



Frontispiece: Aerial photograph of the excavation of the Elvie (photo P.Baker).

## ABSTRACT

The remains of at least three vessels are known to lie within Frenchman Bay, Albany. This bay, therefore, played a significant role in the history of the port of Albany. From previous Western Australian Maritime Museum surveys of these wrecks, and local knowledge, the identities of two of the vessels have been confirmed, with continuing debate over the number and identification of vessels lying along Vancouver Beach.

A management plan for these both fully and partially submerged cultural resources is compiled. In order to do this, an attempt was made to locate the known wrecks, with the intention of surveying each to assess its condition and significance, to determine threats to the wreck, both natural and cultural, and to confirm identification where necessary.

Despite systematic snorkel, SCUBA and probe searches, the *Rip*, *Fanny Nicholson* and *Runnymede*, were unable to be located due to the winter build-up of sand in the bay. Only the *Elvie* was exposed. Lying in the intertidal zone, this oil-lighter associated with the early 1900s whaling industry, was excavated by mechanical means and shoreward profiles measured. Conservation samples of the lower timbers were collected. A water probe was used to measure additional profiles as the excavated sand was washed back into the hull, and a series of photographs taken of the beachward ribs protruding above the sand, allowing a photomosaic to be compiled of the visible remains down to the mid-tide level.

From information received from a Frenchman Bay resident, the remains of an iron vessel, later identified as a pre-1912 water-lighter, were found 15 metres offshore along Whalers Beach. A survey of this virtually buried vessel was carried out under difficult conditions, resulting in the completion of a site plan with profiles, and a photomosaic of the bow section. Selected areas were excavated to aid in clarification of the site.

As a result of the futile searches for the *Rip*, *Fanny Nicholson* and *Runnymede*, no immediate conservation and management procedures can be implemented. Their periodic burial is likely to provide adequate protection. Both the *Elvie* and the unidentified water-lighter are also virtually buried, with no immediate threats to either. These two vessels (one wooden, the other iron) are of considerable

historical and archaeological significance as they are examples of a type which was considered 'mundane' and 'ordinary' during their effective working lives. Although lighters played an important role in the functioning of the Albany port, little is known of their constructional details. These two wrecks along Whaler's Beach provide an opportunity for the study of such.

## ACKNOWLEDGEMENTS

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We also extend our thanks to staff of the Western Australian Maritime Museum, Fremantle, particularly Sally May and Jon Carpenter for their help and advice. And lastly, but not least, a word of appreciation goes to our fellow 1990 Maritime Archaeology classmates, for their ability to understand. Thanks to Sarah Kenderdine and Tim Smith for their help.

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## CHAPTER 1: INTRODUCTION

The port of Albany (Figure 1.1) played a significant role in the shaping of Western Australia, particularly in the southwest of this state. The settlement was founded in 1826 by the New South Wales Government as a response to increasing fear and suspicion of French activity along the western Australian coast (Bach 1982:36). Albany, with its “excellent natural harbour” (Bach 1982:37) thrived to become a major port of call for vessels, both sail and later, steam, *en route* for the eastern colonies. Unfortunately, communication difficulties between Albany and Perth reduced the trade value of the Albany port (Bach 1982:37).

By the late 1860s, shipping figures for Albany exceeded those of Fremantle, as the latter port was considered less than ideal, with its natural hazards (Bach 1982:276) and inadequate berthing facilities. Larger classes of overseas steamers, including mail steamers, called at the Albany port, until, with the development of Fremantle’s inner harbour and the opening of such in 1897, Perth began playing a greater role in maritime trade. Albany and Fremantle no longer shared the trade (Bach 1982:276). Instead, Albany became of lesser importance.

As Albany lacked a town water supply, the freshwater needs of the vessels calling into King George Sound prior to the early 1900s, were met by Vancouver Springs, along Whalers Beach, Frenchman Bay, approximately 10 kilometres from the port (Figure 1.2). The water was transported by steel and wooden lighters, filled at Armstrong’s Jetty, to the ships waiting in the port. The proprietors of these lighters, Armstrong and Waters (Hartman 1975:personal communication), owned a number of other Albany-based vessels, including the *Rip* which later came to be scuttled in the bay.

From 1912 to 1915, a Norwegian shore-based whaling station operated in the southeast corner of Whalers Beach, but was forced to stop operating due to the mounting pressure from Albany residents. The mainly Norwegian population working at the whaling station were suspected of being German sympathisers. The whaling station and associated structures subsequently fell into disrepair. After this time, Frenchman Bay became a popular tourist destination and holiday spot. The Bay now has a camping ground and beach picnic area, with the known wrecks in the Bay all within easy walking distance.

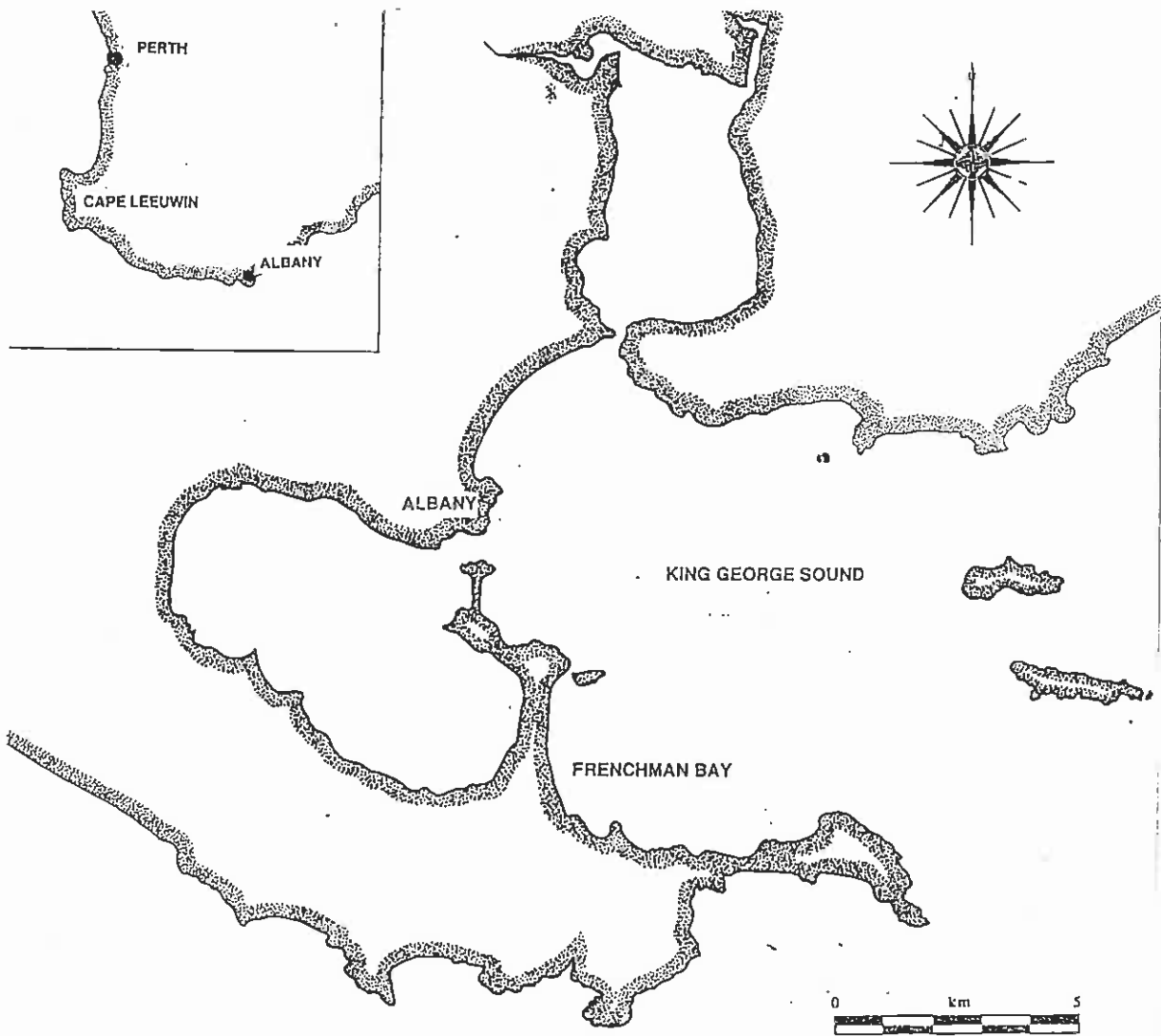


Figure 1.1: Location of Albany and Frenchman Bay in southwest Australia.

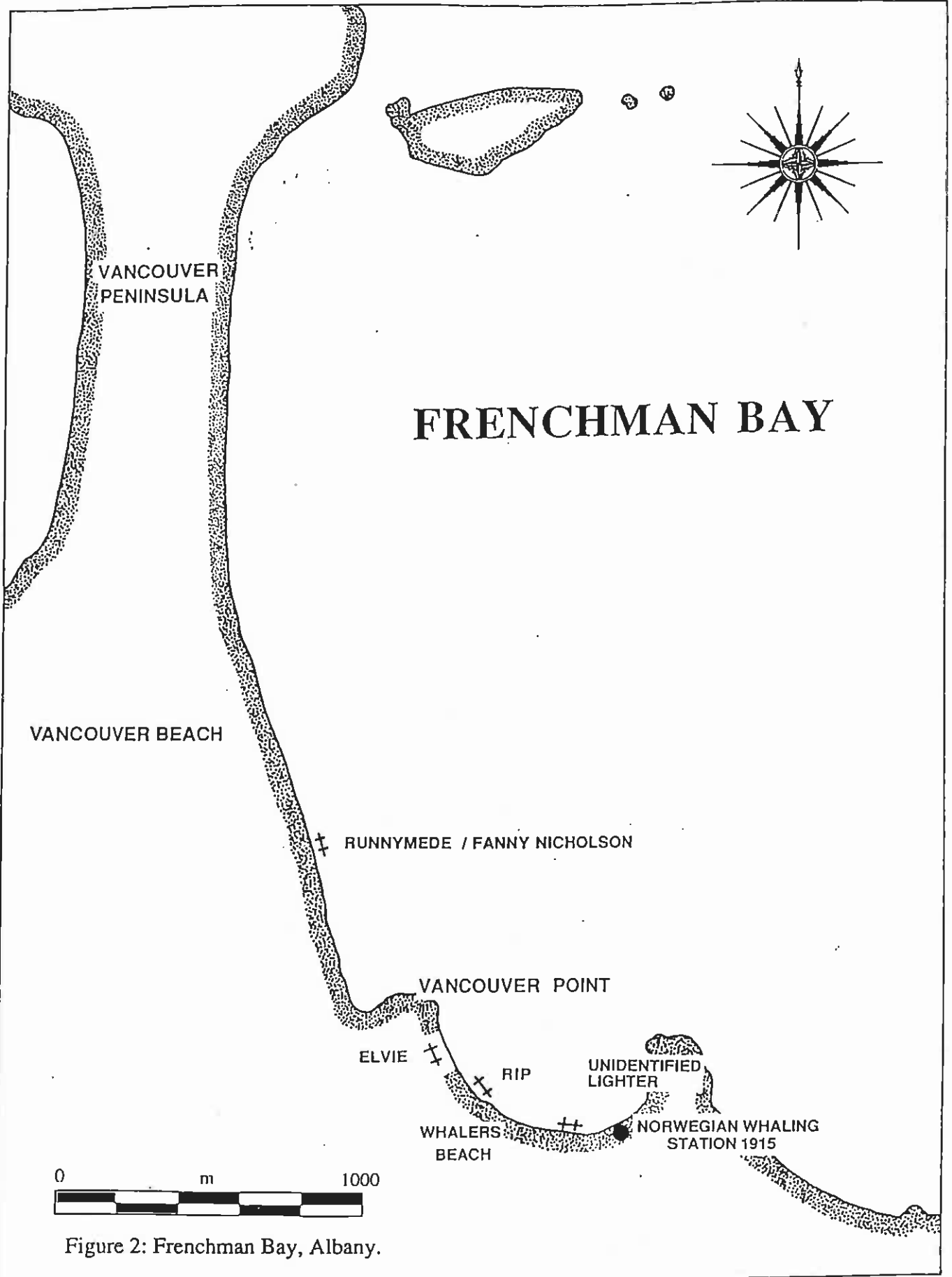


Figure 2: Frenchman Bay, Albany.

## 1.1 Research Proposal

The remains of at least three vessels are known to lie within Frenchman Bay, Albany (Figure 2). The identifications of two of these, the *Rip* and the *Elvie*, both of which are along Whalers Beach, have been confirmed during previous Western Australian Maritime Museum surveys of the Bay. Debate exists over the remains of a third vessel which lies along Vancouver Beach, in Frenchman Bay. Two vessels, the *Fanny Nicholson* and the *Runnymede*, are known to have been driven ashore in this area during the late 1870s - early 1880s, but newspaper accounts of the time suggest that the *Runnymede* was subsequently refloated (refer 2.3 below).

Albany residents have reported seeing the remains of two vessels, one wooden and one iron, in this locale, giving rise to a number of questions: was the *Runnymede* successfully refloated as newspaper records suggest, or did this vessel remain on Vancouver Beach? If refloated, what other vessel came to grief in this area? Uncertainty exists as to the correct identification of the remains of these two vessels, one wooden and one iron; it has not been confirmed which set of remains are those of the *Fanny Nicholson*.

A management plan was to be created for both the fully and the partially submerged cultural resources of Frenchman Bay, namely the remains of the *Fanny Nicholson*, the *Runnymede*, the *Rip* and the *Elvie*. This was to involve locating and surveying the sites, allowing an assessment of the significance and condition of each, and the determination of perceived threats, both natural and cultural. Where necessary, the identification of vessels was to be confirmed from constructional data obtained during surveying. Management options for individual sites are outlined. These options included excavation of the site to recover data that is under immediate threat of being lost from the archaeological record, mechanical protection of the site (such as the establishment of seagrass beds directly on the site to aid in the preservation and/or protection of the vessels' remains), legislative protection and public education. The completed management plan for Frenchman Bay includes suggestions regarding the compilation of educational material for the Bay based on preferred management options for individual sites.

Initial efforts were to be concentrated upon the iron and wooden vessel remains along Vancouver Beach. Thought to be those of the *Fanny Nicholson* and the

*Runnymede*, these remains have not been completely surveyed as suggested above, and confusion still exists over their identification. The methods of survey to be followed were to be determined once a preliminary inspection of the site had been carried out, and excavation undertaken where necessary to expose lower constructional features. Photomosaics of the remains were to be compiled where possible, to provide a more permanent record of the sites prior to any disturbance that may occur during excavation, or in the future.

Plans of both the *Rip* and the *Elvie* currently exist, having been compiled from the earlier Maritime Museum surveys. These sites were to be visited and any additional features not marked on the existing plans, added. Searches were to be carried out in selected areas of Frenchman Bay for additional wrecks not previously reported, to more completely fill the archaeological and historical record of the Bay.

## 1.2 Conclusion

Within this defined area of Frenchman Bay, lie a number of vessels of various types and which fulfilled a variety of purposes. This allows the opportunity to study vessels covering a range of activities carried out from or at the port of Albany. Both the *Fanny Nicholson* and the *Runnymede* were whaling vessels, the *Rip* - an ex-pilot vessel adapted for use as a lighter, and the *Elvie* - an oil-lighter associated with the whaling industry. Frenchman Bay is therefore an area of some significance in the history of the port of Albany and Western Australia. The intention of the current survey to be undertaken within the Bay, is to supplement the existing literature on this area, with the subsequent completion of a management plan for the individual sites.

## CHAPTER 2: FRENCHMAN BAY WRECKS

The following information is a summary of data regarding the known wrecks within Frenchman Bay, Albany, prior to the present survey. From this, an indication was gained of what was to be expected of each wreck within the Bay once the survey commenced.

### *2.1 Rip*

The schooner *Rip* was built in New Brunswick for the Victorian pilot service, arriving in Melbourne in 1871. Its last owner was Armstrong of Albany who had taken the vessel to the port to be used as a lighter in King George Sound after 1900. The *Rip*, previously in service in Port Phillip, Victoria, where it had capsized, was found to be worm-eaten in the keel and garboards, and leaked. After difficulties in keeping the vessel afloat, and failed attempts at repairs in Albany harbour, the *Rip* was taken to Frenchman Bay where it was heaved over on the clean bottom to allow a proper inspection. The vessel was found to be in such a bad condition that it was left where it was. It eventually dragged itself further up on the beach, and was subsequently set alight. Only the seaward side burned, and the vessel was left lying lengthways along the beach, canted towards the sea on a steep angle. After this time, the remains deteriorated rapidly (Hartman 1975:personal communication).

