THE EXCAVATION OF A SIXTEENTH CENTURY SPANISH BASQUE WHALING GALLEON IN RED BAY, LABRADOR: A SUMMARY OF THE 1981 FIELD SEASON

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INTRODUCTION

During the summer of 1981 the Marine Excavation Unit of Parks Canada under the direction of Robert Grenier and in cooperation with the province of Newfoundland and Labrador, continued the archaeological investigations of a sixteenth century Basque whaling vessel in the harbour of Red Bay, Labrador (Figure 1).

The principal objective was to excavate the entire central hull portion of the vessel with the goal of collecting important interpretive data on cargo stowage pattern as well as gaining an insight into several areas of architectural significance, including the pump well and tube, the mast step and overall structural characteristics of the hull. Secondary objectives included a minimal investigation of the vessel's transom and sternpost assembly, a beneath-the-hull survey, completion of the 1980 "shore trench," continuation of the harbour survey and the excavation of a small exploratory trench located just offshore from a major try-works and wharf complex.

A total of 825 dives were made that resulted in 1757.40 underwater hours. This large number of hours was possible due to the acquisition of a hot water suit system which sustains the diver at a constant temperature of 42°C, offsetting the effects of the cold Labrador waters.

EXCAVATIONS

Central Hull

The central hull can be defined as the midship's area which contained the bulk of the cargo of whale oil casks and included both the bilge pump and mast step. The excavation was therefore designed in anticipation of problems brought about by the presence of these artifacts and features. The foremost problem was the large number of casks which due to their complete collapse and disassembly over time produced a formidable recording operation. Literally thousands of staves and other cask parts were scattered across the wreck site, albeit some remain as well defined cask assemblages. Initially in 1979, an individual stave would be mapped in relation to its location within a particular assemblage. This procedure, although quite thorough and exacting, was extremely time consuming. Subsequently a new recording procedure was introduced in 1981 emphasizing casks instead of staves and which provided for an accurate definition of the casks outline as well as its spatial and stratigraphic

position within the vessel's hold. This recording was supplemented by photographic coverage of the individual cask assemblages which also recorded the relationship between those assemblages. The final products will include a cask locational map (Figure 2) succeeded by an interpretative illustration of the pattern of cask stowage within the central hull portion of the vessel (Figure 3).

One of the major artifacts recovered in 1981 was a section of the pump tube (Figures 4 and 5). It consisted of a squared tube with an outer diameter of 26 cm and an inner bore diameter of 12 cm. The tube and its plunger were excellently preserved within the cargo of casks beneath the existing seabed. The base of the tube was located next to the pump well sump, a circular hole cut into the port side of the keelson at the mast step (Figure 6). Artifacts found within the well sump consisted of a foot valve and associated leather flapper. The well sump and tube were enclosed by a pump well or box which also extended over a portion of the mast step. The mast step was incorporated into the keelson as an expansion of the keelson. It served as the base for a rectangular recess cut into the top of the keelson which acted as a type of mortice for the heel of the mast. The recess was large enough to allow for mast adjustment fore and aft.

Stern

The excavation of the stern was limited to the raising of the transom and a preliminary investigation into the surrounding structure to aid in the planning of the 1982 field season at which time the complete stern area is expected to be fully excavated.

The transom was lying flat on the harbour bottom located behind and below the broken end of the sternpost. It consisted of five transom beams rebated to fit over the inner face of the sternpost, and at least seven outside planks fastened to the transom beams and sternpost in a reversed v-shaped pattern known as the "square-tuck" design typical of the sixteenth and early seventeenth centuries. The transom was disassembled following underwater recording and then brought to the surface where it was reassembled for drafting and photographic recording (Figure 7).

Further excavation beneath and around the transom has revealed a large number of structural timbers including the lower end of the port side "fashion piece" (a curved timber, forming one side of the stern); a section of mast or yard, frame members, exterior planking, numerous unidentified timbers and perhaps most important, the rudder. This significant discovery was only partially exposed and will undergo complete recording and excavation in 1982. Another

exciting discovery was the remains of a small boat with many of its principal structural elements still associated. The boat's stem or sternpost, keel and the three lower strakes were all located more or less in their original positions. Approximately one meter of the boat's length has been uncovered with the remaining length lying beneath the large rudder of the main wreck. While the recovery may prove to be difficult, archaeologically the small boat and its contents represent a sealed Basque context with extremely high interpretative value.

