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Cover Page Footnote
The research work presented in this article is part of a project undertaken by the research group on native peoples and fishermen in eastern North America in the 16th and 17th centuries. This multidisciplinary project, directed by Laurier Turgeon of the Célat at Laval University, consists of historical, archaeological, literary, and ethnological studies. Under the supervision of Marcel Moussette, I had the opportunity to supervise the archaeological work, which was focused on finding traces of previous European occupations in the St. Lawrence estuary. I would like to express my gratitude to Laurier Turgeon, Marcel Moussette, Pierre Drouin, and Pierre Beaduet for their comments. The final drawings were prepared by Danielle Filion, the maps by Jean-Yves Pintal, and the artifact photographs by Paul Laliberté. The excavation photographs were taken by the author.
ARCHAEOLOGICAL EXCAVATIONS AT BON-DESIR: BASQUE PRESENCE IN THE ST. LAWRENCE ESTUARY

Dominique Lalande

The archaeological fieldwork on the Anse à La Cave site at Bon-Désir uncovered remains associated with the exploitation of marine mammals in the St. Lawrence estuary. Excavations revealed the presence of two series of ovens used for rendering marine mammal fat. These preliminary data contribute to our understanding of sites based on the seasonal exploitation of whales in North America by European fishermen. The environmental, historical, and archaeological data support the hypothesis of a Basque occupation in the St. Lawrence estuary, particularly on the Anse à La Cave site from perhaps as early as the end of the 16th century to the middle of the 18th century.

Introduction

The whale is a beast dangerous to meet for sailors because of her monstrousness, as those of Bayonne and the Spaniards (whose trade is to take them with certain instruments and machines with which they strike them) well know and often experience. Having wounded her they pursue her with medium-sized vessels until she approaches land and dies, or until she is harpooned and pulled near land, and then God knows how many people are employed hacking her to pieces and filling several vessels with her. The native traffic in the meat and oil with foreigners, hence the good fishing which these animals furnish.

(André Thevet 1586, cited by Schlesinger and Stabler 1986: 98)

In recent years, a new interest in the history of the northeastern Atlantic fishery has emerged. Historians and archaeologists have focused on the presence of Basques in the Gulf of St. Lawrence. It is not only the exotic nature of their presence, but also their well-known expertise in whaling in the 16th, 17th, and 18th centuries that have given rise to many questions concerning both the chronology and extent of their activities and their adaptation to the North American environment.

The activities of these newcomers to the Gulf of St. Lawrence, who arrived after prehistoric populations, have been documented through both historical and archaeological research. This includes the work of historians Selma Barkham on the notarial and judicial records of Spain (1978, 1980) and of Laurier Turgeon on the notarial records of Bordeaux (1986); the work of archaeologists James Tuck (1981, 1982, 1983, 1984, 1985, 1986, 1989), of James Tuck and Robert Grenier (1981, 1989), and of Reginald Auger and Marianne Stopp (1987, 1989) in Labrador; of Françoise Niellon and Alison McCain (1987, 1989) on the Lower North Shore of Quebec, and of Pierre Drouin (1988) on the Middle North Shore of Quebec. In addition to this more recent research, there is the earlier work of historian René Bélanger (1971), who postulated that the Basques had come to the St. Lawrence estuary, particularly the area around the mouth of the Saguenay River, as early as the second quarter of the 16th century.

Archaeological research undertaken in the Strait of Belle Isle at Red Bay and Middle Bay remains the primary source of information on Basque whaling. Several questions remain to be answered, however, primarily with respect to settlement patterns and material culture. They will be solved only once a sufficient number of whaling sites from different periods have been excavated.
The whale-hunting techniques of Basque fishermen are well documented (FIGS. 1, 2). Once a whale was sighted from a lookout on shore, the whalers set out to sea in small boats, each manned by seven to eight men, including a helmsman, five to six oarsmen, and a harpooner. The galleon on which they had made the ocean voyage to the whaling station remained anchored in deep water near the shore. The boats made their way toward their prey, getting within easy striking distance. Once harpooned, the whale would dive deep into the water, taking with it the line that kept it captive. Weakened by the wound, it would slowly resurface. The whalers gradually approached the whale by pulling the line into the boat. After dealing the final death blow with a lance, they secured their catch with ropes and pulled it to shore.