### *2.2 Fanny Nicholson*

The *Fanny Nicholson* was a barque of 285 tons, built in Hartlepool, Durham county, England. It was bought to Australia in the 1860s and used as a whaling vessel based in Hobart from 1870. On 16 December, 1872, the vessel was driven ashore in Frenchman Bay during a southeasterly gale. At the time, the *Fanny Nicholson* was commanded by Captain Goffin, and owned by Captain McArthur and others. The 70 tons of sperm oil on board were saved (*Mercury* 31 December, 1872), as was the rigging and whaling gear.

Dimensions:

Wooden frame, one deck with poop, three masts, elliptical stern, standing bowsprit, figurehead of a woman.

36 m x 7.7 m x 4.6 m [108 x 24 x 14 ft]



### 2.3 *Runnymede*

The *Runnymede* was a wooden barque of a registered 284 tons, built in Hobart, Tasmania, 1849, by John Watson. It was originally owned by Askin Morrison, a merchant of Hobart, but was later (prior to 1874) bought by James Bayley who commanded the vessel during much of its 32 years of service as a whale ship operating out of Hobart. On 21 December, 1881, the *Runnymede*, while in Frenchman Bay for water, was driven ashore during a heavy gale and wrecked, despite having three anchors set. At the time the vessel was owned by Bayley and McGregor, and commanded by Captain J.B. Travis. The *Runnymede* was driven alongside the few timbers remaining from the wreck of the *Fanny Nicholson* (*Mercury* 27 January, 1882).

Shortly after, the hull of the *Runnymede* was bought by Mr Gillam, who intended to use it as a coaling vessel, as the vessel was believed to be still whole and capable of carrying coal. The water in the hull was pumped out, leaks repaired and ballast removed, after which it was refloated (*West Australian* 5 May, 1882).

There is considerable variation in the dimensions of the vessel believed to be the *Runnymede* lying on Goodes Beach and the actual *Runnymede*, as according to records held by the Western Australian Maritime Museum.

Dimensions (WAMM records):

2 decks, 3 masts, barque rigged, scroll stem, square stern, carvel built, wood hull, standing bowsprit.

103.6 x 23.2 x 15.5 ft (34 x 8 x 5 m)

Dimensions (Holgate 1965:personal communication):

Length of hull - 78 ft (26 m)

Width of hull - 10 ft (3 m)

Total thickness of skins - 7 1/2 inches (18 cm)

Thickness of 1 skin - 2 1/2 inches (6 cm)

Number of skins - 2 (5 cm)

Width of space between skins - 2 1/2 inches (6 cm)

Size of stern post - 4 inches square (iron top) (10 cm)

Size of stem post - 3 inches square (7.5 cm)

Breadth of skins - approximately 6 1/2 inches (17 cm)

A comparison between the above sets of measurements suggests that the vessel lying on the beach is, in fact, not the *Runnymede*. A vessel of the same name was reported as having also been wrecked at Albany, in 1865, 15 years before the wrecking of the *Runnymede* under question. This vessel was apparently refloated and continued its voyage to South Africa, springing a leak off Cape Leeuwin and finally being abandoned off Mauritius (Parsons n.d.).

Location of *Fanny Nicholson* and *Runnymede*:

longitude - 35° 4' 54"

latitude - 117° 56' 10"

Preliminary identifications of the two vessels along Goodes Beach name them as the *Fanny Nicholson* and the *Runnymede*. The remains of one of these vessels is reportedly iron, the other wooden. Historical records state the *Fanny Nicholson* was wooden-framed. As no direct mention is made of the exterior material of this vessel, it can be assumed that it was not wooden: why merely state wooden-framed if a vessel is constructed wholly of wood?

The *Runnymede* is described as a wooden barque; the wooden vessel may therefore be this one, but newspaper accounts of the time suggest that the *Runnymede* was refloated, and the dimensions of the actual and wrecked vessels vary. Further historical and field research is necessary to confirm or deny this.

#### 2.4 *Elvie*

There is no documentary evidence pertaining to this vessel. Information is provided by oral sources. The *Elvie* appears to have been flat bottomed, double ended, carvel built, wooden vessel used to carry oil to the whaling vessels anchored in Frenchman Bay. With the closure of the Frenchman Bay whaling station in 1915, the vessel fell into disuse and was left anchored at her moorings. In the ESE gale of 1921, she dragged her moorings ashore and filled with sand. Remains of the vessel, within the tidal zone on Vancouver Beach, can still be seen.

Numerous surveys of the vessel have been conducted, including the most recent, which was completed by the Western Australian Maritime Museum in January 1989 (S. May and R. Richards). This expedition also included limited excavation.

Estimated Dimensions (Maritime Museum Albany Wreck File. 195/72/2)

Length - 75 ft approximately (24.10 m)

Breadth - 18 ft approximately (5.49 m)

Ribs - 7cm x 13cm

Inside planking - 6cm x 21cm

Outside Planking - 4.5 x 21cm

Location of the *Elvie*

Compass -	1.	Western Edge of Mistaken Island	008 °
	2.	Easternmost of Two Sisters Rocks	013 °
	3.	N.W. edge of Michaelmas island	057 °
	4.	Summit of Mt Gardner	066.5 °
Sextant -	1-2		14 ° 53'
	2-3		44 ° 46'
	3-4		9 ° 46'
Visual Transits -	Western edge of Mistaken Island in line with the western side of Oyster Harbour Channel. Seal Island under Michaelmas Island, to the left of centre.		
Photo Transits -	pl 3.1: view along samson post to Whaler's Beach		
	pl 3.2: view along length of vessel, with Limestone Head in background		
	pl 3.3: view along starboard side of vessel, with Limestone Head in background		



Plate 3.1: View along samson post of the *Elvie*, to Whaler's Beach.



Plate 3.2: View along length of the *Elvie*, with Limestone Head in background.



Plate 3.3: View along starboard side of the *Elvie*, with Limestone Head in background.

## CHAPTER 3: RESEARCH STRATEGY

### 3.1 *Fanny Nicholson* and the *Runnymede*

Unsuccessful snorkel and walk searches for the remains of the *Fanny Nicholson* and *Runnymede* were carried out along Vancouver Beach, north of Vancouver Point, Frenchman Bay. Information supplied by a local Frenchman Bay resident indicated that the *Fanny Nicholson* had been visible up to approximately five weeks previously, but shifting sands in the area had covered it. A probe search in the vicinity of the wrecks (estimated from the known transits) failed to locate either wreck.

### 3.2 *Rip*

An attempt was made to locate the *Rip* along Whaler's Beach, south of Vancouver Point, on a number of occasions. During the first attempt, directly offshore from the *Elvie*, only a piece of timber later thought to have no association with the *Rip*, and an unidentified object were located in patches of clear sand among the loose seagrass.

Poor visibility and dense seagrass covered the area where the known transits placed the *Rip*, making snorkel searches futile. A controlled swimline search, using four divers on SCUBA placed at regular intervals along a rope, was carried out. This also involved probing the seabed as it was believed the wreck may have been buried. The volume of dead seagrass complicated the search.

Comparison of the searched area with that of the *Rip* location transits confirmed that the *Rip* had in fact been swum over and was obviously buried at the time of the search. The shoreward shifting sands that were responsible for covering the *Fanny Nicholson* and the *Runnymede* approximately five weeks previously may have contributed to this.

For the research strategies of the remaining two vessels, the Unidentified Lighter and the *Elvie*, refer to Chapters 4 and 5 below.

## CHAPTER 4: UNIDENTIFIED LIGHTER

### 4.1 Discovery and Location

The location of an iron wreck along Whaler's Beach, Frenchman Bay (Figure 1.2), was indicated by a resident of this area. Lying between the remains of the Norwegian whaling station of 1912 - 1915, and Vancouver Springs (Figure 4.1), the wreck was easily relocated as it was only 10 - 15 m offshore in less than 3 m of water. Although known to a few local Frenchman Bay residents, the wreck was previously unsurveyed. The information received from the locals at the time indicated that it was an iron water lighter. The results of the survey bear this out.

The iron wreck (hereafter referred to as the Unidentified Lighter) lies approximately 54 m southeast of Vancouver Springs and 50 m northwest of the Whaler's Beach picnic area boat ramp. A bearing of  $282^{\circ}$  (Figure 4.1) was read to the wreck from the barbecue situated nearest to the boat ramp. These features were selected as aids to the relocation of the wreck as they were considered permanent, being of comparatively recent construction.

### 4.2 Research Proposal

As three of the four known wrecks in Frenchman Bay were unable to be located (refer to Chapter 3), an inspection and survey of this 'newly discovered' iron wreck was to be carried out.

All visible features were to be planned, with the excavation of selected areas so as to identify constructional features of the wreck. Particular attention was to be devoted to obtaining the dimensions of the vessel, including overall length and maximum beam, as well as dimensions of the structural features. Profiles of the hull down to the keelson at the bow, midships and stern were to be measured

The identification of the wreck was to be determined from the results of the wreck inspection and the compilation of local knowledge. Particular attention was to be paid to its function, and possible relation to features within Frenchman Bay, such as the whaling station (1912-15) and Vancouver Springs.

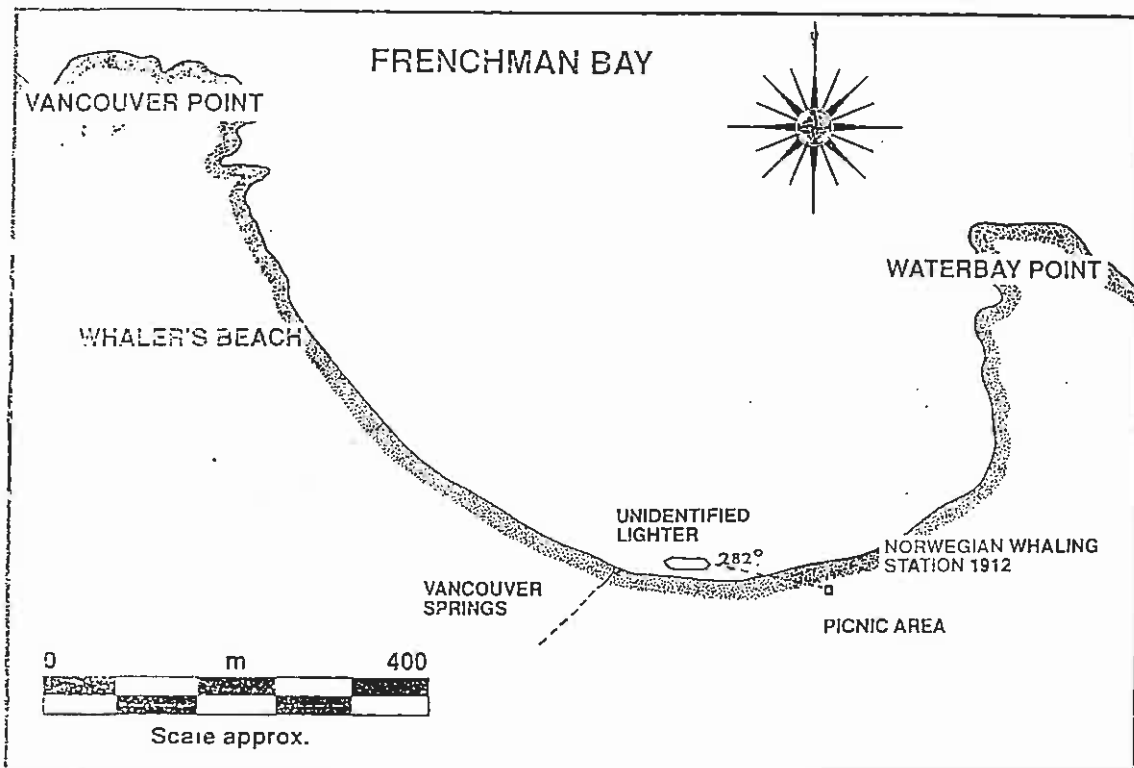


Figure 4.1: Location of the Unidentified Lighter, Frenchman Bay, Albany.



### 4.3 Predisturbance Survey

A preliminary inspection was carried out to determine the extent and nature of the site, followed by the completion of a pre-disturbance survey conservation report (Appendix A). The area of the site extended for approximately 30 m parallel to the shore and was 15 m wide, but early observations gave little idea of the general layout of the wreck. The scatter of apparently unconnected remains formed no logical structure, suggesting possibly two wrecks in the vicinity, rather than one, or that the site was a dumping ground for scrap metal. This confusion was compounded by the movement of suspended seagrass which periodically covered features that had previously been clearly defined. Not only were features 'lost' for lengthy periods, but no overall picture of the site was possible until the final planning was completed. Unsurveyed remains of the vessel were revealed in the latter half of the survey, corresponding with a change in the weather pattern (largely, an alteration of wind direction, as described below) and use of the water dredge (refer below). A site plan is presented in Figure 4.2.

The pre-disturbance survey revealed a confusion of iron beams, initially identified as the stern of the vessel in the southeast corner of the site. This identification was later changed to the bow section after consultation with R.McKenna (1990: personal communication). Iron ribbing, approximately 0.4 m high extended above the sand. A southeast alignment of the ribs was noticed but no other discernable pattern was seen.

The vessel was of iron hull construction with iron ribbing, and wooden planking in at least one section (refer Plate 4.7). Early indications, such as the right angular projections of the joins in the stern section as opposed to acute, suggested that the vessel was probably a barge or lighter.

Samples of anaerobic black sediment and matted vegetation, possibly decomposed wood or seaweed, were collected for analysis of their composition. Wood samples were also taken.

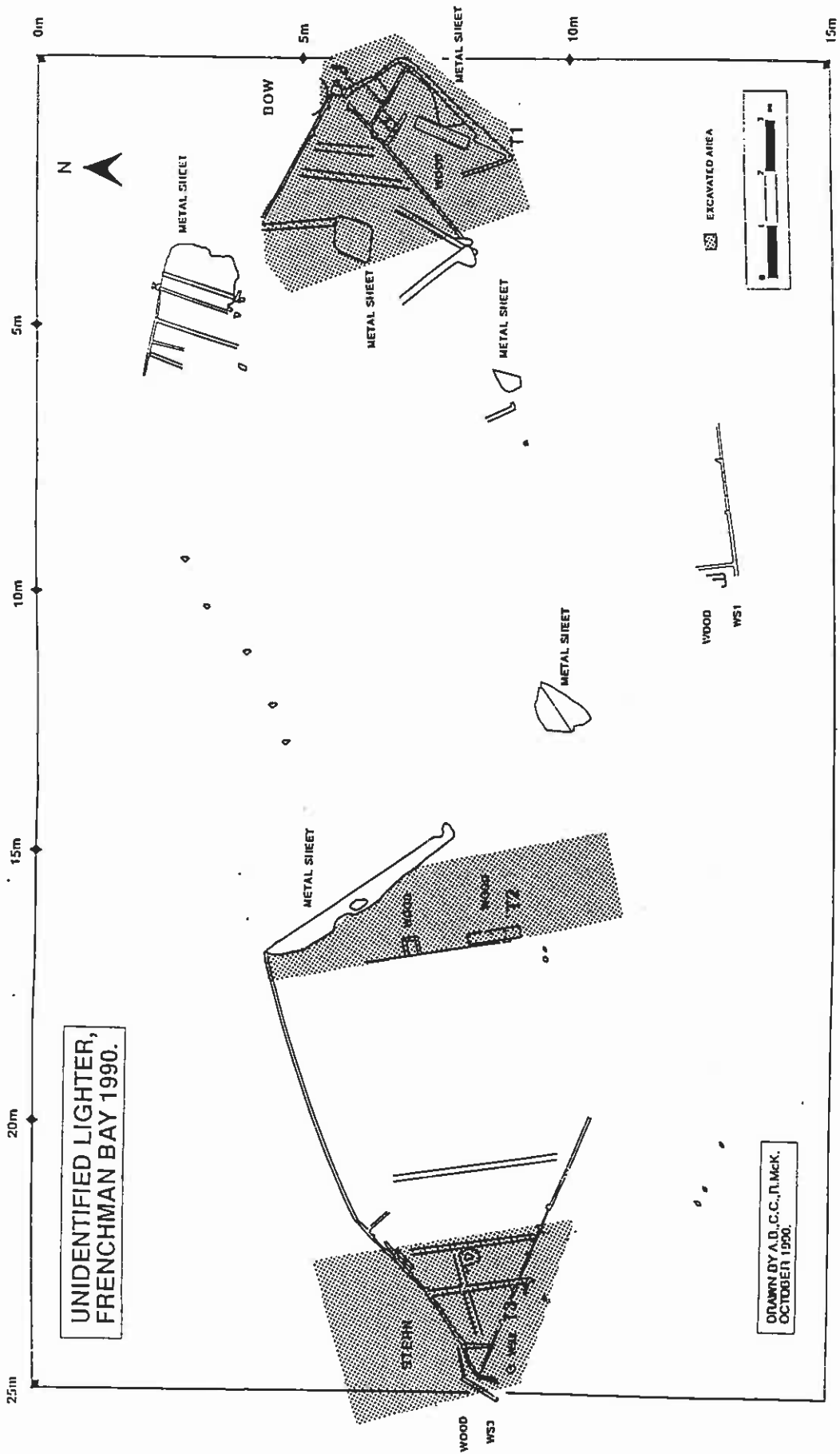


Figure 4.2: Unidentified Lighter, Frenchman Bay; site plan

#### 4.4 Wreck Site Conditions

Working conditions on the site were difficult with the generally low visibility (less than 3 m) occasionally reduced to zero due to the shifting beds of dead seagrass in suspension. This phenomenon, along with the sandy bottom and a strong surge compounded normal surveying difficulties and made photography impossible most days. These problems were largely overcome with the use of the water dredge as is described below.