Shore Trench

The excavation of the shore trench which began in 1980 was completed in 1981. The emphasis throughout the excavation was on stratigraphy, in an attempt to understand the relationship between the wreck and the Basque shore station being excavated by Jim Tuck of Memorial University. However, it soon became apparent that both the stratigraphic data (strata and their interfaces) and plan data (artifacts, features and faunal remains) were more representative of the Basque occupation on the land site and relatively little information was being gathered concerning the wreck. This pattern continued in 1981 with a large and diversified collection of artifacts and ecofacts, the majority of which appeared to be secondary refuse from the shore based operation. The collections

consisted of: faunal remains (represented by whale bone, fish bone, bird bone and a polar bear skull), leather shoe or boot fragments, straw matting, a possible straw broom, ceramic sherds, concretions, cask parts, rope, small boat parts and the ever present earthenware roofing tiles.

Stratigraphically the shore trench excavation was successful in tying together the wreck and deposits from the shore station (Figure 8). However, there appears to be no direct functional relationship between the two sites. The various stratas uncovered were formed by discard processes involving secondary refuse. The result was the formation of an excellent stratigraphic record indicative of events on Saddle Island. This record revealed several interesting periods of activity at the shore station. A large buildup of woodchips (the product of a log-squaring operation) represented an initial period of construction, followed by an extensive deposit of codfish bones indicative of a substantial cod-splitting operation contemporaneous with whaling and finally a large amount of rock collapse indicating abandonment.

Harbour Survey

This survey consisted of two distinct operations: a free-swimming bottom search and the partial excavation of an exploratory trench referred to as the wharf trench.

The free-swimming search was conducted along the north shore of Saddle Island east of the wreck site. It included that area directly in front of a major oven complex used by the Basques for processing whale blubber into train oil. Few whale bones were recorded with the exception of five ear bones, a few small skull parts and a vertebrae fragment. It appeared that the harbour silts had long since covered any notable trace of the Basque whale butchering. The search also located a few loose timbers most probably representative of drift material from the wreck site. These timbers all appeared to be oak and some showed evidence of fastenings (treenails and nail holes).

The wharf trench was an exploratory excavation within the survey area for the purpose of examining the remains of a possible Basque "cutting-in" stage or wharf. These remains were visible along the shore of Saddle Island during periods of low tide and consisted of piles of rock ballast and morticed timbers. A two meter by six meter grid was installed a few meters off shore at a depth of about three meters. The grid was aligned perpendicular to the shore line and directly in front of the wooden timbers. While only one sub-operation, measuring two meters by two meters, was excavated, an interesting pattern of artifacts present and absent was observed. The predominant artifacts included concretions, small wooden artifacts (some of which may be

small boat parts) and earthenware roofing tiles. The presence of concretions, which appear in relatively lesser numbers on the wreck site, may represent tool loss during the flensing operation if the area was used as a "cutting-in" stage. This possibility will be examined with further excavation during the 1982 field season.

SUMMARY

All project objectives were completed with the exception of the beneath-hull survey. This particular operation was postponed due to the lack of time in relation to the large number of artifacts being recovered under the hull. The 1981 field season resulted in the complete excavation of the vessel's central hull that included the recording of a large number of casks and several important features of architectural significance: mast step, pump tube and pump well. The vessel's transom was raised and recorded as well as an associated "fashion piece". Major discoveries included the ship's rudder, a section of mast or yard and a small boat. The shore trench excavation was completed and the harbour survey continued with particular emphasis placed on the excavation of a wharf trench near the hypothesized remains of a "cutting-in" stage. Archaeological research will continue in 1982 with the planned excavation of the vessel's stern and further investigation of the harbour's cultural resources.

