such trade may have taken place...
farther up the St. Lawrence during the latter years of the sixteenth century. Selma Barkham's references to amicable relations with Indian people, but harassment of whalers by Inuit, are not specific as to location, and the incidents referred to may have happened in any one of a number of places in Terranova.

**Whalers' Cemetery.** In 1982 a sixteenth century cemetery was found on the extreme eastern end of Saddle Island. Excavations during the following four summers revealed more than 60 graves containing the remains of more than 140 individuals.

Included in these numbers is a feature consisting of eleven skeletons which had never been buried, but simply were abandoned inside a small structure where vegetation slowly enveloped them. It is thought that the skeletons are those of whalers who died, probably of scurvy, during one of the winters when the rapid onset of ice forced the whaling fleet to remain in southern Labrador until the following spring; that the skeletons were not buried suggests that the event occurred late in the whaling period.

About one-half of the interments contained a single skeleton and the remainder between two and a dozen individuals. In no case could physical anthropologists be certain of the cause of death, but the multiple burials suggest that accidents were perhaps not uncommon. One grave, for instance, contained the skeletons of seven whalers, precisely the number of men who would have manned one of the whaleboats recovered from the harbour bottom by Parks Canada archaeologists. Drowning leaves no trace on the skeleton; we suspect that many of the skeletons are those of whalers killed pursuing their dangerous business.

The acidity of the soil in this burial completely dissolved the bone, but left behind a well-preserved wool shirt and breeches. Dye analysis indicated that the shirt had been dyed with madder and the breeches with indigo. (Photo: Wilf Bokman, Canadian Conservation Institute)

The burials rarely contain artifacts, although many of the skeletons appear to have been clothed at the time of burial. In a few instances preservation has been kind enough to allow us a look at the costumes worn by the whalers.
One burial, located in a wet part of the cemetery where the acid soil had completely dissolved the bone, included a now-degraded wool shirt and a somewhat better preserved pair of breeches. Dye analysis by Penelope Walton, a textile consultant and dye analyst, indicated that the shirt had been dyed with madder and the breeches with indigo. While the shirt is too degraded to permit a pattern to be made, the breeches, of thick, heavily teaselled wool, were sufficiently preserved to allow thread counts and determination of grain of the cloth. They were gathered at the waist and cut full at the hips, tapered to a snug fit at the knees, and would have been warm and comfortable.

A second costume, recovered from a small boggy depression outside the cemetery, consists of a white knitted wool cap, an inner shirt and outer shirt or jacket made from white wool with a light brown plaid pattern, dark brown breeches, tailored stockings, and vegetable-tanned leather shoes. The colours in the wool garments resulted from the careful selection, spinning, and weaving of naturally pigmented fibres from several varieties of sheep and, perhaps, goats.

Although damaged by several large rocks which had been placed on the burial, the garments were sufficiently complete to allow patterns to be taken. The style of the breeches is different from the dyed pair described above. They are pleated at the waist and left open and baggy at the knees; both styles, however, are consistent with wood-block prints illustrating sailors' costumes from this period. They may represent the only actual examples of sixteenth century seafarers' clothing in existence today.

The "unburied dead" were also covered with masses of degraded textile, but thus far it has been impossible to reconstruct any complete garments. Textile analyst Elise Dubuc reports, however, that portions of sleeves and other fragments of garments are visible and will likely add to our knowledge of variations in the cut and manufacture of sixteenth century clothing.

These, and other archaeological discoveries, combined with information from archival sources and the research of Parks Canada's Marine Archaeology Unit on several shipwrecks on the bottom of Red Bay Harbour, promise to produce a remarkable picture of life and work at one of the New World's first industrial complexes.

Notes

James A. Tuck, a native of Tonawanda, New York, received his Ph.D. in anthropology from Syracuse University in 1968. He is a Professor in the Department of Anthropology at Memorial University of Newfoundland. For the past 25 years he has conducted archaeological research into the prehistory and early history of New York, New England, and Atlantic Canada.

Judith A. Logan received an M.A.C. degree from Queen's University in 1978. Since 1972 she has worked on the conservation of artifacts from historic and prehistoric sites in Canada, and is presently Senior Conservator, Archaeology, at the Canadian Conservation Institute.