During winter there is most likely a predominance of seagrass in suspension close to shore as winter storms and high seas may cause it to accumulate shoreward. This process could be reversed in summer, resulting in a site relatively clear of seagrass. As with the seagrass, a build-up of sediment over the site would also be expected in winter. This has been demonstrated with the remains of the *Fanny Nicholson* and *Runnymede* wrecks which were visible up to approximately the end of May (refer to Chapter 3). The observed winter longshore current in Frenchman Bay carries sediment in a southeasterly direction, from Vancouver Point towards the Norwegian whaling station of 1912 - 15. The wrecks are apparently visible during the summer months; the build-up of sediment, therefore, is reduced during this period.

The initially infrequent moderate to strong south to southwest winds in the area blew the bulk of the seagrass away from the shore and the wreck. This was associated with a decrease in the everpresent surge. Both these above conditions resulted in the remaining seagrass settling down on the sea floor providing no inconvenience unless disturbed by the surveying divers. Under such conditions visibility improved to approximately eight to ten metres and a relatively clear overall impression of the site was gained. These conditions were prevalent in the second week of the two week survey.

The tidal range in Frenchman Bay during the two week survey period was largely responsible for the depth variation of the site of 1.5 to 3 m. During this period, high tide was generally in the late morning and low tide was reached in the late afternoon. This affected work on the site in a number of ways. During the low tide period it was possible to stand in the southern part of the site, thereby simplifying survey procedures. As a consequence, the surge over the whole site increased. This compounded the problems already mentioned with survey work

on the site, principally regarding the suspended seagrass.

The advantages of the site can be assessed according to the following: it is easily accessible from the Whalers's Beach picnic area by four wheel drive vehicle. It is a shallow water site and its proximity to the beach allows a hookah to be run from the shore, generally easing possible diving and logistical problems. The site lies in sheltered water, protected mainly from winds from the west and south. During the two week survey period, winds were experienced from all points of the compass and no days were called off due to bad weather.

#### **4.5 Research Strategy**

Site boundaries measuring 30 m west to east and 15 m (north to south) were established along the northern and eastern sides of the Unidentified lighter. A 5 x 5 m grid system was to be placed over the entire site. A 1 m<sup>2</sup> grid frame superimposed over this at appropriate intervals would allow the detailed planning of the site. Initially this involved the placement of star pickets at 5 m intervals along the seaward side of the vessel (30m), and at right angles to this at the bow (eastern) end (15m). At the time this was considered to be the method that would provide the most complete coverage of the site. After the placement of these two site boundary lines, and the pegging out of the first 5 x 5 m square in the north eastern corner of the site, a new method was adopted. This was because time constraints placed on the survey caused a more economic approach to be taken. This involved measuring and planning each exposed section of the site separately, beginning with the bow section. Trilateration of the major features of the wreck to various marked starpickets, was used to determine the relative positions of these features.

A swimline search was carried out over the site, following the 30 m grid/site boundary in order to identify and tag features yet to be planned. It was only after the planning was completed that the site could be understood; the wreck was oriented with its long axis in a northeast - southwest direction, with the stern towards the southwest.

#### **4.6 Excavation**

The Unidentified Lighter was excavated to establish the length, beam, draft, and type of bilge of the vessel. To achieve these aims three trenches were laid down across the site. One trench was excavated at both the bow and the stern,

and the final trench across what was considered to be amidships.

First attempts at excavating the site were made using a waterprobe, with the intention of exposing the keelson at the bow and following it along the length of the vessel as far as possible. It was hoped this would allow the accurate determination of not only the vessel's orientation, but also the relationship of the plotted features, and the identification of any structural damage that may have occurred to the keelson. The water probe proved inadequate for excavation purposes, as the diameter of the water outlet (2.5 cm) was too small to effectively remove sand from within the hull. Visibility was reduced to zero due to the amount of loose seagrass and black anaerobic sediment disturbed by the probe.

Internal profiles of the bow section were taken (Figure 4.3), using the probe to penetrate through the sediment down to the base of the vessel. A datum was established directly on top of the stempost and this was transferred along the vessel, using a system of starpickets and carpenter's level, to each station at which profiles were to be taken. This ensured that the heights from which the depth to base measurements were taken were constant. The distances from this established level above the vessel to the base were measured across the bow section; two profiles were taken at the bow (refer Figure 4.8), using this method in conjunction with the water probe. This system of transferring the datum was also used at the stern (Figure 4.4) where an alternative datum was established, as inaccuracies would have occurred in transferring the original datum over the entire length of the site.

Excavation of the bow section began after the 2.5 cm metal probe was replaced with a flexible, corrugated plastic pipe approximately 30 cm in diameter. Unfortunately the volume of water being pumped through the system of hoses made the water outlet difficult to control, requiring two people to direct it. As with the smaller diameter water probe, visibility was reduced considerably as sediment and seagrass were disturbed. The water pressure was not able to remove the sand from the site a sufficient distance to prevent the sand from drifting back into the excavated area. To overcome this, the water pump was converted to a dredge, which worked efficiently in clearing the site of sand and loose sea grass, although it too was difficult to direct (Plate 4.1). With the next high tide, the trench was completely filled with seagrass, although only a small amount of sediment returned.

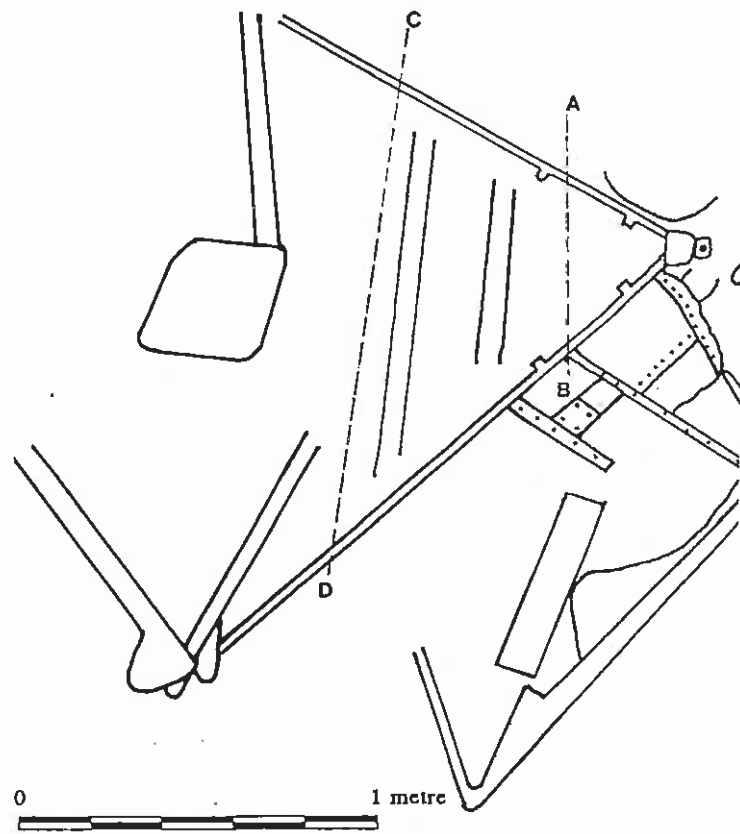


Figure 4.3: Bow section of the Unidentified Lighter, indicating where profiles across the section were taken.

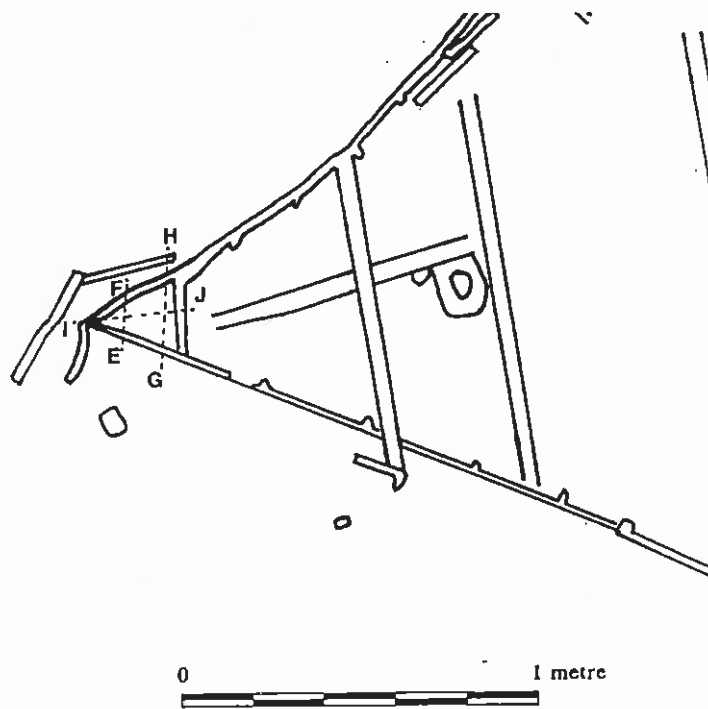


Figure 4.4: Stern section of the Unidentified Lighter, indicating where profiles across the section were taken.



Plate 4.1: Operation of the water dredge in the stern section, Unidentified Lighter.

#### 4.7 Photomosaic

A photomosaic was not attempted prior to excavation of the site because of the poor visibility caused by the suspended seagrass. The development of S.W. winds, together with the excavation of the bow section by the water dredge resulted in the removal of much of the seagrass as well as sediment and therefore exposed sufficient areas of the site to allow a series of photographs of the bow to be taken for a photomosaic (Plate 4.2).

This was carried out by superimposing a 1 m<sup>2</sup> grid frame progressively along the bow, ensuring a 50 percent overlap. No baseline was established, as the area to be covered by the photomosaic was comparatively small and did not warrant the attachment of such. The method adopted here proved satisfactory for the circumstances.

Two divers were involved in this procedure. One operated the camera at a height of 1.5 metres above the vessel, the maximum water depth at the time. The low

light conditions dictated that the camera be set on a low f.stop (F2.8-4); shutter speed was a constant 1/60 second. This setting was changed when most of the frame to be shot consisted of white sand, rather than the darker tones of the wreck. This subsequently caused printing difficulties back in the photographic laboratory, with too much contrast for good definition.

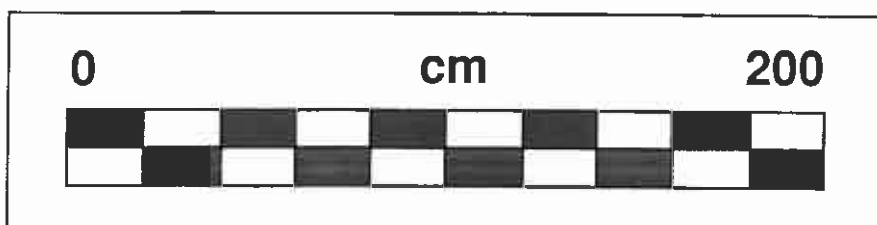
A second person involved in the photographic procedure moved the grid frame as required, ensuring the overlap of frames and levelling the frame above the wreck. The irregular heights of the wreck above the sea floor resulted in the slight tilting of the frame on occasions, but this tilting was kept to a minimum by balancing the frame around features. Towards the end of the photographic sequence, sediment was disturbed by the divers and visibility had been reduced by some degree.

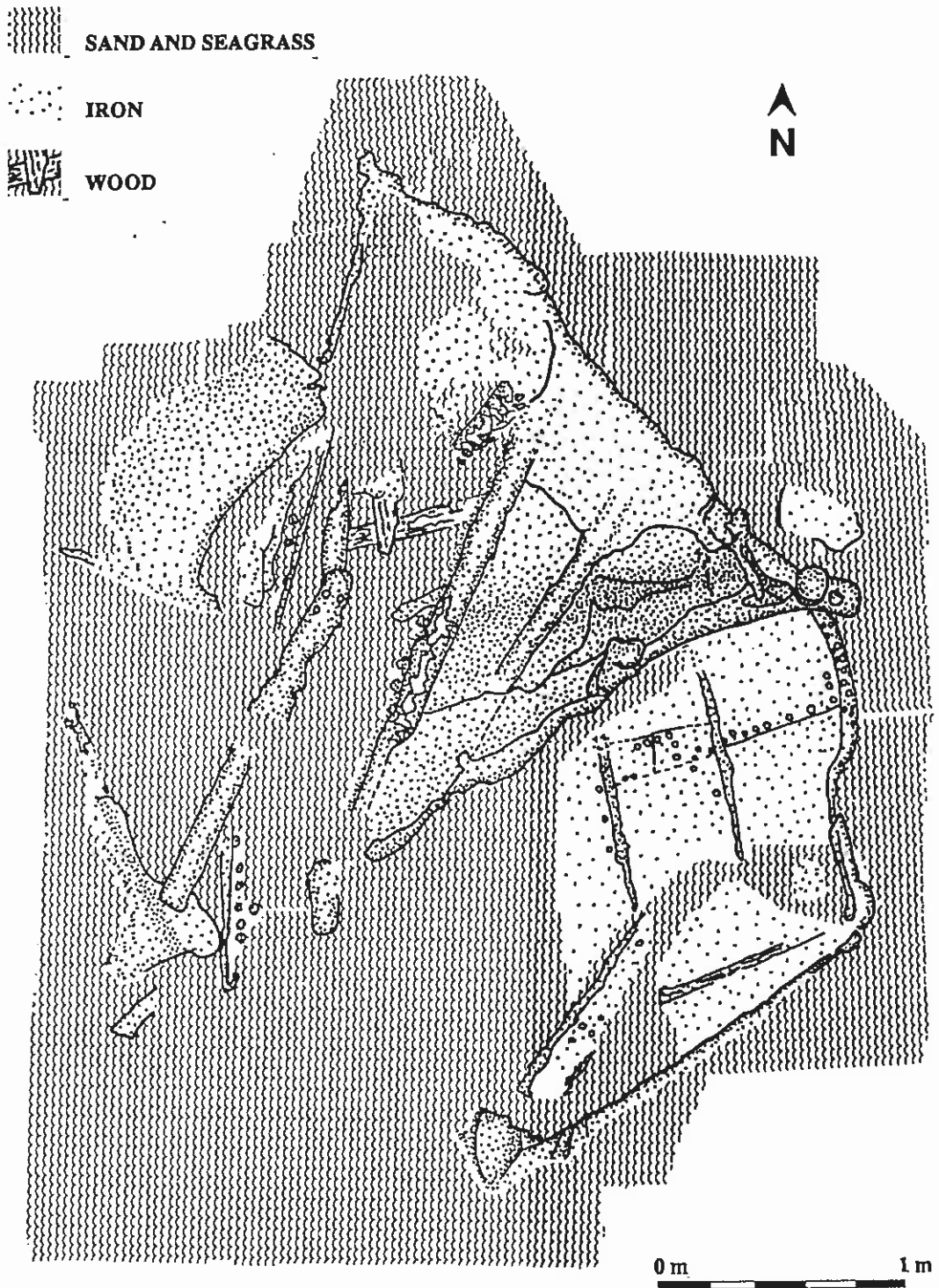
The photomosaic has been of little use for adding detail to the site plan. The completed photomosaic cannot be printed at the same scale as the site plan because of distortion due to on-site photographic procedures. No compensation was made for the height variations (+/- 0.5m) of feature within the bow section. This could not be prevented as the water depth of 1.5 m dictated the maximum height the photographer could attain. The option available that involved incorporating the survey measurements of both the bow and the photomosaic into one overall plan would have resulted in the finished product being a compromise of the two, introducing further inaccuracies. Instead, the survey measurements were left to stand on their own and the site plan is composed from these measurements. A plan has been made from the photomosaic (Figure 4.5) to illustrate the detail of the bow section.