Other whaling-related activities took place on land (Tuck 1986: 150; Tuck and Grenier 1989: 43–63). On some shore stations occupied by Basque fishermen, remains have been found of seasonal whaling activities, specifically the rendering of oil from whale blubber. The fat, which had to be rendered into oil for easy shipment to European markets, was boiled down in structures called tryworks, which consisted of circular ovens or fireboxes arranged in a row. The clay-lined stone tryworks formed a long rectangular structure. They were generally located parallel to the shore with the open end facing the water. Copper cauldrons of varying sizes were positioned on the fireboxes. A wooden platform used as a work area was set up behind the ovens. The tryworks were often protected from the elements by a wooden structure with a roof made of “Roman” or half-round tiles. In addition to traces of combustion, roofing tiles and bits of burned fat, pieces of baleen or whalebone have been found on these sites. Whalebone was processed, then shipped to European markets. Once converted into various luxury items, the whalebone was as valuable as the oil. It may also have been used at the whaling stations for roofing and as ground covering material because of the scarceness of wood on the shores of the Strait of Belle Isle. Other buildings related to the rendering operation, especially cooperages, have been found (Tuck 1986: 150; Tuck and Grenier 1989: 43; Niellon 1986: 26). Although no specific living areas have been discovered, food-related objects have been found in certain work areas.


This general research perspective raised another question: the relationship between fishing activities and the fur trade. It is believed that the fur trade developed from fishing, the primary activity of Europeans in North America. This hypothesis, which has been put forward by several researchers (Quinn 1975, 1979; Innis 1927, 1954) has recently been supported by the work of Laurier Turgeon (1986, 1990), who has demonstrated the importance of Bordeaux notarial records to the study of whaling operations and fur trading in the 16th century. These records reveal that considerable whaling and trading activities were actually undertaken in “Canada” after 1580 by French Basques from Saint Jean de Luz. This hypothesis that Basque fishermen frequented the St. Lawrence estuary is supported by favorable environmental conditions. The area’s rich marine biomass, which is enhanced by that from the Saguenay River, is well known. The mouth of the river is an area favored by whales, porpoises, and seals. It could well be that European fishermen ventured beyond the Strait of Belle Isle to exploit these resources. This hypothesis is all the more plausible because the natural environment of the Saguenay River certainly promoted meetings and exchanges between the European fishermen and native people. The Saguenay River was a major link with inland areas, specifically the fur country.

To test these hypotheses, we conducted limited field studies consisting of a visual inspection of the St. Lawrence estuary in the summer of 1987. The results of these investigations led us to select the Anse à La Cave site at Bon-Désir for excavation. We believed it would be possible to find traces of Basque occupation and hence traces of their contact with native people. Initial fieldwork was conducted in 1988 (Lalande 1989). The promising results encouraged us to continue the excavations the following season. Our perseverance was rewarded: we uncovered unique remains in the St. Lawrence estuary and were able to contribute to a better understanding of sites based on the exploitation of marine mammal fat (Lalande 1990).

No whalebone was found in our archaeological fieldwork. The hypothesis of whaling operations is based on historical data indicating that Basques specialized in this type of fishing, and more specifically, that a whaling station had been established at Bon-Désir. Furthermore, we believe that the industrial nature of these tryworks supports the interpretation that they were used for rendering whale blubber, not seal fat. The fact that the scope of the operation was far more extensive than what would have been required for rendering seal fat can be demonstrated by the capacity of the three-oven tryworks exposed on the Anse à La Cave site. On the basis of the data collected at Red Bay (Ross 1985), 17,600 whales would give 800,000 barrels of oil. Since each barrel had a capacity of 195 kg of oil (Ross 1985: 10), the total volume produced from one whale would be 9,603,033.6 cc. This volume of oil can be placed in a sphere with a diameter of 2.63 m. If we now take into account the diameter of the tryworks at Anse à La Cave (firebox no. 1 = 1.45 m; no. 2 = 1.35 m; no. 3 = 1.45 m), we can calculate the volume of oil the bowl-shaped cauldrons would hold. The total volume produced by the tryworks would amount to 2,240,386.225 cc. If we divide the volume of oil produced from one whale (9,603,033.6 cc) by the volume of oil produced by the tryworks, we reach the conclusion that the oil produced from each whale would fill the cauldrons 4.28 times. Although these figures are relative, we believe that the operating capacity of the Anse à La Cave tryworks indicates that it was used for rendering whale blubber. According to historical data on sealing in the 17th century, six barrels of oil could be produced from 42 seals (Marcel Trudel 1983: 313, cited by Dufour 1988b: 114–115), thus the oil from one seal would fill only 0.14 barrels. Roughly 325 seals would be required to obtain the same amount of oil as from one whale. We therefore doubt that the seal hunt during this earlier period would have required facilities with the extensive production capacity of the site initially built at Bon-Désir.