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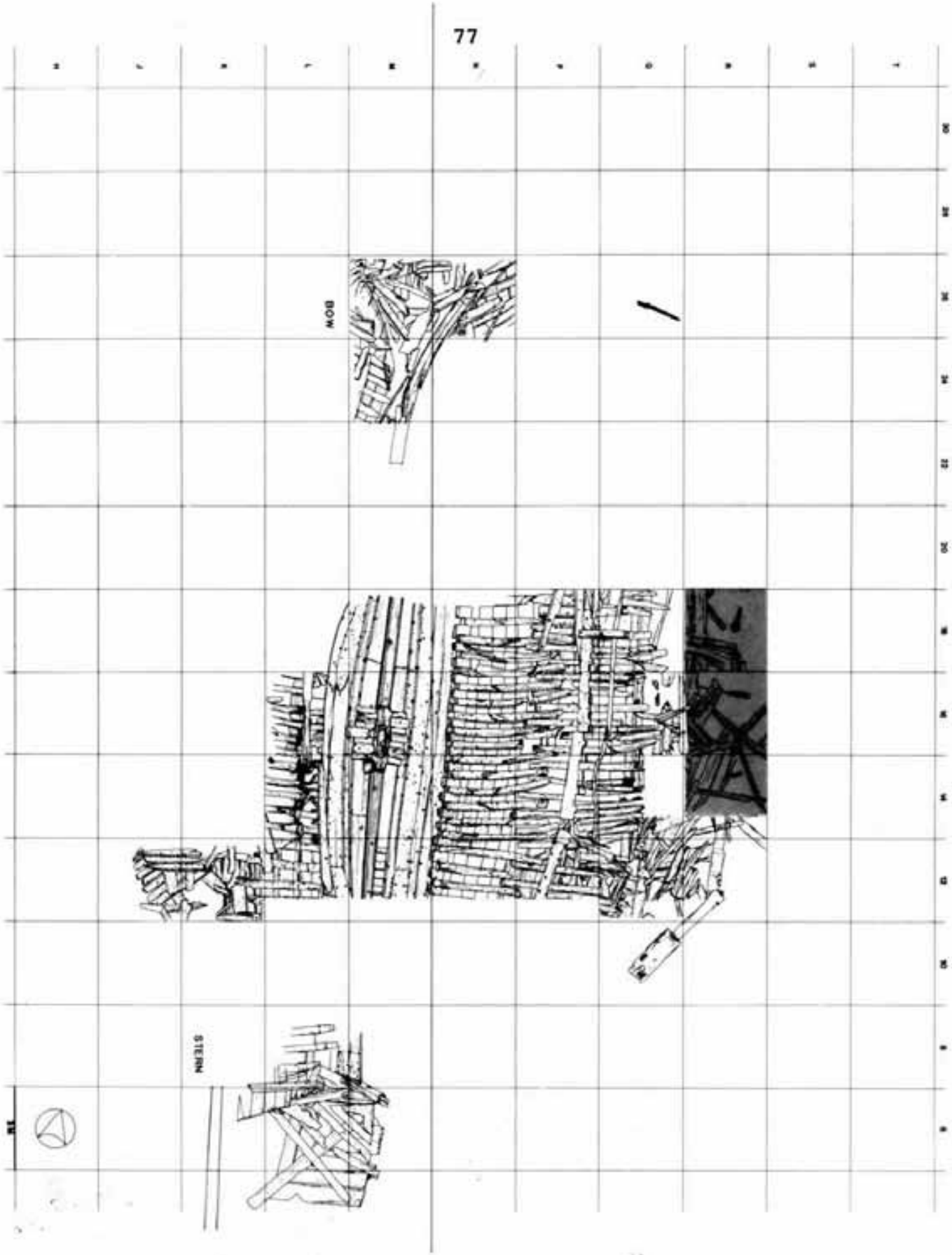

FIGURE 1. Structural plan of the wreck site. (Drawing by S. Epps, Parks Canada.)