Plate 4.2: Photomosaic of the bow section, Unidentified Lighter.





**DETAIL OF BOW SECTION  
(TAKEN FROM PHOTOMOSAIC)**

Figure 4.5: Detail of bow section taken from photomosaic of the Unidentified Lighter.

#### **4.8 Artefacts**

A whale's tooth was uncovered during excavation of the mid-section of the vessel. This tooth was completely black, probably as a result of having been buried in anaerobic sediment for a considerable length of time: The tooth is currently undergoing conservation treatment to ensure its preservation.

A wooden fishing float was also found during excavation, but was not retained as it its being of recent origin. This was an indication of the more recent burial of the Unidentified Lighter.

#### **4.9 Discussion and Interpretation**

The assumptions made in this section are sometimes based on discussions with Richard McKenna, secretary of the Maritime Archaeology Association of Western Australia. Research to date, from written and pictorial sources, has failed to provide specific information on, or satisfactory parallels to, the Unidentified Lighter.

##### **4.9.1. Bow section, Unidentified Lighter**

The section of wreckage in the northeast area of the site initially caused some confusion as to whether the bow or the stern of the vessel was located in this area. This section of the wreck is referred to as the 'stern' in the day journal and plans drawn while in Albany. This assumption is based on the feature seen in Plate 4.3 (Figure 4.6), initially considered to be the stern post. A metal protrusion on the 'post' was assumed to be the gudgeon.

During the excavation of this area of the site (TR1, Figure 4.2) particular attention was paid to this feature. It was hoped that by following the post down the keel would be located. Excavation in this area was abandoned after approximately 80 cm of sediment was removed with no sign of the keel. 120 cm of the post was revealed, which was enough to provide a satisfactory profile drawing (Figure 4.6). Approximately 40 cm below the 'gudgeon' the diameter of the post increases. If this was indeed the stern, the rudder would have had to have been less than 40 cm long. Furthermore, it would be expected that the stern of a craft of this type would have a hard angle with the rudder ending at the chine (McKenna 1990: personal communication). This holds true when looking at plans of barges and lighters constructed by Denny and Co. (Plates 4.4a and b).



Plate 4.3: Stempost, Unidentified Lighter.

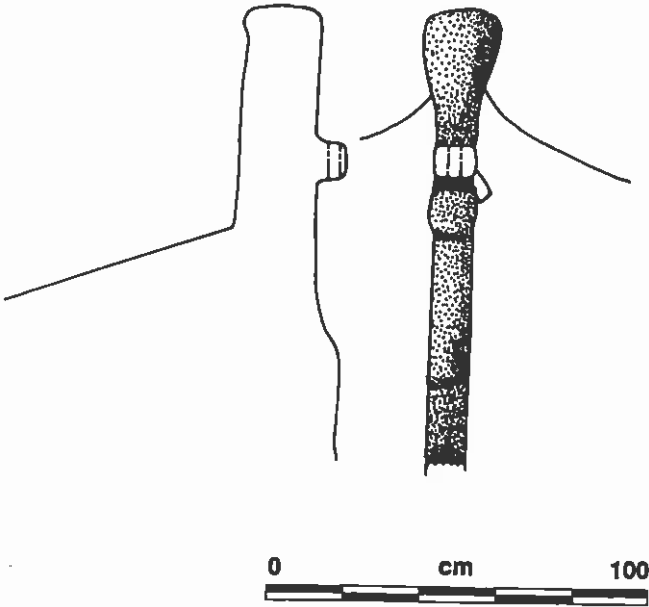


Figure 4.6: Profile of the stempost, Unidentified Lighter.

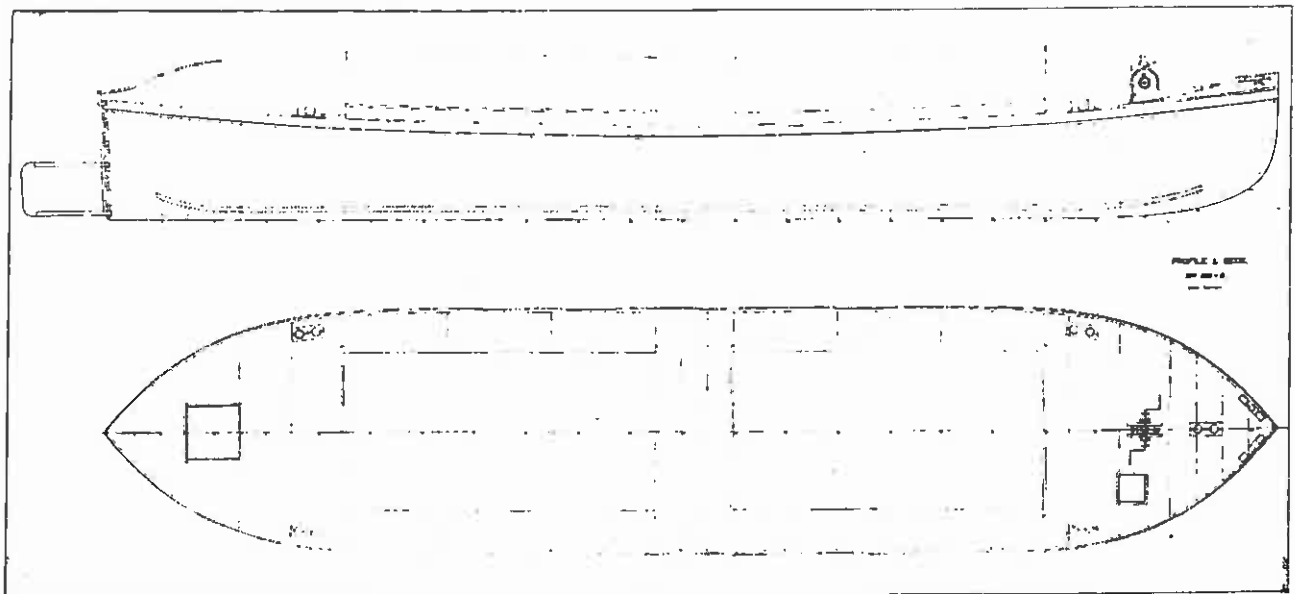
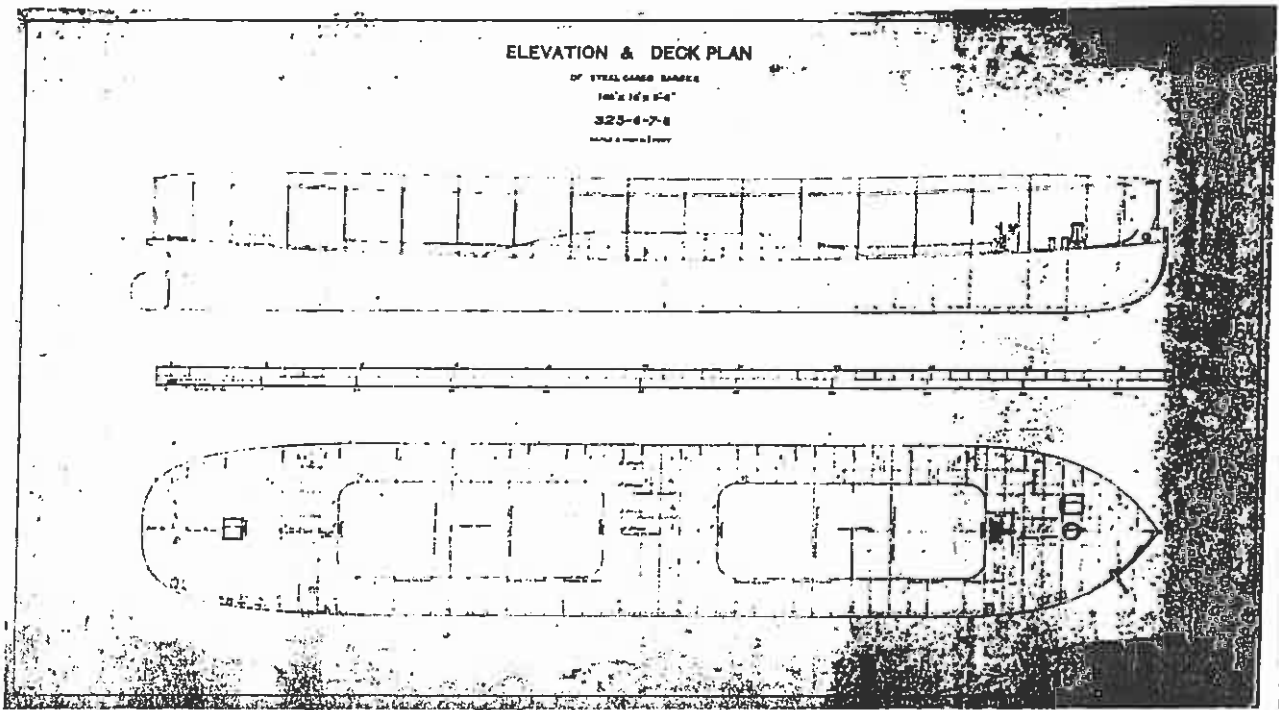


Plate 4.4a and b: Barges constructed by Denny and Co. (from Lyon 1975).

Having found no evidence that the vessel was powered, it could be assumed that it was towed, most likely by the bow. There is no firm evidence to suggest that this was, in fact, the stern. Therefore, the logical implication places this as the bow.

The post may have performed the function of a bollard, with the 'so-called' gudgeon used to attach a tow chain or rope. Below this is an attachment, the function of which was probably to keep the anchor's flukes hanging away from the vessel. The anchor chain would have passed through a hole in this attachment.

The keelson was to be exposed in the bow followed along its length as far as possible. As a direct result of the profusion of iron crossbeams and timbers, this strategy was abandoned (Figure 4.5). Two types of iron beams were distinguished (Figures 4.3 and 4.7). It could be assumed they both performed the same function, that is, as deckbeams. The 'U' shaped beams with bolts attached (Figure 4.7a) could have performed an additional function. These deck beams may have had a timber beam within the 'U' shape. An iron beam that performed the dual function of a deck beam and knee has been identified (Figure 4.5).

Beneath the iron deck beams, overlapping timber beams at right angles to each other were exposed, the assumption being they are subdivision timbers that also lined the interior of the hold.

Sediment was removed from between the stempost and the first deck beam, which confirmed the bow profiles that had been taken earlier (Figures 4.3 and 4.8). The profiles indicate they were taken where the hull plates meet the stempost or the stemson. The keelson was not reached during the profiling. Had it been, the base of the profile would have flattened out in accordance with the perceived function of the vessel as a lighter. According to McKenna (1990:personal communication) and de Kerchove (1961:454), lighters are flat bottomed vessels; the profile, therefore, would have had a flatter base.

It was not possible to determine the method of attachment of the hull plates to the stempost.

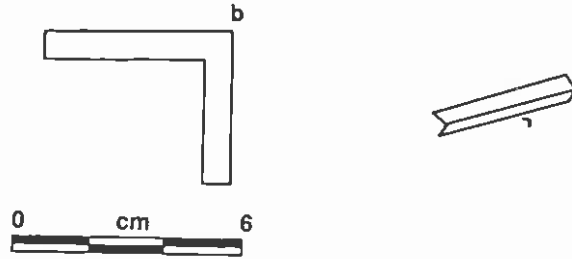
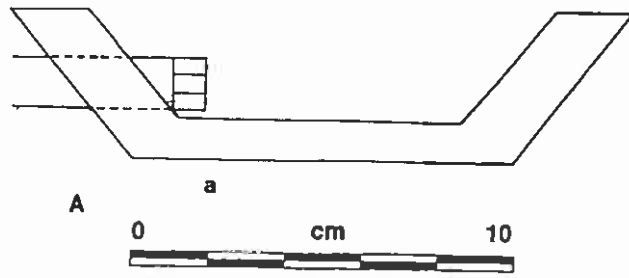


Figure 4.7a and b: Cross sections of the iron beams in the bow section

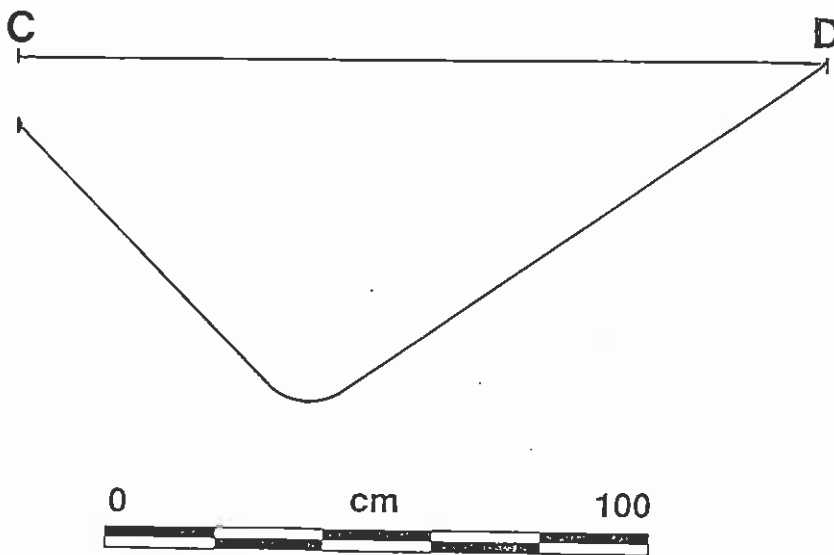
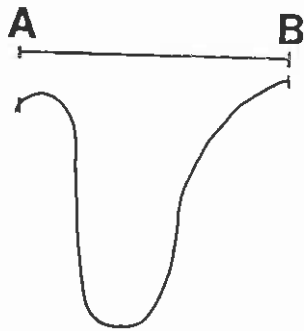


Figure 4.8: Bow profiles, Unidentified Lighter.

A number of brick fragments as well as slabs of slate-like material were uncovered in this excavated area. They may have originally come from the jetty that was located a short distance away from the stern of the Unidentified Lighter. This jetty was left to deteriorate in 1912. Alternatively, the fragments may have been associated with the whaling station that was in operation along Whaler's Beach from 1912 to 1915. The functional relationship between the brick fragments and the lighter is presently unknown.

A section of overlapping iron plates joined to each other by iron bolts lies on its side partially underneath the bow (Figure 4.5). A strip of iron 8 cm wide and a row of bolts spaced 2 cm apart form the rim of the iron plates. These bolts measure 2.5 cm by 3.5 cm wide and are raised above the rim to a height of 1 cm. An additional row of bolts with the same dimensions ran perpendicular to the rim. This section of plating may not have formed part of the hull as there is no evidence of ribbing., whereas northwest of the bow, a section of hull with ribbing still attached is evident (Figure 4.2). This iron plating is approximately 4 cm thick, whereas the thickness of the remaining hull plates at the bow is 1.5 cm. The difference in thickness of the relative pieces of iron plating suggest the above is not part of the hull. The section of iron plating may be associated with the iron feature immediately south (Plate 4.5 and Figure 4.5).



Plate 4.5: Unidentified iron structure, bow section, Unidentified Lighter.



This section of wreckage has been interpreted as part of a raised fo'c'sle that formed a 'turtle-back' at the bow. 'Turtle-back' freeboard assists vessels to shed water in heavy seas. This would certainly be necessary for the waters around King George Sound, and to a vessel with a low freeboard such as a lighter. This 'turtleback' deck can be seen in Plate 4.6.



Plate 4.6: Lighter on beach, Whaler's Rock, Albany, showing the 'turtle-back' deck.

A 'bitt' attached to hull plating immediately northwest of the bow section reveals either the bulwark, or the sheerline of the Unidentified Lighter. From this an indication is gained of the extent of burial of the vessel.