Site Location

Bon-Désir is located between the villages of Grandes Bergeronnes and Escoumins on the Upper North Shore of the St. Lawrence River (FIG. 3). Anse à La Cave, a cove to the north of Cap Bon-Désir, is roughly one kilometer long by one kilometer deep. Boat access at low tide is difficult because of the high rocky shoreline. Site DbEi-5 is located to the northeast of the
Figure 3. General map of the St. Lawrence River and estuary.
cove, on a rocky point that overlooks the inlet and provides shelter from onshore winds. It consists of two structures: one on a rocky point on the southwest side of the entrance to the cove (A), and another inside the cove, 176 m from the first (B). Structure A initially seemed to be a single stonework, whereas structure B appeared to be three ovens arranged in a row (FIG. 4).

Environmental Context

Anse à La Cave is located in the St. Lawrence estuary region near the mouth of the Saguenay River; this area marks the beginning of the Laurentian Channel or fault, which extends beyond the Cabot Strait where the Gulf of St. Lawrence and the Atlantic Ocean meet. The arrival of cold water from the Labrador Current, the mixture of fresh water and sea water, and the up-welling of deep water promote extensive biological activity. This helps to recirculate various minerals (phosphates, nitrates, nitrogen, etc.) that act as natural fertilizers and fuel a very important food chain. The first link in the food chain, phytoplankton, a group of microscopic plants that live in the upper layers where light still penetrates, is particularly abundant. Zooplankton, or minute animals, feed on the phytoplankton, and are in turn the prey of other marine invertebrates, such as shrimp (Neomysis americana, Mysis stenolepsis, Crago septemspinus) and fish, namely, capelin (Mallotus villosus), herring (Clupea harengus),
Table 1. Marine mammals that inhabit the Gulf of St. Lawrence and the St. Lawrence estuary.

<table>
<thead>
<tr>
<th>Mysticeti</th>
<th>Baleen Whales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue whale</td>
<td>Balaenoptera musculus</td>
</tr>
<tr>
<td>Fin whale</td>
<td>Balaenoptera physalus</td>
</tr>
<tr>
<td>Minke whale</td>
<td>Balaenoptera acutorostrata</td>
</tr>
<tr>
<td>Humpback whale</td>
<td>Megaptera novaeanglia</td>
</tr>
<tr>
<td>Odontoceti</td>
<td></td>
</tr>
<tr>
<td>Beluga</td>
<td>Delphinapterus leucas</td>
</tr>
<tr>
<td>Harbor porpoise</td>
<td>Phocoena phocoena</td>
</tr>
<tr>
<td>Pilot whale</td>
<td>Globicephala malaena</td>
</tr>
<tr>
<td>Black fish</td>
<td>Orcinus orca</td>
</tr>
<tr>
<td>White-beaked dolphin</td>
<td>Lagenorhynchus albirostris</td>
</tr>
<tr>
<td>White-sided dolphin</td>
<td>Lagenorhynchus acutus</td>
</tr>
<tr>
<td>Phocidae</td>
<td></td>
</tr>
<tr>
<td>Harbor seal</td>
<td>Phoca vitulina</td>
</tr>
<tr>
<td>Grey seal</td>
<td>Halichoerus grypus</td>
</tr>
<tr>
<td>Harp seal</td>
<td>Pagophilus groenlandicus</td>
</tr>
</tbody>
</table>

Source: Dunbar et al. 1980.

Note: In previous periods, the number and diversity of whales would have been more extensive. For example, the right whales (Balaena mysticetus and Balaena glacialis), which were intensively hunted starting in the 16th century, no longer inhabit the St. Lawrence.

and cod (Gadus Morhua). Finally, marine mammals such as rorqual (Balaenoptera), beluga whales (Delphinapterus leucas), and seals (Phocidae), the last link in the chain, feed on these nutritious waters. This marine environment is also favorable to migrating birds that land on the riverbanks and waters adjacent to the estuary.