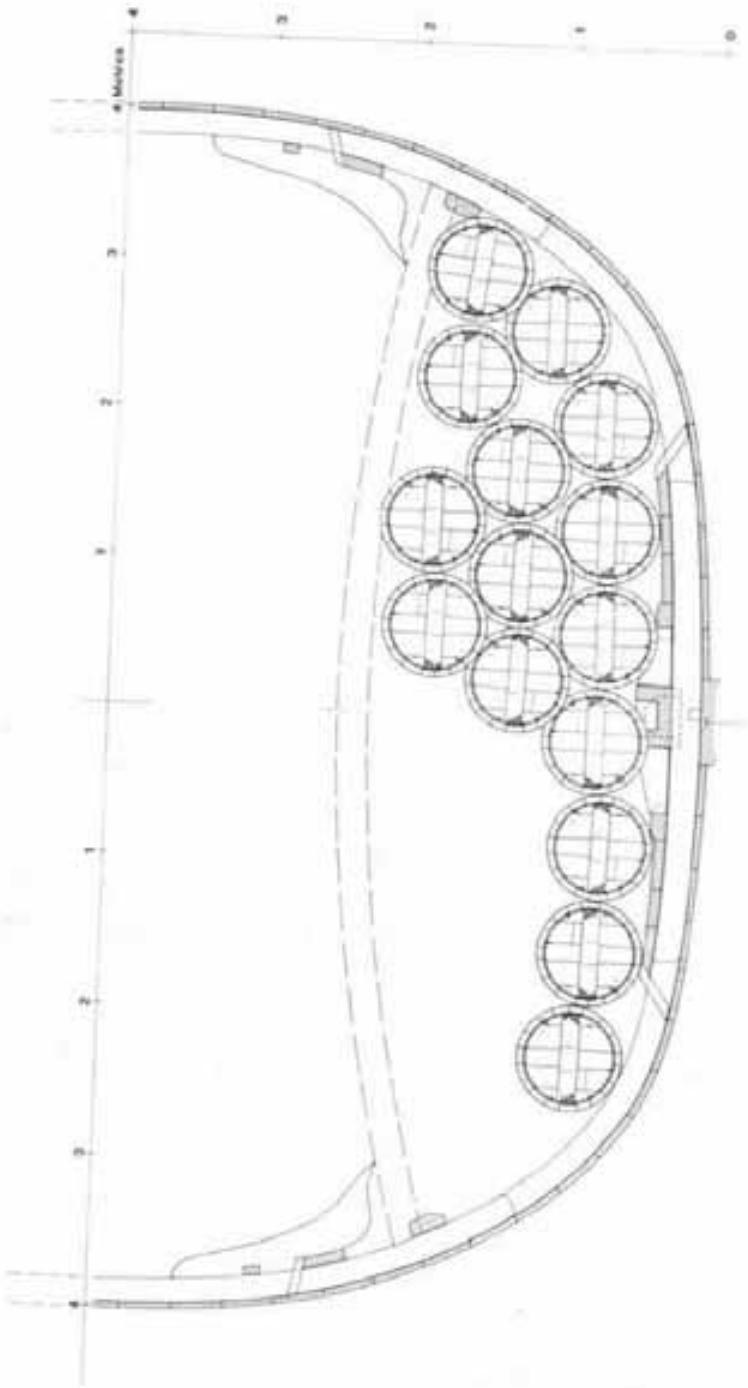

FIGURE 2. Plan view of reconstructed casks in the midship hold of the vessel. The casks were stacked in at least three layers with each layer offset and between the casks of adjacent upper and lower layers. (Drawing by S. Epps, Parks Canada.)