Just over 6 m southwest of the bow section, a section of hull and ribbing protrudes slightly above the sand (Figure 4). Associated with this section are two adjoining planks that run perpendicular to the hull and parallel to the adjacent bulkhead (a wood sample, WS-1, was taken from these planks) (Plate 4.7). These planks are part of the decking, indicating that the vessel (or at least this section of it) is been buried up to the sheerline.



Plate 4.7: Planking, southern section of site.

#### 4.9.2. Midsection ,Unidentified Lighter.

A second trench (TR 2, Figure 4.2) was excavated perpendicular to the centreline of the vessel, at the approximate position of the vessels maximum beam. The two sides of the vessel were exposed, the width, being approximately 5.40 m. Although the trench was excavated to a depth of 1.5 m, the keelson was not reached. This section of the vessel may have been buried almost to the decking. Fragments of both brick and iron were found in this trench, along with a great deal of concretion, and a jumble of wooden beams. Rough stone, possibly ballast, was also uncovered.

This trench revealed (Figure 4.9) part of a “box girder” on the keelson, defined by timbers running parallel to the vessel’s centreline. Hollow compartments separated by wood would have been positioned either side of the box girder. The box girder and the compartments on either side would have given the vessel additional buoyancy. Directly above these, a 24 cm thick wooden beam extended across the vessel. This trench, therefore, revealed details of the below deck construction of the lighter.

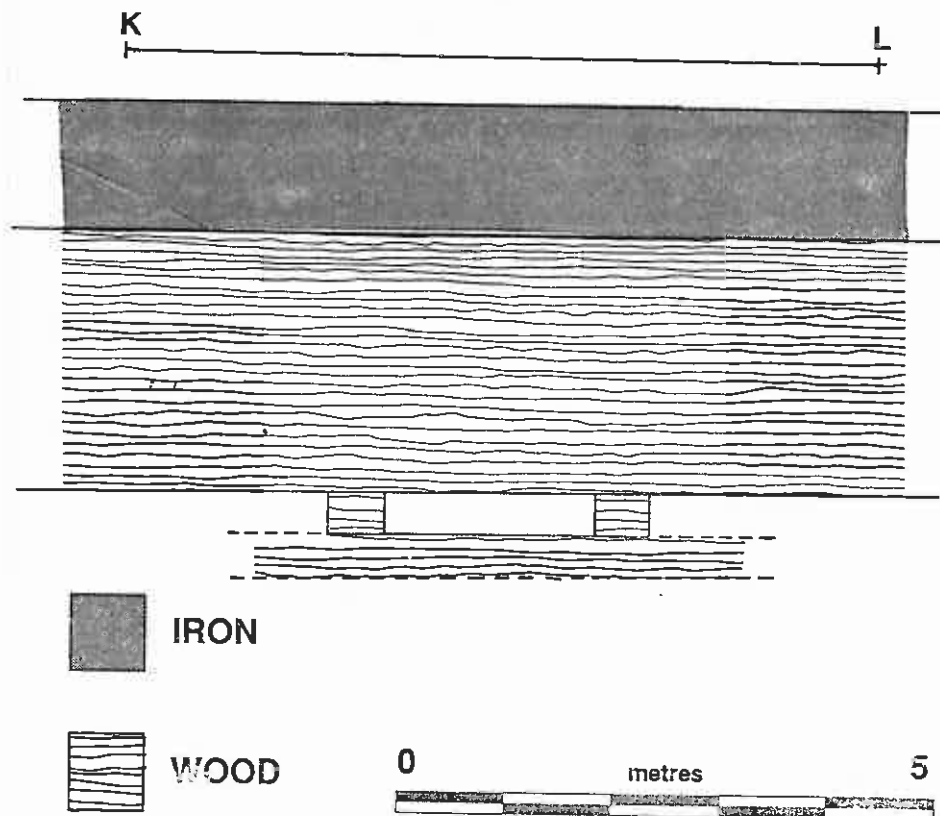


Figure 4.9: Profile of K-L, across the mid-section of the vessel

#### 4.9.3. Stern Section, Unidentified Lighter

Towards the western end of the site both sides of the hull were visible. A third trench (TR3, Figure 4.2) was excavated to follow the sides of the hull until the stern was reached. After the removal of approximately 50cm of sediment the remains of what may have been the stern were uncovered (Plate 4.8). The identification of the stern was not confirmed.



Plate 4.8: Stern section, Unidentified Lighter.

A wooden 'bulwark' is visible in Figure 4.2 (seen in profile in Figure 4.10), from which a wood sample was taken (WS-2, Figure 4.2). If the assumption that this is the stern is correct, it would appear that the Unidentified Lighter is a double-ended vessel. The lighter would have been built of a design similar to that of a whaling boat (McKenna 1990:personal communication). However, according to Mr. L. Douglas (1990:personal communication), who remembers seeing the vessel on the beach during the First World War, it was not double ended but possessed a counter stern which by then had almost disappeared (Appendix C). If this is the case, what was uncovered in the excavation is the stern below the water line (refer Riley's Waterline Theory), the counter stern having totally disappeared. The stern of the Unidentified Lighter may have been similar to that of the barge in Plate 4.4b.

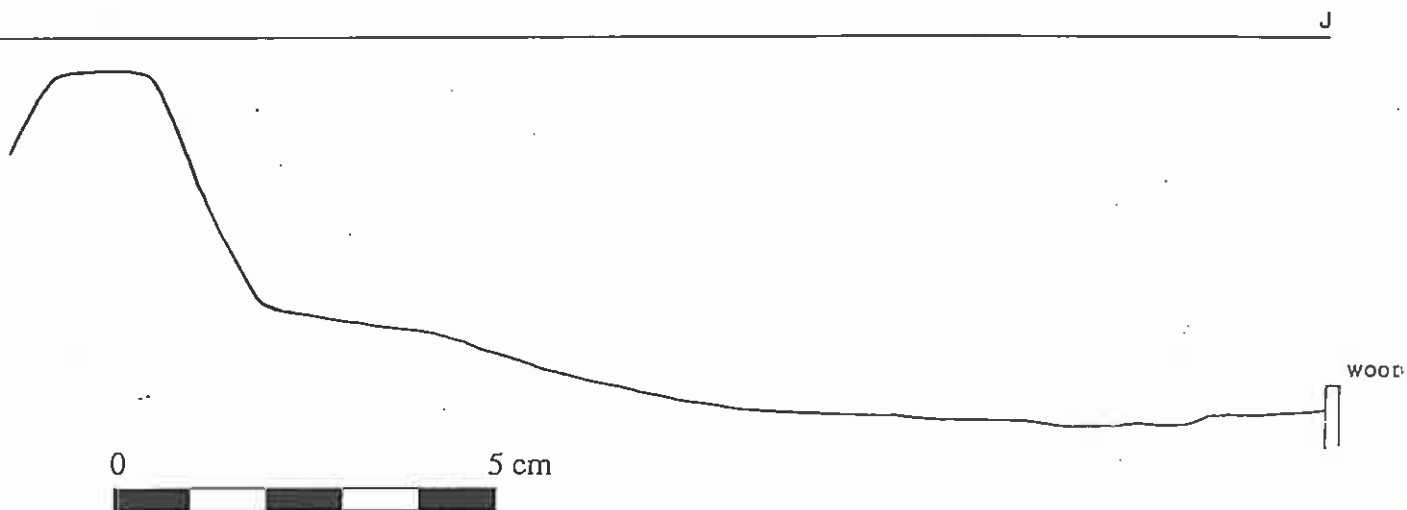


Figure 4.10: Profile I - J, stern section, Unidentified Lighter.

Immediately beyond the stern, a large piece of timber was exposed, but time constraints prevented this from being investigated further. A wood sample (WS-3, Figure 4.2) was collected. The timber may have come from a jetty that had previously been erected near Vancouver Springs, but gradually deteriorated after it ceased to be used in 1912 (Appendix C). The proximity of the wreck to where the jetty had once been may also account for some iron objects that cannot be related to the wreck. It has not been established if the jetty was constructed of any substantial iron pieces.

A substantial iron beam and/or post (14 x 6 cm) stands vertical approximately 0.5 m south of the stern (Plate 4.9). It was initially thought to be the stern post of the vessel but subsequent excavation revealed that it is not connected to the wreck. This may be part of the remains of the jetty.



Plate 4.9: Unidentified iron object, 2.3 m west of the stern.

#### 4.10 Discussion

From the evidence that is presented, a number of conclusions can be made. The first and most obvious one is that the wreck is an iron vessel. According to oral sources it was a water lighter that serviced vessels in King George Sound. It is therefore fitting that it lies in close proximity to Vancouver Springs and the remains of Armstrong's Jetty.

No evidence has been found to suggest that the lighter was powered. This information has helped in the identification of the bow with its apparent attachment for towing purposes.

Lighters at Albany were pre-fabricated in England, brought out in sections by the P. & O. Company and assembled on the beach (Appendix C). The hull of the lighters were constructed of 1/4 inch plate and a bear punch was used to punch holes around the edges of the plate. These holes can be seen in a section of plating at the bow (Figure 4.2).

Prefabricated lighters had more bulkheads across the hull than did normal, "heavy tween deck beams", a skeleton frame and a false keel (McKenna 1990:personal communication). Not all of these features were found in the present survey, although the amount of ribbing visible suggests that the vessel may have had a skeleton frame.

Metal lighters owned by the Armstrong and Waters company were approximately 33 m (100 ft) long and 27 m (80 ft) wide. They were divided into compartments by five or six bulkheads and had the capacity to carry 500 tons of water (Appendix C). The dimensions of the Unidentified Lighter in Frenchman Bay, however, do not correspond to these figures, as it is only 24 m (approximately 70 ft) long and 5 m (approximately 15 ft) wide at excavation Trench 2 (TR2). These dimensions may be misleading as the site is badly broken up (refer **4.12 The Condition of the Unidentified Lighter and Riley's Waterline Theory**). Alternatively, if lighters were built in sections, it is quite possible that they were built according to the number of sections desired; the Unidentified Lighter may not have necessarily been built to be the usual length.

There is no confirmed information regarding the date of the stranding of the Unidentified Lighter. Mr. H.Hartman (1990:personal communication) suggests

that the lighter was discarded because it cracked and at the time could not be repaired. It has apparently been on Whalers Beach since 1890 (Appendix C). Its identification has not been determined.

#### **4.11 Recommendations**

In the writing of this report much information has come from personal communications with those who saw the lighter in its wrecked state and those who have some knowledge of iron vessel construction. Research into written (both primary and secondary) and pictorial sources has yielded very little information. No parallels with the Unidentified Lighter have been found as it appears that no archaeological or ethnographic reports on vessels of this type have been published. This is probably indicative of the importance assigned to lighters and barges.

Further research into the Unidentified Lighter should encompass the following. Firstly, oral sources should be fully exploited as soon as possible, not only because they are the easiest and one of the best sources of information, but they are a non-renewable resource. Secondly, a study of lighters either still in use or in a relatively intact condition would yield useful information for comparison. Further excavation on the site would provide additional information, necessary for a complete understanding of the Unidentified Lighter.

#### **4.12 The Condition of the Unidentified Lighter and Riley's Waterline Theory.**

The condition of the vessel has greatly deteriorated from the time of stranding. The age of the wreck, its location in shallow water and in the surf zone (according to L. Douglas (1990:personal communication) the wreck was once on the beach but is now underwater, as the shape of the beach has changed (Appendix C)), as well as the fact that it was most likely a prefabricated vessel, have all contributed towards its present condition.

Its method of construction may have contributed to its deterioration as parts of the hull and ribbing have broken away in sections. The differing alignments of the various parts of the vessel supports this hypothesis. The hull has broken up while buried and the separate sections have moved about independently with the shifting sands. The deck beams have collapsed as would be expected according to Riley's Waterline Theory (Riley 1985: 191).



The violence that the wreck has been subjected to can be seen in the bow section. The upper part of the hull and the fore decking has broken off and now lies beneath the bow. The deck beam closest to the stern has broken through the starboard side. As the keelson was not reached during excavation, it was not possible to determine if this was still intact.

It is difficult to apply the waterline theory to this site (Riley 1985: 191). Not enough is known of the wreck and the seasonal shifting of sands to determine if the wreck has settled down to the water line. It may be true for the bow and the stern sections. Approximately 50 cm of sediment had to be removed before the stern was reached.

Although the waterline theory may apply to the bow and stern, too little is known of the rest of the site to be certain. In excavation Trench 2, the top of an iron beam was reached at a depth of 1 m. If the assumption that this is the bottom of the hold is correct then the lighter would have had a comparatively small capacity given its estimated length and breadth. The hold was one only metre, or at the most two metres, high. This does not seem so unrealistic when compared with the only dimensions of barges so far obtained (Lyon 1975 vol. II: no. 325-8, 422-5, 454-5, 515-7, 524-5, 579-88, 594-6, 644-6; vol.III: no. 861-6), though it should be noted that these barges have greater dimensions in length and width than the Unidentified Lighter.

It appears that a section of hull to the northwest of the bow has fallen outward, and broken off at the waterline. Vessels such as lighters were low in the water, and in this instance the wreck would have had a freeboard of about 1.5 m. This would justify the application of the waterline theory to this section of the hull. With the barges illustrated in the *Denny Lists*, the range in freeboard is from just over one metre to two metres high (Lyon 1975 vol. II: no. 325-8, 422-5, 454-5, 515-7, 524-5, 579-88, 594-6, 644-6; vol. III: no. 861-6). One cannot totally rely on the *Denny Lists* for confirmation on the dimensions of the Unidentified Lighter as too little is known of the lighter itself. From information obtained from local sources the method of construction differed from normal practices.

The heavier bow and stern sections seem to have settled down to the waterline. It appears that lighter sections such as the midships have not settled into the seabed as far. The waterline theory developed by Riley was based upon

steamers that contain heavy equipment such as boilers, engines and propellor shafts. This causes the vessel to sink below the seabed to the waterline. In the case of a lighter that does not contain a power plant, it appears unlikely that the theory applies.

## CHAPTER 5: *ELVIE*

### 5.1 Previous work

An initial survey and limited excavation of the *Elvie* was carried out in January, 1989 by S. May and R. Richards of the Western Australian Maritime Museum. A plan was produced, as was a detailed profile 5 m from the stempost. However, the greatest length measured during this work was only to the samson post, as no further remains of the vessel were visible. Survey work in July, 1989, revealed the full extent of the vessel as 30.10 metres, and the greatest width as between 4.10 and 4.50 m.

### 5.2 Research Proposal

Little of the *Elvie* protrudes above the sand on Whaler's Beach, thus uncertainty exists over whether or not it is a flat-bottomed vessel, and if it is double-ended. Its original function has not been determined because of these uncertainties. The remains of the vessel give rise to an opportunity to investigate the differing degradation rates of wood exposed to different conditions. Such conservation issues will be of considerable importance in the formulation of a management plan for the site.

### 5.3 Research Strategy

In excavating the hull it is hoped to determine the extent of the vessel remaining beneath the sand. From this, it would be possible to establish the form and original dimensions of the vessel. In knowing the shape of the bilge, together with the results of analyses of remaining contents or coatings (for example, lime), it is hoped the original function of the vessel can be confirmed. There is some discrepancy in reports as to this original function. It had previously been suggested (from the results of earlier Western Australian Maritime Museum surveys and by Howard Hartman) that the *Elvie* had been used initially as a carrier of lime to construct the Whaling Station. It may subsequently have been used to carry water or whale oil.

The origin of the *Elvie* is also a matter of concern. By sampling and later identifying the timbers, it is intended to either confirm or deny the belief the vessel was shipped out to Albany from Norway on one of the Norwegian Whalers (Hartman 1990:personal communication).

The Elvie is located in the intertidal zone, allowing research into the degradation of wood exposed to varying conditions. The upper beachward timbers are dry and exposed to the elements with scouring evident. Other timbers are in regions of scouring from wave action with the wood being alternately wet and dry as the tide rose and fell. The wood beneath the sand is wet but protected from the elements and effects of waves. In analysing the variable rates of decay of the Elvie timbers, suggestions for more satisfactory methods of management and protection of the site can be made.

#### 5.4 Methods

Initial attempts to remove the sand from the hull of the *Elvie* were unsuccessful due to the constant ebb and flow of the tide. A backhoe from the Albany Shire Council was later employed to excavate the site, and approximately one-third of the site down to the ceiling planking at the bottom of the vessel was exposed (Plate 5.1). The remaining sand was removed by shovel once the base was reached. Excavation of the vessel in this manner resulted in the rising of the water table within it. It was necessary to remove this water to allow clarity of the profile, but as the water dredge was not operational, complete clearance of the site was impossible.