The division of the estuary into three zones has been the topic of much discussion among researchers. The terminology used may differ depending upon whether the researchers are referring to morphological information (Lassère 1980) or oceanographic information (Dunbar et al. 1980). The middle estuary, from Tadoussac to Pointes des Monts, has an average width of 50 km, depths of more than 350 m, gentle tides, and brackish waters. From an oceanographer's standpoint, contact between the marine environment and the freshwater habitats of the St. Lawrence River occurs at the confluence of the Saguenay. The riverbed drops by 250 m here, and beyond this point the waters of the St. Lawrence are part of the Gulf ocean regime (Lassère 1980: 45). The highly nutritious waters in this area mark the end of the habitat where harbor seals (Phoca vitulina) and several species of whales thrive (TAB. 1).

The Anse à La Cave site (Dbee-5) is located in a rich environment favorable to human settlement. Anse à La Cave benefits from the particular features of the middle or lower estuary, depending upon the classification used. Moreover, the riverbanks drop steeply, enabling whales to swim close to shore. The location constitutes an excellent observation point and hunting ground. The land environment bestows upon this site yet another advantage: a freshwater source with abundant flora and fauna.

Historical Background

Whaling and Trading

Several accounts of voyages and related historical documents refer to the rich marine life in the Gulf of St. Lawrence and to the Basque presence. As early as 1536, Jacques Cartier noted:

Up as far as Canada, you will meet with many whales, porpoises, sea-horses, walruses and Adhothuys, which is a species of fish that we had never seen or heard
before. They are as white as snow and have a head like a greyhound’s. Their habitat is between the ocean and the freshwater that begins between the river Saguenay and Canada. (Biggar 1924: 199; see also Cartier 1534 [1981])

In 1587, in Le Grand Insulaire, cosmographer André Thevet wrote about the European fishermen who had come to the area to exploit its rich marine resources:

Around the said isle [Minigo] there is the most beautiful fishing that there is in all of the [Atlantic], and [it is] where the whales repair at all times. Those of Bayonne, the Spaniards, and others go there fishing to take these great monsters called by the Moscovites Bellouga. (Schlesinger and Stabler 1986: 97)

A year later, Thevet noted the presence of a Basque captain on an island:

From this Isle of Orleans certain savages conducted a merchant pilot of the Basque country, of the City of Saint Jean de Luc[Luz] to [a place] one hundred leagues from there, to a certain mountain where they led him to believe that there was a good gold deposit. (Schlesinger and Stabler 1986: 123)

In 1598, a Basque ship was apparently captured near the island by a ship from Saint Malo (Marcel Trudel 1963: 236, cited in Dufour 1988b: 20). Fishing and trading seem to have been closely linked. However, it seems as if the Europeans ventured beyond the Saguenay only infrequently.

Regular reference to the presence of Basque fishermen in the estuary can be found as early as the first half of the 17th century. In 1603, when Champlain was in Escoumins, he wrote: “A little higher up there is a river, which extends a little way inland; this is a place where the Basques fish for whales” (Biggar 1922-36: 177). A few years later (1632), Paul Le Jeune, in The Jesuit Relations, noted the presence of Basques further west: “The 3rd of July we left Tadoussac and went to cast anchor at the Basque scaffold, a place so called because the Basques go there to catch whales” (Thwaites 1959: 35). The Basque whalers apparently also landed on the south shore of the estuary, specifically on Ile aux Basques (Relations des Jésuites 1664: 10).

The history of whaling in the St. Lawrence estuary and, consequently, the presence of Basque fishermen, cannot be fully understood without reference to the development of the colony of New France. Although trading developed as an adjunct to fishing at the turn of the 16th century, trading activities intensified around 1580 (Turgeon 1986, 1990). Trading and fishing seem to have been regular activities for Basque and Saint Malo seamen. Tadoussac, a strategic location on the left bank of the mouth of the Saguenay, became the main trading center in the St. Lawrence valley (see Dufour 1988a).