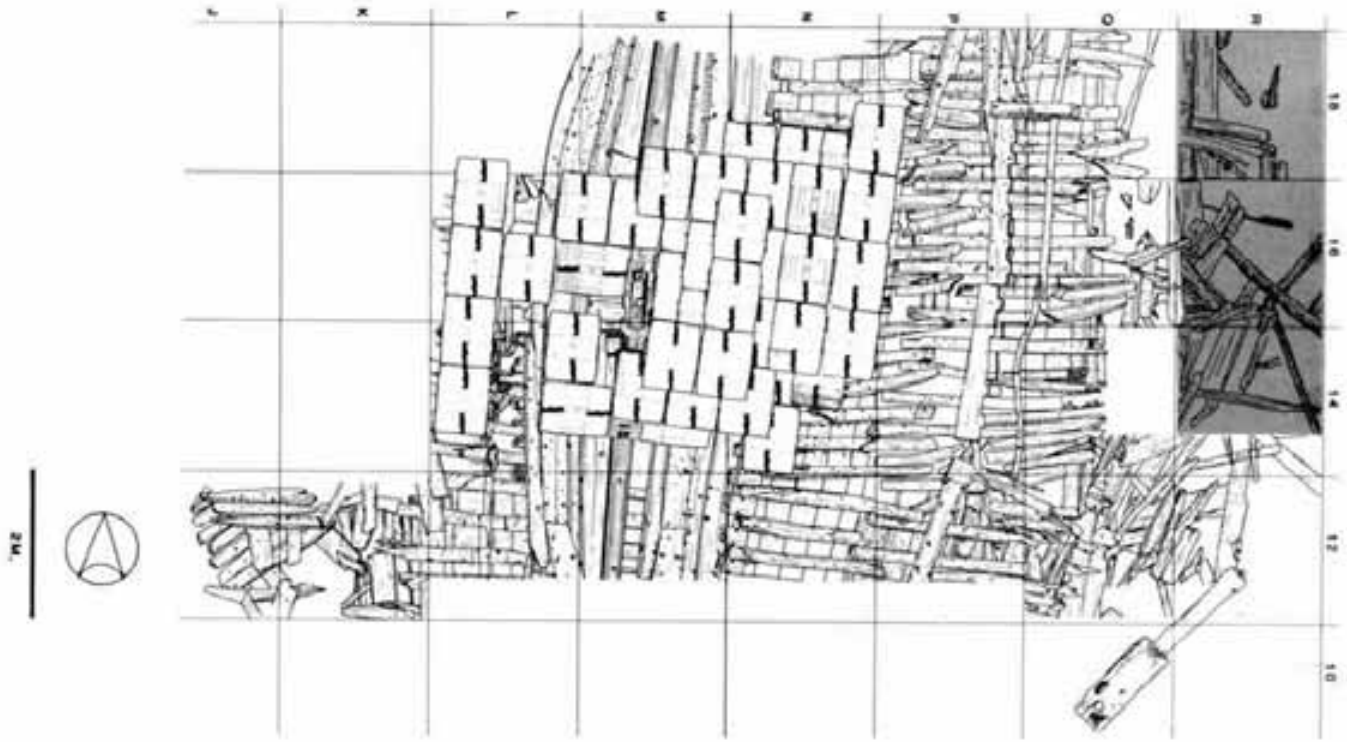

FIGURE 3. Cross-structural reconstruction of the hull amidships showing how casks would have been stowed in the vessel. (Drawing by S. Epps, Parks Canada.)

FIGURE 4

Pump tube. (Drawing by S. Bourque, Parks Canada).

FIGURE 5

Cross-section of pump tube showing the plunger with broken shaft. (Drawing by S. Bourque, Parks Canada).

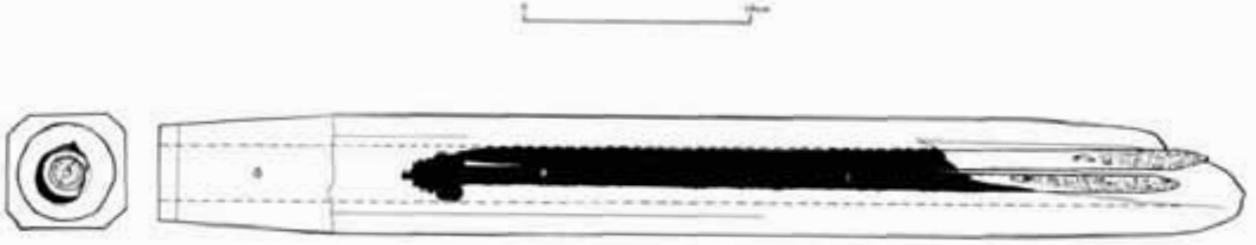

FIGURE 6

The mast step area of the vessel showing the well sump cut into the keelson. (Photo by P. Waddell, Parks Canada).


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FIGURE 7

Reassembled transom on the deck of the research support barge. (Photo by R. Grenier, Parks Canada).