Plate 5.1: Excavation of the *Elvie* by backhoe.

Profiling began with the establishment of a baseline (x axis) along the length of the vessel, from a datum on the top of the stempost at the beach end of the vessel, to the samson post within the tidal zone. This datum was then transferred to the nine station points (Plate 5.2). Zero was set at the extremity of the vessel. Profiles were taken on the port side of the vessel to the outer edge of the keelson, using a measuring staff and level (Plate 5.3).



Plate 5.2: Transfer of Datum from Station 1 to Station 2, *Elvie*.



Plate 5.3 Taking profiles at Station 1, *Elvie*.

The tide was an additional source of difficulties during this procedure. The optimum time for backhoe excavation of the *Elvie* on this day was approximately 1 p.m. when the tide had receded sufficiently to expose approximately half of the site (Plate 5.4). The excavation took up to two hours, leaving little time for profiling before it became dark, and only one station was successfully completed. By the following morning the rising tide had completely refilled the hull with sand.

The remaining profiles of the *Elvie* were therefore completed using the water probe (Plate 5.5). Probing was carried out at 10 cm intervals across the breadth of the vessel, with both interior and exterior, bottom and top edges of the keelson recorded wherever they could be determined. Stations were established at the following intervals:

Station 1: 68cm from the stempost

Station 2: 1.50 metres

Station 3: 2.94 metres

Station 4: 5.00 metres

Station 5: 10.00 metres

Station 6: 15.00 metres

Station 7: 20.00 metres

Station 8: 21.48 metres

Station 9: 23.40 metres



Plate 5.4: View of the *Elvie* showing the extent of the excavation.



Plate 5.5: Profile of Station 2, *Elvie*, using water probe.

The form of the aft portion of the vessel was unable to be determined with any degree of certainty. This was a direct result of the constant surge of the tide, which made recording measurements on stations 7 to 9 very difficult. (Plate 5.6) The datum had to be lowered, as the depth of the vessel beneath the surface was greater than the depth of the probe. Consequently, as will be seen in 5.6.1, stations 7 to 9 could not be used in a reconstruction of the vessel's form.



Plate 5.6: Attempting to take profiles in the aft section of the *Elvie*.

### 5.5 Photomosaic

In order to compile a photomosaic of the site, a camera with a set aperture of F5.6, was raised 2.5 metres above the site. Two tapes were stretched lengthways across the exposed part of the site, but due to the inclement weather and rising tide, only the shoreward half of the vessel was photographed. The accuracy of the resulting photomosaic and plan is determined by the difficulties experienced in keeping the camera straight, and catenary of the tapes due to the movement of the tide. No scale is apparent in the photographs as the readings on the baseline tapes are not visible. The photomosaic was thus constructed at an approximate scale of 1:10 (Plate 5.7).



Plate 5.7: Photomosaic of the *Elvie*

## **5.6 Discussion**

### **5.6.1 Constraints**

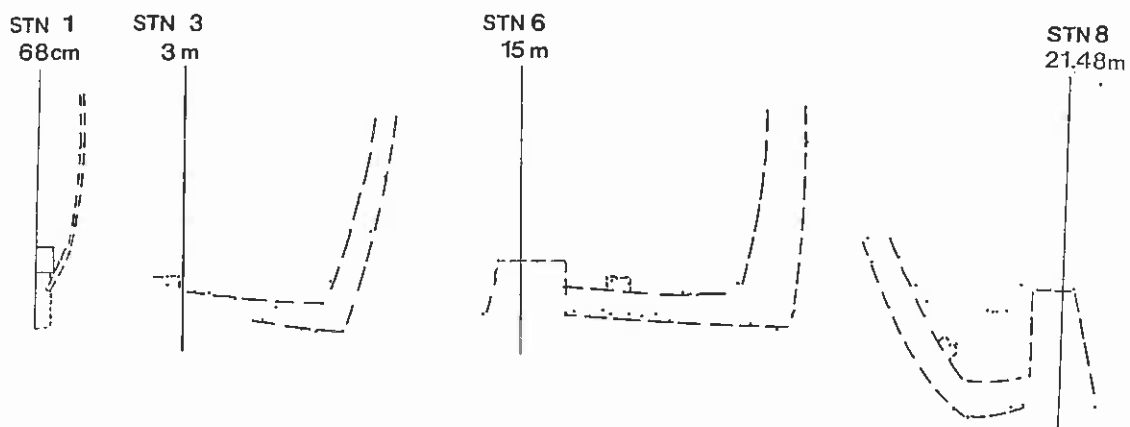
It became apparent during the construction of both the lines and the site plans, the rate of inaccuracy in the profiles becomes more acute the nearer they are to the stempost. This can be attributed to two factors. Firstly, the stations from which these latter profiles were taken, were located in the tidal zone, thus the measurements cannot be depended upon. Secondly, the x axis line appears to have catenaried during recording, thus the baseline was not true. This again affected the profiles to a larger extent than those forward, making the vessel beam width probably greater than in reality.

Another contributing factor to this uncertainty of the form of the aft of the vessel, is the fragmentary nature of the remains. At stations 8 and 9 the keelson could not be located, which suggests the bottom planking and the bilge has disintegrated in this section of the vessel. Therefore, stations 7-9 were effectively abandoned for the purpose of reconstructing the shape of the vessel.

Finally, the method of profiling without being able to view what was being probed, hampered efforts at reconstruction, as it was difficult to determine the identity of individual features present in the profile (Figure 5.1). This became a critical issue when determining the difference between the floor and bottom planking of the body profile. There is therefore considerable supposition in the reconstruction.

### **5.6.2 Plan**

There is a discrepancy arising between the shape of the vessel proposed by the author and that by the previous survey (May and Richards 1989: unpublished). This arises because the previous survey failed to locate the sternpost. Thus the reconstruction of January, 1989, is more bluff ended, as the hypothetical reconstruction is shorter (Figure 5.2).



**ELVIE PROFILES**



Figure 5.1: Profiles at 68 cm, 3 m, 15 m, 21.50 m.

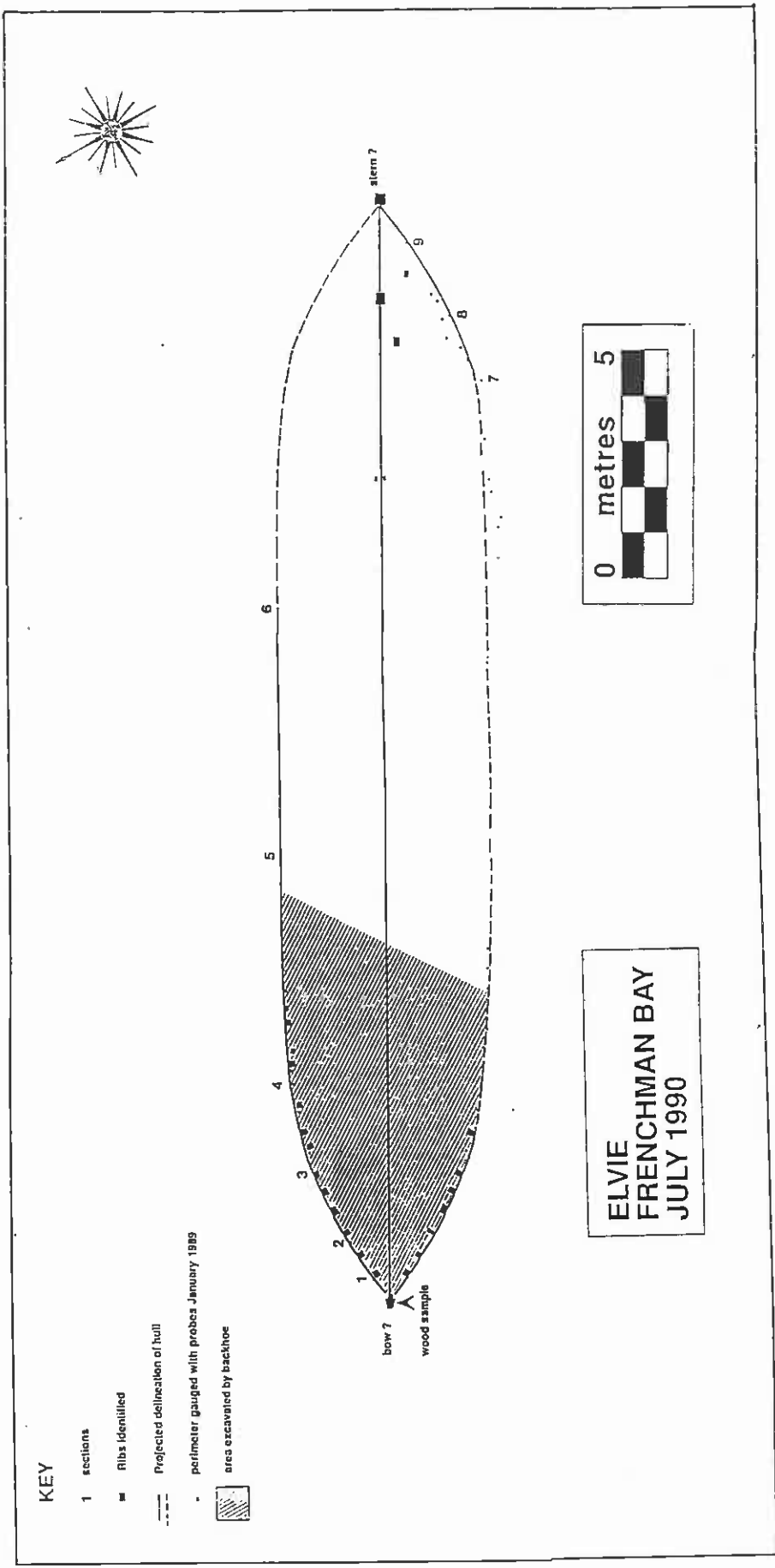


Figure 5.2: *Elvie* Site Plan

### 5.6.3 Reconstruction

In order to reconstruct the lines of the Elvie it was necessary to align the profiles along a hypothetical baseline to compensate for the angle at which the vessel was heeled. This dramatically changed the dimensions from those determined in the plan.

The estimated beam width according to the site plan is 4.50 m (Figure 5.2). The same distance on the lines plan is 4.08 m (Figure 5.3). The site plan was constructed with the assumption that the wreck was vertical in the sand, but examination of the profiles revealed the Elvie heeled to the port side. Given it was also difficult to differentiate between the floors, bottom planking and ceiling planking, the offsets of the assumed bottom planking were aligned along the baseline. This would therefore change the overall beam width, making it substantially smaller. The keel was not excavated, so its form remains unknown.

It was possible to estimate the original sheer line, through the comparison of a series of photographs. The earliest photograph, dated to the 1930s, shows the original extent of the vessel (This photograph was unavailable at time of writing). The second series of photographs (Plate 5.8), although undated, shows the Elvie in a disintegrated condition, not dissimilar to the condition in which she is at present. Plates 5.9 and 5.10 taken in 1989 and 1990 respectively, indicate the present state of preservation.

The width of the outside planking is already known (see 2.4), as is the approximate height of the vessel at ribs 6 and 8 (Compare Plates 5.8 and 5.9). In comparing the contemporary with the recent photographs, estimates were made as to the extent of the vessel lost. It has been estimated approximately three outside planks are missing at the bow of the vessel, whilst at 5 m, approximately rib 9, only one outside plank seems to have disappeared. By adding the widths of these planks onto the known highest points of the body profile, a hypothetical sheer line was faired (Figure 5.3). Thus the original height of the vessel at the bow was 1.61 m, and midships, 1.54 m.

Necessary adjustments to the body plan were made as a result of the fairing of the waterlines. Given the limited reliable information available regarding the form of the vessel, this reconstruction seems reasonable for a flat bottomed vessel, the primary function of which was that of a lighter.

**ELVIE  
FRENCHMAN BAY  
JULY 1990**

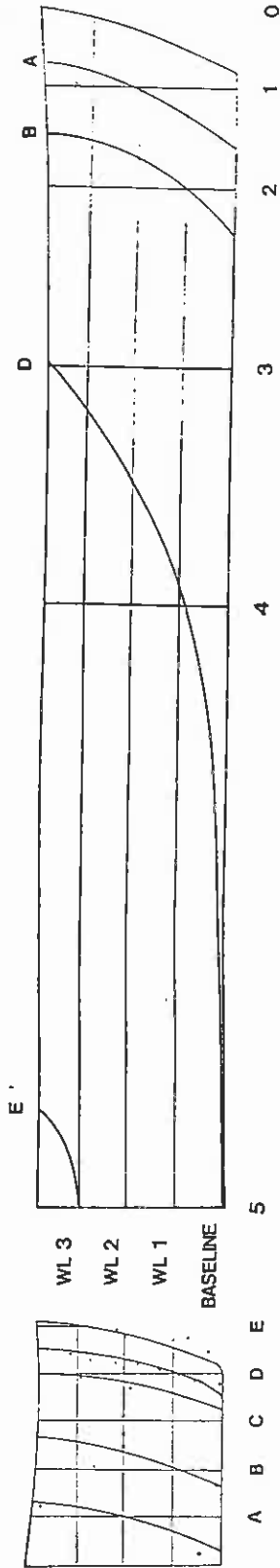
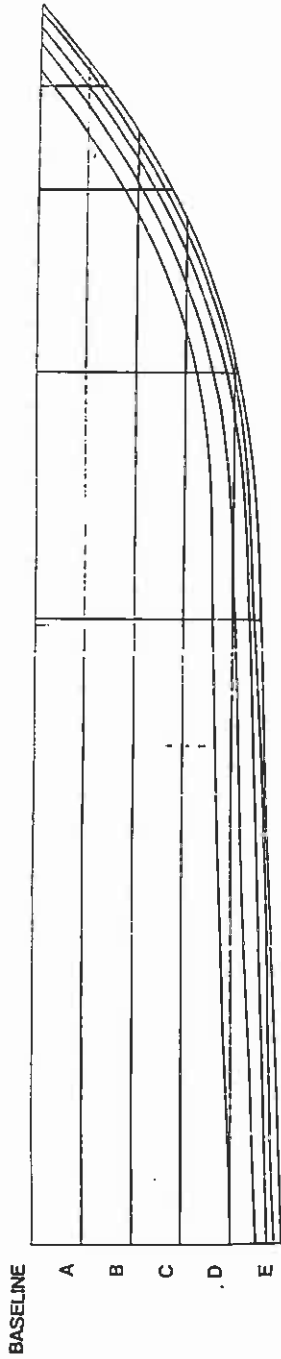




Plate 5.8a: View of *Elvie* from the North.



Plate 5.8b: View of *Elvie* from the West.



Plate 9a: View of *Elvie* from the North, August, 1989.



Plate 9b: View of *Elvie* from the South, August, 1989.





Plate 5.10: View of *Elvie*, showing the extent of preservation of the vessel on both the port and starboard sides.

#### 5.6.4 State of Preservation

As the above photographs suggest, initially the vessel deteriorated rapidly. For the past twenty to thirty years it appears the *Elvie* has visibly changed little, except where bolts and wood have been sawn off. Of the visible remains, at present the three uppermost topside planks have disappeared, most likely through wave action (See Appendix C). There is little remaining of the forward port side of the vessel, yet more of the vessel remains on the starboard side aft. Little visible remains can be seen amidships. This may be indicative of wave action and scouring.

The profiles suggest little remains of the floor timbers from approximately 20 m from the bow, to the stern. The sternpost is visible infrequently throughout the year as little of it still remains. Again the action of the surf and sand may have broken up the vessel more completely at this end. A more complete discussion of the disintegration of the vessel can be found in Appendix C.

### 5.6.5 Origin of the Elvie

Identification of ship's timbers as Jarrah (*Euc marginata*) (Plate 5.11) suggests the vessel was not shipped to Albany from Norway on board a Whaling vessel. Instead she was most likely built locally.



Plate 5.11: Location of wood samples.

### 5.6.6 Form of the Elvie

A lighter c.1925 (Plate 5.12), was constructed from Jarrah from the dismantled Frenchman Bay whaling station. Although smaller in dimensions, (40x12ft), the form of the vessel seems to be most likely that of the Elvie and perhaps a common shape for wooden lighters of this kind. The profiles and subsequent lines plan (Figure 5.3), confirmed the vessel as being flat bottomed. It also seems probable the vessel was double ended, although further investigation around the area of the sternpost will confirm this.