When a monopoly system was established in the 17th century, the economy began to change. Initially, the monopoly holders carried out commercial fishing as well as trading. “In 1604, a ship chartered by the Monts company for St. Lawrence River expeditions had to sail to Escoumins to hunt whales and to trade in Tadoussac” (Marcel Trudel 1966: 15, cited by Dufour 1988b, translation). Also, “In 1605, the Jonas, with 36 men on board, went to Canada to hunt whales and to trade” (Marcel Delafosse and Robert Le Blant 1956: 338, cited by Dufour 1988b: 52, translation). The monopoly system triggered an upsurge of illicit activities, and the colonial authorities had to come to terms with contraband. Fishing became a coverup for illegal trade with native people. On a voyage to Tadoussac in 1608, Champlain witnessed some fairly violent confrontations between a Basque ship involved in trading and another that held certain privileges (Champlain 1608 [1973]: 139-141). A year later, the fishermen launched a protest. In a factum drawn up in 1609, they called for the abolition of trading monopolies (Belanger 1971: 117-118). Officially, they continued their whaling activities until roughly 1635, while still dealing in contraband.6

6In 1622, a 50- to 60-ton vessel with a 24-man crew and a Basque captain learned that a second Spanish ship weighing 200 tons would soon be arriving at the port of Tadoussac also in pursuit of whales (Champlain 1622 [1973]: 53-54). As well, the trading fleet from Tadoussac would on occasion hunt whales. For example, in 1627, a man by the name of
From 1627 onwards, colonial policies focused on the development of New France, whereas the Basques monopolized whaling. In 1637, Paul Le Jeune wrote: "The Basques come up as far as Tadoussac, or farther, to kill whales; effort will be made this year, I have been told, to take porpoises, or white Whales, which pass in numberless shoals before Kébec" (Biggar 1922: 169). The last documentary reference to the Basque presence dates from around 1630.

**Bon-Désir and Anse à la Cave**

The place name Anse à la Cave dates back to the 19th century. During a voyage in 1830, cartographer Bayfield named the cove "Cave Cove" after discovering the remains of a cave where furs had been stored (Pâquet 1984: 224). Gallicized in 1849 by surveyor Duberger, Anse à la Cave, to several historians, was the location of the former Bon-Désir trading post. But not all historians agreed. Baie de Bon-Désir and Anse à la Cave are often confused in historical works. Bon-Désir was founded in 1720 by Father Laure, who set up a mission that would become the religious capital of the Saguenay missions. With frequent visits from the Montagnais, the location became a secondary trading post under the central post at Tadoussac. A few years later, around 1724, Father Laure had to abandon the mission owing to conflicts with the administrator of the trading post. In addition to trading, the settlers hunted seals. Bon-Désir, like many other bays in the area, did not freeze over in the winter and was known as a winter hunting ground for seal. In the 1750s, the trading post produced from 80 to 90 barrels of oil and 500 to 600 seal pelts (Picard 1983: 26). The trading post continued to lose money, however, and these activities were gradually abandoned. In 1786, the buildings on the site were destroyed. Hunting seals continued into the 19th century under the auspices of the Hudson’s Bay Company, which had held the lease on royal trading posts since 1831 (Picard 1983: 26).

Basque fishermen were drawn to the area because of whaling. In 1730, the Darragory brothers, Simon, Nicolas, and Joannis, of Saint Jean de Luz, came to the Gulf of St. Lawrence to hunt whales. They set up a whaling station at Bon-Désir that remained in operation until 1737 (Bélanger 1971; Proulx 1986; Mimeault 1987). At the outset, the Darragory brothers’ efforts seemed to pay off. A letter dated 1736 referred to a successful catch of seven whale calves and one Grand Bay whale: "I have already been informed that your ship, the Adelaide, captured a Grand Bay whale. This is especially good news since there are many more whales in the area." (National Archives of Canada 1904: Series B, Vol. 64, Fol. 73 1/2).