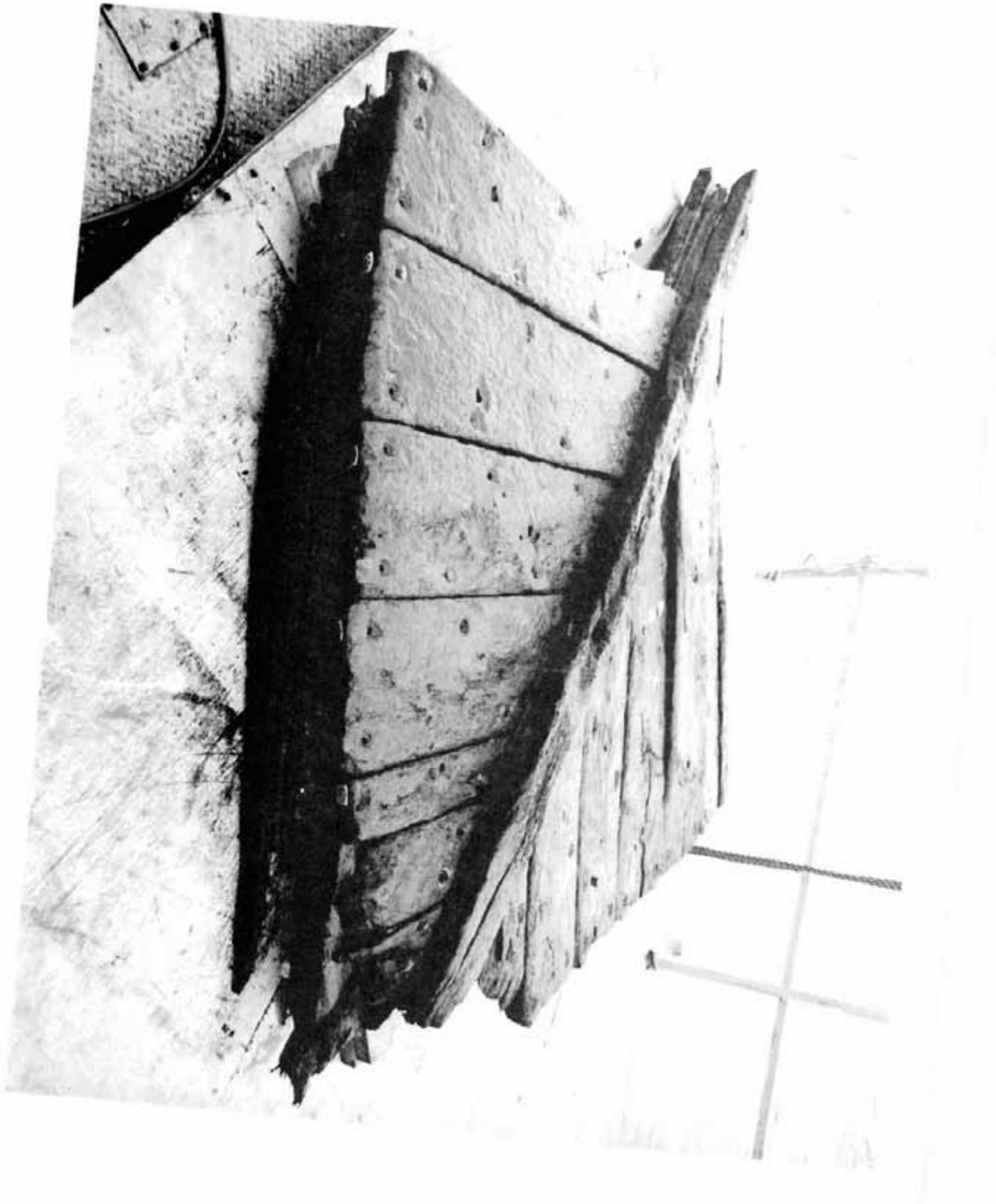

FIGURE 8

Stratigraphic profile drawing linking the wreck site with deposits from Saddle Island. (Drawing by S. Bourque, Parks Canada.)

Legend

1. Silt
2. Rock and organic silt
3. Crushed shell
4. Peat
5. Peat, woodchips, fish bone, crushed shell
6. Woodchips
7. Silt
8. Fish bone
9. Whale bone
10. Rock and crushed shell