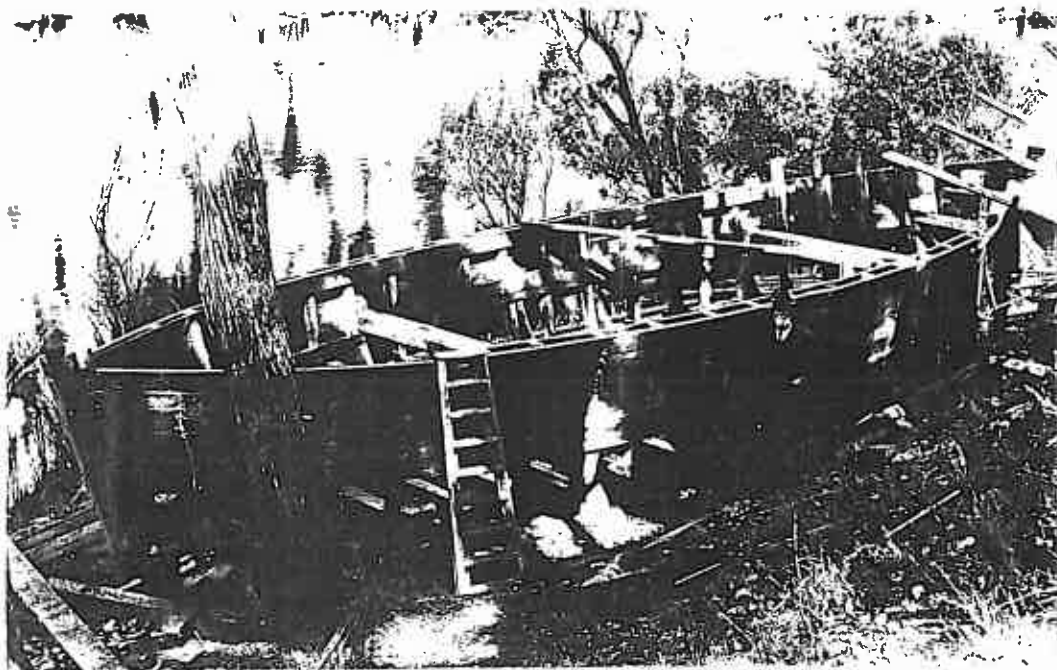


Plate 5.12: Lighter at Kalgan River, constructed from Whaling Station timbers from Frenchman Bay.

### 5.6.7 Function of the Elvie

At the time of writing, the results of analyses of the contents and linings of the Elvie were unavailable. Thus confirmation of the vessel's function cannot be made. Considering its shape and location, it seems probable the vessel was intended to be used as either a water or oil carrier, to service the whaling vessels anchored in Frenchman Bay.

### 5.7 Artefacts

Apart from the bolts investigated by the Conservation Department, Western Australian Maritime Museum, only one other artefact associated with the Elvie was found during excavations by the backhoe (Plate 5.13). The knee measures 48.5 cm at its widest point and is 84.5 cm long. Maximim width is 5 cm.

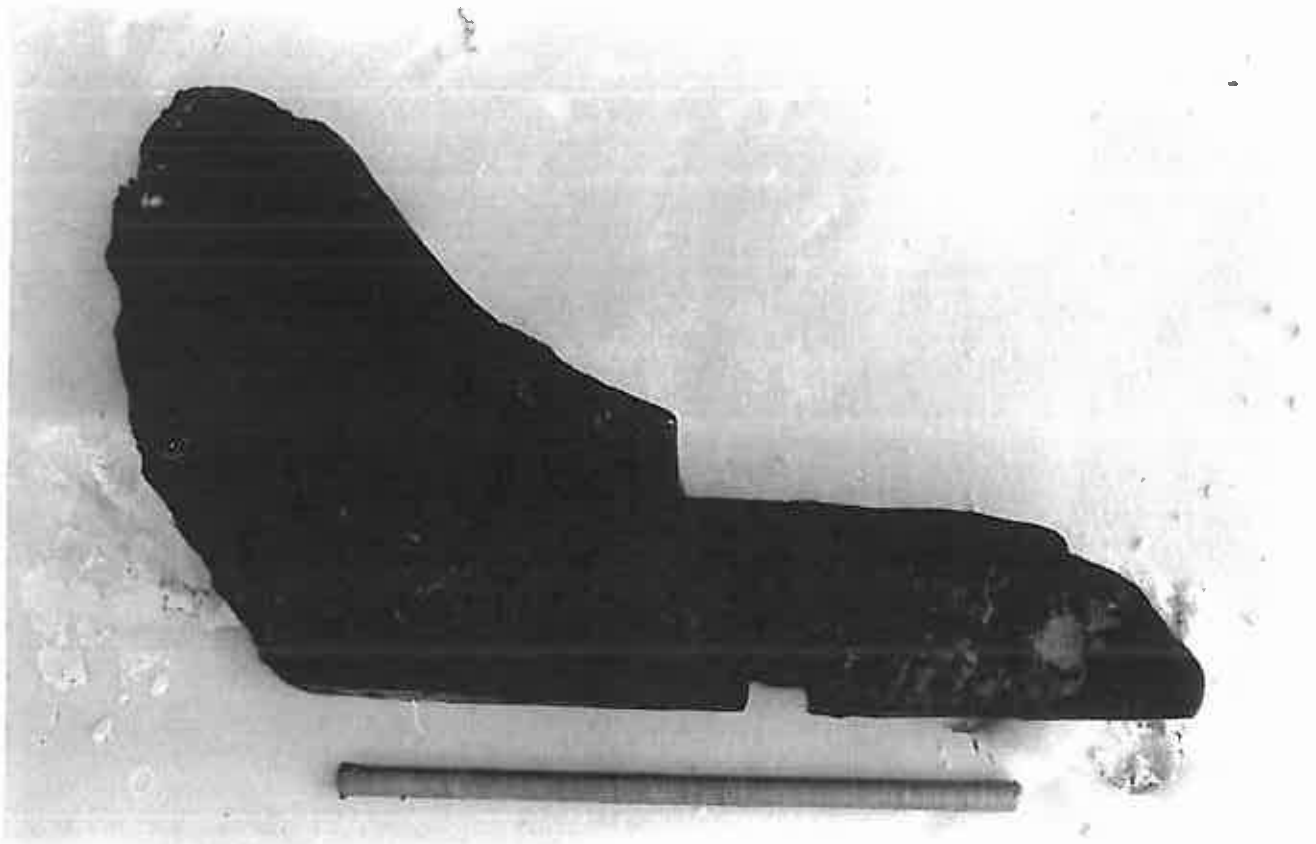


Figure 5.13: Knee uncovered during backhoe excavations .

## **5.8 Summary and Recommendations for Future Work**

From the above discussion it can be seen there are still a number of problems associated with the Elvie that need to be clarified. It seems likely the vessel was double ended. Further investigation to clarify the shape of the stern of the vessel is necessary. Investigation of the area surrounding the outer planking of the vessel would clarify the inconsistencies in the shape of the bottom as revealed in the profiles.

A more complete analysis of coatings found on the inside of the vessel may determine whether the vessel ever carried lime, or was purely a water or oil lighter. The vessel appears very similar to other contemporary lighters. Future historical research into the role of wooden lighters at the port of Albany may shed further light on the activities of the Elvie and vessels like her.

Issues of conservation and degradation can be found in Appendix C. However, it seems at the present time the Elvie is stable, with no apparent severe degradation of the timbers. The micro-environment may have been disturbed as a result of excavations, thus the site needs to be monitored to ensure no further rapid deterioration takes place. Finally, issues of site management can be found in Chapter 6.

**Recommendations:** Future fieldwork, if planned for this area, should be conducted in summer when weather conditions are more favourable for diving and it would appear the vessels are less likely to be covered by sand.

## 6.2 *Elvie, Rip* and the Unidentified Lighter

**Significance:** These sites are significant archaeologically in that they represent the remains of vessels that are largely invisible in the historical record. While the function of lighters is often briefly mentioned in written accounts most other details are ignored. Archaeology can therefore play a role in increasing our knowledge of this particular aspect of maritime activity. From archaeological studies, aspects of construction and the working conditions of those involved with lighters may be gained. This type of information is not often in the historical record, as during their working lives the vessels were regarded as ordinary or mundane.

Before conversion to a lighter, the *Rip* was a pilot vessel in Port Phillip and played a significant role in the activities of that port.

The *Elvie*, because of its visibility to those onshore, provides an opportunity to make people who cannot dive aware of shipwrecks and the information that can be gained from them.

**Research:** The amount of information available from these wrecks is decreasing as they deteriorate as a result of the prevailing environmental conditions. Due to the unstable nature of the surf zone in which they are located, any presently available conservation methods are likely to be costly and inefficient. These sites could be part of an overall study on the role, design and construction features of lighters. The *Elvie*, because of its location in the intertidal zone, allows research into the degradation of wood exposed to varying conditions.

**Condition:** The *Rip* could not be located as, like the two whalers, it was buried. From the recollections of Hartman (1975) it would appear that little of the vessel will have survived. The *Elvie* despite its position on the surfline still has considerable structure remaining. The vessel was largely buried at the time of inspection. The buried remains are largely protected from the action of the surf although this will vary depending on beach conditions (refer Appendix C).

**Threat:** The major threat to these sites is environmental. They are at little risk of human interference at present. It would appear that any onsite conservation would be expensive and because of the unstable nature of the surf zone ineffective.

**Recommendations:** These sites clearly have the potential to provide information that is not readily available in the historical record. The experimental excavation of the *Elvie* with a backhoe proved the feasibility of this method. If attempted during neap tides and with the availability of a large volume sludge pump the majority of the vessel could be excavated and recorded. The longer daylight hours during summer would give a greater amount of time for completing the recording.

Information from these sites could be combined with information from other lighter sites to begin to fill a gap in the historic record. The excavation and removal of the *Elvie* is not recommended as the cost involved would be too high and an important element of its significance would be lost if removed from its present context.

### **6.3 Public Education:**

The location of a number of wrecks that perform a variety of functions within Frenchman Bay provides the opportunity of interpreting the wrecks as a group to the public. It is suggested that the most logical way to achieve this is by the construction of an interpretation sign near the beach in the picnic area overlooking Frenchman Bay.

The best sign in this situation is a photo engraved aluminium plate covered with lexon. These sites are virtually indestructable but can contain etched photographs, plans, maps etc. The sign could contain a map of the Bay with the location of the wrecks marked (see Figure 1.2). Text on the sign would outline the importance of these sites to the history of Albany and Western Australia. The sign could also contain brief information on the Historic Shipwrecks Act and the role of the museum.

The location of Frenchman Bay at the end of the established tourist route through Torndirrup National Park and Whale World means that these groups could be also directed to Frenchman Bay. The possibility also exists for the site of the *Elvie* to be interpreted to the public. A sign could be erected showing the constructional

details of the vessel its history and archaeologists at work recording the vessel. The placement of this sign may be difficult, however, due to the unstable nature of the beach.



## **APPENDIX A: PREDISTURBANCE CONSERVATION REPORT**

(compiled from results of the predisturbance survey 4/7/90)

### **Vessel:**

Iron wreck of unknown name

### **Location:**

Whaler's Beach, between Vancouver Springs and the Norwegian whaling station, Frenchman Bay, Albany.

### **Description:**

Iron wreck, largely buried under sand, with traces of wood. The exposed part of the wreck is scattered and largely unrecognisable, apart from ribs and what may be part of the keelson.

### **Site Classification:**

### **Weather Conditions:**

Overcast, with occasional patches of blue sky; westerly winds developing later in the afternoon.

### **Sea Conditions:**

Cold; initially minimal swell and surging waves, changing to shallow plunging waves as the wind changed direction to westerly and increased in intensity.

### **Current:**

No current apparent, although there was a strong surge which increased in the afternoon, approximately six hours after high tide.

### **Depth:**

1 to 3 metres, depending on tide.

### **Visibility:**

Initially up to 5 metres, but with the changing wave type it decreased to 2 metres at the most, often reaching zero. Loose seagrass, plus small suspended particles of seagrass and silt were largely responsible for this decrease in visibility.

**Seabed Topography/Terrain:**

This site was covered in extensive amounts of loose seagrass in large patches. On the seaward side of the vessel, approximately two to three metres distance from it, banks of 0.75 cm high seagrass began. The seabed consisted of densely packed white sand, and sloped very gently, with minor corrugations in the sand.

**Site Exposure:**

Only small areas of the site were exposed above the seabed, extending over an area of approximately 12.5 metres x 30 metres. The height of the exposed wreck varied from about 0.30 metres to 1.0 metre.

**Seasonal Exposure Variation:**

Based on the evidence from the wrecks of the Rip, Fanny Nicholson and Runnymede, which are now completely covered with sand having previously been exposed to certain degrees, it is possible that sand builds up over this site in the winter months.

**Dominant Material of Composition:**

Iron

**Probe Depth:**

No probing of the site was carried out during the initial survey.

**Marine Life:**

Loose seagrass. One dead pelican. Algal growth and weed over parts of the wreck.

**Exposed Artefacts:**

Fragments of brick. These may be from the remains of the Norwegian whaling station, approximately 60 metres along the beach in an easterly direction, or a jetty that was built near Vancouver Springs in the late 19th or early 20th centuries.

**Evidence of Human Activities:**

There was no readily apparent human activity on this site. The possibility that the site was salvaged after wrecking will be investigated when the wreck is identified and researched. As the site was reported to us by a local Albany

(Frenchman Bay) resident, it is possible that the wreck is known to a few people in the area and may have been disturbed through human activity over the years.

**Distance from Land:**

15 metres maximum.

**Freshwater Influence:**

Vancouver Springs, approximately 50 metres northwest of the site, was the only nearby source of freshwater.

**Storms and Cyclones:**

The site is generally sheltered, being exposed mainly to northerly winds. According to an elderly local resident, the southeasterly gale that wrecked the Elvie also destroyed the Norwegian whaling station (ca. 1915). This unidentified wreck is therefore also vulnerable to these winds.

**Angle/Orientation of Wreck to Shore:**

The wreck lies virtually parallel to the beach.

**Seabed Slope:**

Minimal.

**Aims of Site Investigation:**

Site inspection and identification. Predisturbance survey - grid, map and photograph. Excavation with a water dredge, if necessary to achieve aims.

Profiling of the wreck.

Determination of the relationship between the site and the land features.

sand. Seagrass entrapped by the vessel iron framing may also influence the metal corrosion rate.

The depth at which the blackened sand occurs (100mm) very likely indicates the stable seabed

Little marine growth exists on the metal framing, the surfaces comprising of a thin concretion layer (5mm), although some sea urchins were present, being mobile, they are not seen as indicators that the vessel structure remains exposed to the same extent throughout the seasons. Abrasive movement of suspended seagrass and sand, etc. may curtail a build-up of marine growths. Without a seasonal inspection it is difficult to determine if any exposure variation for the vessel exists. Presently, it is assumed to take place based on an inspection of vessels lost in similar locations at Albany. The vessel's exposure, above the sea-bed, at the time of inspection was between 0.3 -1.0 metres. Excavation revealed the presence of ship structural members but no definite depth to show the extent of actual burial. The anaerobic conditions beneath the sands will have reduced the rate of metal corrosion in this zone. Relatively thin concretion is attributable to corrosion of only 1/4 " metal plate and possibly abrasive action of sand and to a lesser extent suspended seagrass. Concretion is not very hard and residual metal is still present in the vessel plating, more so in substantial structural members. Corrosion potential taken indicate the vessel is actively corroding, supported by high oxygen levels in the well-aerated (by sea action) waters.

Timbers present in and around the vessel appeared very sound. Some maybe intrusive from the Norwegian Whaling Station, the water jetty or the *Elvie*. Toredos damage where present did not appear active.

With sampling of the metal from this site it will be possible to determine the likely rate at which metal corrosion is taking place. An inspection of the site over the seasons of the year is desirable to ascertain environmental changes. The most permanently buried parts of the vessel will survive the longest.