To ensure more profitable operations, the Darragory brothers requested exclusive whaling rights. In 1737, their request was granted, thereby preventing other shipowners from exploiting the resource. François-Etienne Cugnet, a farmer in the royal domain, was unsuccessful in thwarting the brothers’ request, which impinged on his territory. Moreover, the brothers requested that they be reimbursed for two-thirds of the proceeds from whales that they had wounded but were found by others in the river. In an effort to extend the whaling season, about 30 whalers overwintered in Bon-Désir. To protect royal interests, the authorities prohibited the crew from trading. But one can well imagine that, given the difficulty of enforcing the order, it was not always obeyed. Because of production fluctuations, the operation was not sufficiently profitable; despite their overwintering in Bon-Désir, the Basques were unsuccessful in increasing their catch. In 1737–1738, Simon Darragory and about 50 men wintered with the idea of fishing for cod if no whales appeared. At this time a second shore station was established at Sept-Iles. Despite a small catch of four whales in addition to cod in 1740, the station was still more profitable than the Bon-

Emery de Caën, who was captain of the ship associated with the Caën company, extended his stay in Tadoussac in order to hunt whales (Champlain 1627 [1973]: 146). Historian Pierre Dufour (1988b: 58) wrote on the topic of contraband: “When La Ralde reached Percé on June 20, 1626, he intercepted Basque ‘shallops’ returning from Tadoussac, probably with a cargo of furs.”

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7 The “Grand Bay” whale, a term used by the Basques to designate the bowhead whale (Balaena mysticetus), refers to where the Strait of Belle Isle opens out into the Gulf (Turgeon 1982; Niellon and McCain 1987).
Déris station. To increase the profitability of their operations, the Darragory brothers sought authorization to trade with the native people of Sept-Îles; their request was refused, however, because the territory was part of the farm held by Cugnet in the Tadoussac domain, and his lease would expire only in 1746. Misfortune plagued the Darragory brothers, and their operation became progressively less profitable. They were forced to abandon their activities in 1742–1743. Twice, in 1749 and 1755, the brothers attempted unsuccessfully to revive their project, but were eventually forced to abandon all hope of pursuing their commercial activities in New France (National Archives of Canada 1905: MGI, Series B, Vols. 64 to 100).

Archaeology at Anse à la Cave

The first visual inspection of the site was conducted in 1962 by archaeologist Michel Gaumond who discovered structure B. Parallel to the riverbank, it consisted of an accumulation of rocks and earth in which three adjoining depressions arranged in a row were visible. On the basis of our visual inspection, we postulated that this structure was a tryworks with three fireboxes (Lalande 1987). We believed that the shape of structure B was comparable to that of the 16th-century Basque tryworks discovered on Saddle Island at Red Bay (Tuck 1985: 435). The archaeological potential of structure A had already been confirmed by surveys conducted by Crête in 1974. Two test pits had produced positive results: one contained charcoal and the other limestone splinters, charcoal, and a layer of coarse red earthenware. Consisting of a circular oven made of stone, structure A has the same features as other constructions found on Île aux Basques, Île Nue, and Anse du Chaffaud aux Basques. Since the Darragory brothers had set up a whaling station at Bon-Désir, it seems quite probable that the remains found at Anse à la Cave bear witness to their activities. The likely presence of a tryworks with three fireboxes (B), whose shape resembles that of the 16th-century Basque tryworks at Red Bay, led us to postulate prior to excavation that there were two separate occupations at Anse à la Cave. According to this hypothesis, the single tryworks (A) was more likely associated with the Darragory brothers' activities in the 18th century, and the tryworks (B) with three fireboxes, with a previous occupation in the 16th century.
Excavations at Bon-Désir/Lalande

Excavation of the tryworks revealed several levels of use. In addition to the traces of combustion and pieces of carbonized fat, the tryworks contained copper cauldron fragments, a few fragments from some sort of iron container, and two forged nails. Furthermore, outside the tryworks, to the south, was found evidence for activities related to the tryworks. At the extreme eastern end of the structure, there was an arrangement of stones: around ten stones lined up in pairs were resting on a combustion layer, which had a high concentration of charcoal and filled a cavity in the bedrock. This arrangement could simply have been a way of levelling off a work area, a secondary firebox for the rendering process, or even a hearth for domestic purposes. Nearby, we also found a lead ball and a knife. All these elements reveal an intensive occupation of the sector and bear witness to the presence of the first European fishermen.

In the 1988 field season, we discovered a coarse earthenware sherd of Iberian origin in the opening of one of the ovens (B) (FIG. 10). This type of pottery is found on sites from antiquity up to the middle of the 18th century (Barton 1981), but further analysis allowed us to delimit the period. Our analysis is preliminary, however, owing to the small size of our sample. This very coarse sherd has a buff-pinkish body and is speckled with quartz particles. The inner surface is marked by rings resulting from the potting process, and the outside surface is off-white. According to James Barton, the off-white color is due to baking rather than the application of a slip (Barton 1981: 45). Analysis of the unglazed fragment revealed that it probably came from the shoulder of an olive jar used for storing food and liquid, the type that is commonly found on Spanish-American sites from the 16th and 17th centuries (Deagan 1987: 31). Goggin (1960) classified the different shapes of these jars into three categories: early (1490-1570); middle (1560-1800); and late (1800-1900). Stephen R. James, Jr. (1988) studied a deposit of over 600 olive jars from the wrecks of the Tolosa and the Guadalupe (1724). His study makes a major contribution to the typological analysis of these objects and presents new dating hypotheses. However, since it is difficult for us to use some of the attributes defined by James (weight, volume, rim diameter), we have based our analysis on Goggin's classification. On the inner face of the fragment, we noted a horizontal joint between two potting rings. This, according to Goggin's classification, would indicate the middle style: "The Middle-
Figure 9. General plan of structure B at Anse à La Cave.
Olive Jars are the most widely distributed and frequently occurring of the olive jar styles. The transition from the early to the middle style is marked by the change from an everted mouth to a ring neck, the elimination of the handles, and the change from a globular body made in two vertical halves to a body with a more or less compressed egg shape, probably made in two parts and joined at the shoulder" (Deagan 1987: 33). The early style was replaced by the middle style around 1570 (Deagan 1987: 33). This type of jar is in fact the most common jar found in Spanish-American sites from the 16th century, namely, St. Augustine (1565-1600) and Santa Elena (1566-1587). Moreover, on the basis of its shape and measurements, it can be identified as type B in Goggin's classification, measuring from 0.23 to 0.29 m in length and from 0.18 to 0.20 m in diameter (Deagan 1987: 31). It also corresponds to Form II of the classification proposed by Stephen James, Jr. (1988: 52), who concludes that this shape is similar to that of the Middle Style Shape B jars of Goggin's classification, except for its sharper shoulder angle (James 1988: 64). The shape of our jar is comparable to that of specimens found at the Santa Elena site (1566-1587) in South Carolina (South, Skowronek, and Johnson 1988: 275). These factors combined make an occupation of the Anse à La Cave site beginning as early as the late 16th century plausible. However, given that this type of jar was made until the end of the 18th century, we cannot completely rule out the possibility that our jar was deposited at a later date. A larger sample of

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13 Archaeological excavations undertaken on the Ile aux Basques site in 1990 indicate that the site was occupied by Basques starting in the late 16th century (1580-1630). Pottery sherd from a cooking pot and a jar uncovered on the site are similar to artifacts from the whaling stations of Red Bay and Middle Bay (Lalande 1991b).
artifacts must be collected and analysed.
To uncover traces of other activities related to the rendering process, we dug a series of test pits covering the entire rocky point. We believe remains of other installations related to the rendering process, similar to those uncovered in the Basque sites at Red Bay and Middle Bay in the Strait of Belle Isle, are present here as well and may include cooperages, storage sheds and so forth. Although such remains were not found in 1988 and 1989, the discovery of a concentration of tiles behind the ovens in 1991 suggests the presence of another zone of occupation (Lalande 1991a).

Conclusion
The archaeological research carried out during the summers of 1988 and 1989 at the DDeI-5 site uncovered evidence of rendering operations. Structure A, identified as a twin oven, revealed traces of combustion as well as tile fragments characteristic of a Basque occupation. Our fieldwork on structure B revealed some unique and well preserved artifacts. Systematic excavation enabled us to identify the function of the structure: a tryworks with three fireboxes. Exposing the fireboxes showed how they were constructed and revealed a previous occupation which involved combustion-related activities. Furthermore, the discovery of a sherd of pottery belonging to a Spanish jar provides preliminary indications as to the date of the occupation, which may have begun as early as the end of the 16th century and continued to the middle of the 18th century. The archaeological evidence (shape of the tryworks, industrial nature of the operation, significant artifacts and ecofacts [tiles, copper cauldron fragments, fat, forged nails, etc.]) and the historical and environmental information all support the hypothesis of the presence of Basque whalers in the middle estuary of the St. Lawrence. To gain a better idea of the extent and characteristics of Basque settlements, we will continue to search the estuary for new sites and related information. Data collected in future fieldwork will, we hope, shed light on the operating strategies used in this particular environment.

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