Jon Carpenter  
CONSERVATOR

## APPENDIX C: *ELVIE* CONSERVATION REPORT

(information supplied by Jon Carpenter - Conservation Dept, W.A. Maritime Museum)

The timbers of the *Elvie* have been identified as Jarrah (*Euc marginata*). Noted for its durability this wood is, and has, been used for the construction of jetties. In its present situation, the *Elvie* is subject to conditions which closely resemble those that jetty piles experience. The analogy is useful in ascertaining the likely survival potential of the *Elvie* site.

The *Elvie* has been abandoned for some 70 years. During this time it must be assumed the vessel has been subject to changes which have not been accurately documented. The following assessment is based on observations made by the Conservation staff during the field trip of July 1990.

In order to make a more complete assessment of the degradation of the wreck, records of the extent of site exposure throughout the seasonal changes of the year would be needed. As an ongoing assessment, a resident of Albany could make a record of changes. Specific visits could be made during and after storms, as these are likely to affect the *Elvie* site. The extent of physical influences on the site, by sea and/or sand movement may be determined

There is much evidence around the state of Western Australia which illustrates the ability of Jarrah to withstand cyclic water inundation and air exposure. The wood seems very resilient to swelling versus shrinking during the transition from one environment to the other. However, gradual degradation of the wood must still occur. The ribs of the *Elvie*, protruding from the sand will be subject to scouring by the sand when the site is awash. This is evidenced by the thinning, or wasting effect.

If wasting is pronounced, it will indicate an extended period of burial to a particular level in the beach. Layers of timber wasting may denote previous burial depths. These may indicate seasonal depth of burial changes, or changes since the vessel's loss. The best indicator for determining the most persistent (potentially stable) depth of burial, appears to be the level of surviving hull planks. This is based on the assumption that planks above those that remain were eventually dislodged and washed away by the action of the sea.

The stumps of ribs protrude from the sand. Their height suggests only one or two layers of planks have been lost. The ribs offer little water resistance, hence they remain largely intact and only suffering abrasion damage. Some abrasion may also be due to dry wind blown sands. The ribs also exhibit typical Jarrah wastage weathering, that is greying of colour.

Timbers buried in the beach experience anaerobic conditions. Timbers nearer to the surface are inundated daily with tidal waters which carry oxygen. The depth at which anaerobic conditions remain stable is therefore likely to be influenced by this occurrence. Timbers buried within anaerobic conditions tend to have the best survival potential. The regular flushing by oxygenated water (to whatever depth it may occur), appears to have had no obvious affect on the wood. The durability of the Jarrah may be responsible for this. The evidence to support the existence of anaerobic conditions for the bulk of the Elvie timbers is based upon the corrosion mechanism of iron fastenings. Two fastenings were examined; one below the sand the sand level (approximately one metre), the other above. The presence of iron sulphides (as a result of anaerobic bacteria) in the concretion encapsulating the buried bolt, indicates anaerobic corrosion activity. No sulphides were present in the exposed bolt, which also exhibited little concretion. This bolt was weaker, as expected and therefore corroded to a greater extent. The presence of iron in contact with wood in an aerobic environment is expected to accelerate the breakdown of wood and similarly effect the rate/extent of corrosion in iron. Samples of a lead-like ? deposit found on the inner surface of the vessel planks may be sealing material and/or evidence of cargo carried.

Since the disturbance by excavation of the *Elvie*, it is anticipated there will be potential changes to the site and its environmental conditions. At least in the short term, aerobic conditions may exist where previously anaerobic conditions prevailed. Since the timber is Jarrah, the vessel may not unduly change. Aerobic corrosion of iron fittings may cause localised timber damage and conversely accelerated corrosion of the fittings themselves. Original sand compaction may have been lost. This may permit greater access and depth of penetration of oxygenated seawater, thus prolonging aerobic conditions under the sand. Oxygenated and less compact sands may encourage burrowing organisms which may have detrimental effects on the wood of the vessel. The vessel did refill rapidly after excavation, (overnight) to approximately its pre excavation level. Those timbers which are as a consequence of excavation more exposed, remain so for an extended period, then further loss by physical action of the sea may occur.

If the *Elvie* is considered to simulate the piles etc of a jetty, (which is feasible given its present position) then its survival potential is assumed to be very good. Under the circumstances, the timber of its construction could not have been better chosen. The tolerance of Jarrah to the prevailing conditions (as observed July, 1990) is well noted. If the pre excavation anaerobic conditions return to the site and continue to prevail the *Elvie* will survive for many years. The qualifying conditions for this conservation report must be a seasonal survey of this vessel.

Subject to cost, it is feasible the *Elvie* could be salvaged from her present situation. Close examination /analysis of the timber would be necessary, but the vessel could very likely be recovered and put on display.

## APPENDIX D: ORAL HISTORY

### Frenchman Bay - Oral History

Owing to the fact that very little has been written on the subject of Frenchman Bay, it has been necessary to obtain historical information almost entirely from oral sources. Memories from people who lived in or visited Frenchman Bay in the early part of this century have been particularly valuable, and it is necessary to acknowledge the following individuals:

Les Douglas  
Stan Austin  
Howard Hartman  
Eric Harley (surveyor)  
Nobbie Pannet  
Bert Harding

Our period of interest is effectively from the late nineteenth century to the early twentieth, and subsequent developments.

### D.1 Frenchman Bay Lighter

The Armstrong and Waters Lighterage Company used Vancouver Creek in Frenchman Bay as a water supply from 1890-1912, when a better supply of water was established. Albany has no river, and as fresh water was required for ocean going vessels calling there, a dam was constructed well above Whaler's Beach, and may still be seen there (Plate D.1). Water flowed down to a long narrow jetty going out from the beach with two water pipes running the length of it, and from these the Company's water lighters were filled and then towed out to the waiting ships. The company owned both wooden and metal lighters, of which only examples of the metal ones survive. These were made out of iron, pre-fabricated in England and brought out in sections by the P.&O. Company. They were assembled on the beach at Albany by the coal jetty. The lighters had a one quarter inch plate and a bear punch was used to punch holes around the edges of the plates before they were bolted together. This punch was last used in 1930 on a replacement funnel for the steam tug Awhina, and is still in existence.

The Armstrong and Waters Company owned a dozen lighters, and on calm days these would be towed on either side of a tug from Frenchman Bay to the ships in the harbour. The metal lighters were between 80 and 100 ft (26-33m) long and 18 or 20 ft (6-7 m) wide. They were divided into compartments of five or six



bulkheads, and could carry 500 tons of water. From the only existing photograph the lighters appeared to have had a flat top which sloped gently up from the hull. Apart from water ports, and a winch set in a wooden frame, the surface was unrelieved.

The Water Lighters belong to Albany's period as an international port, when it was the last coaling station before the Indian Ocean. Owing to lack of a proper harbour at Fremantle, Albany was the major port for Western Australia. It was used by the P&O Company from 1860 until after the First World War when its importance declined as a result of the switch from coal to oil as fuel, and the effects of the depression. Development of facilities at Fremantle enabled this port to replace Albany as Western Australia's main port. As Albany ceased to be a port of call, there was little and finally no use for the water lighters or the tugs which towed them, and they fell into disuse and disappeared.

The last water lighter was purchased by Nobbie Pannet in 1925, by which time it was already derelict and had been lying for some years on a beach near the old town jetty. According to Mr.Pannet it had holes in its sides which had to be patched with sections from old petrol cans. He used it to assist in pulling out the pylons at the old town bathing place. The bottom proved so solid that when the lighter was finally sunk off Whale Rock charges failed to make holes in it, and it had to be chopped with axes.

The iron lighter wreck by Vancouver Springs in Frenchman Bay apparently dates from a fairly early period and had been lying in the swash area of the beach since the 1890s. H.Hartman recalls seeing it on the beach in the 1900s, and L.Douglas remembers it from the time of the First World War, and says that it was much decayed even then. He states that the sea used to wash through it, and that it was not double ended but had a counter stern. The stern post was still standing, but the actual counter on the stern had almost disappeared. The surviving photograph of N.Pannet's lighter being sunk also suggests a counter stern. H.Hartman thinks that the Frenchman Bay lighter was discarded because it cracked or part of it fell off, and proved too difficult or impossible to repair at the time. The lighter remains were still visible on the beach in the 1930s when H.Hartman's photograph was taken. L.Douglas thinks that the fact that the lighter remains are now entirely underwater is due to the beach profile having changed.

The whaling company had a small sailing boat the *Margaret* which was purchased by William Douglas and used for fishing. According to local legend there is supposed to be a large quantity of ambergris buried in the environs of the whaling station and sporadic searches for it have taken place from time to time. The tea rooms were built in 1929, also from remains of the whaling station.

### **D.3 Rip**

The *Rip* was a former Port Philip pilot schooner, built to order in New Brunswick, U.S.A. and arrived in Port Philip on the 2nd May 1860. She was an exceptionally good sailor, but was sold after an accident on 15th July 1873, when she almost capsized and several people were drowned. She was purchased by the Armstrong and Waters Company who took her to Frenchman Bay to careen her to check her condition as she had a worm - eaten keel and garboards. Why Frenchman Bay was chosen for this purpose is not known, since Oyster Harbour would have been far more suitable as a location. Apparently on careening her she was found to be in such poor condition that the owners went into a rage and attempted to burn her. Only the seaward side burned, leaving her lying broadside onto the beach, canted towards the sea at a steep angle. She then went rapidly to pieces. Howard Hartman (b.1902) recalls fishing off her as a child, and said that her deck planking hung in long streamers that went up and down with the waves. Some of it was used on their camp, presumably as firewood. She was only accessible at low tide, with sweep and John Dory swimming about inside. She could be fished in as well as off. Les Douglas (b. 1909) recalls using her as a supply of fishhooks for long line fishing off the west end of Frenchman Bay. Some of her planking of carried pine was used by his father to make decking for lighters. She is described as lying half way between Vancouver Creek and the *Elvie*, but at the present time is not visible at all.

### **D.4 Elvie**

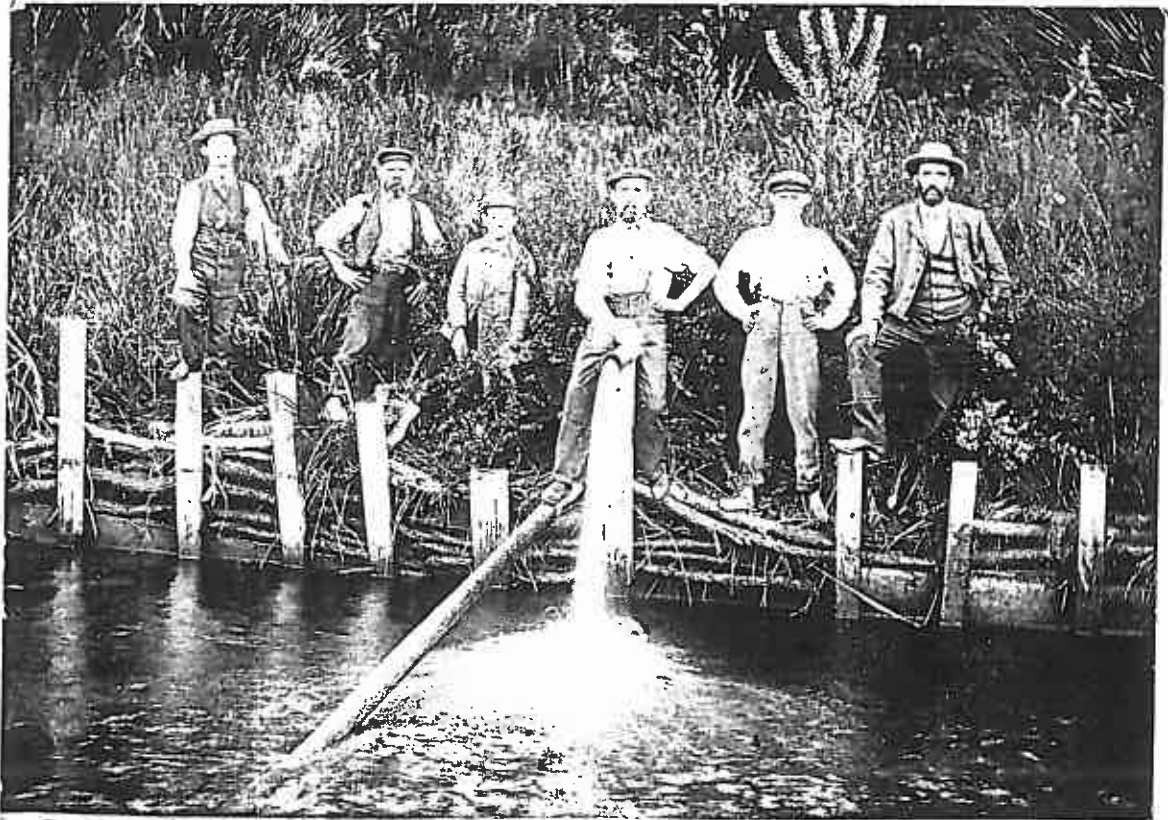
The *Elvie* was used by the Norwegian Whaling Station to carry barrels of oil out to ships in the harbour. She was flat-bottomed, but surviving photographs from the 1930s indicate that she was not double ended but had a flat stern. Howard Hartman states that she was anchored on permanent moorings out in the middle of Frenchman Bay, and was left there when the Norwegians left in 1917. She stayed at that mooring until the great south easterly gale of 1923, when she dragged ashore with her anchors and filled up with sand. She could easily have been refloated, but because her ownership was unknown she was left there with

one iron were exposed by the low tide. The wooden one was believed to be the *Runnymede* and the iron one the *Fanny Nicholson*. He recalls that the two wrecks were fully exposed and that they (his father and himself) cut a lot of copper and brass bolts from the wooden one as his father was brass casting at the time. Although the bolts appeared to be in good condition they only yielded dross, as they had been de-natured by the sea, and when hit with a hammer they crumbled and left only a thread of solid metal in the centre. They also cut timbers from the wreck, which he refers to as Oregon pine, but Stan Austin also recalls cutting timber from the wreck, which he refers to as Huon pine. The *Fanny Nicholson* was said to be further out among the breakers at an angle to the beach. The location of the *Runnymede* has been worked out approximately using bearings from two sand dunes. According to a local resident, Mr. Blake, who lives nearby overlooking the beach, the remains can be seen for a few days each year; he also stated that after a heavy storm two or so years ago, a number of clay pipes were washed ashore from the area corresponding to the location of the *Runnymede*, southwards for a block; some of these were broken, some as new. He says that a sample of wood was taken from the wreck site and was sent with one of the pipes to Valerie Milne of the Albany Residency Museum. Valerie Milne does not remember this, but says that she has seen the remains of the two ships exposed, and also the remains of a third vessel beyond the other two, of which the identity is unknown.

The remains were exposed and observed in the 1960s, and again in 1984, when they were photographed. Reports from the '60s sighting that the *Runnymede* has "two skins" suggests that much of her planking may still be intact, while the *Fanny Nicholson* is described merely as being iron plates (bottom of the hull) exposed in the sand. On the advice of a local resident, the site of the *Runnymede* is located almost exactly south of a pile of red nylon rope now lying towards the back of the beach, and marking the bow or stern of the vessel., and the length of the ship marked out by thirty paces due south of this. According to this resident, an iron plate, believed to be from the *Fanny Nicholson*, had been washed ashore north of this area. Sailors from the *Runnymede* are supposed to have built a camp in the sand dunes nearby while salvaging materials from the ship. Howard Hartman describes finding some stone fireplaces, and nearby where the sand had been blown away found all sorts of odds and ends, brass cabin door hooks, pieces of pottery, clay pipes, etc. According to H. Hartman they obtained water from the nearby small duck swamp, where he used to go duck shooting. Recent searches

in the area failed to reveal any of these things. H.Hartman says that the fireplaces were between the two large sand dunes, but there seems to be some doubt about whether the location has vanished under present housing near the duck swamp. Also in this area was a fisherman's hut, pointed out by locals on top of a sand dune, but now with no trace remaining. The hut was of a later date supposedly constructed from materials from the shipwreck, but details of this are not available.

FRENCHMANS BAY WATER SUPPLY.



This Dam was built by the P O Coy about 1860 and used to supply water for their early mailboats. Water was carried by 500 ton water "Lighters" later used by Armstrong Walters Coy until the Albany Water Scheme was built.

L. C. DOUGLAS

Plate D.1: Dam on Vancouver Springs, Frenchman Bay.

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Abbreviations:

A.I.M.A. - The Bulletin of the Australian Institute for Maritime Archaeology.

M.A.A.W.A. - Maritime Archaeology Association of Western Australia.

