

Report and Recommendations on Archaeological Land Sites in the Houtman Abrolhos.

By Jeremy Green and Myra Stanbury.

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Introduction.

The islands of the Houtman Abrolhos have many unique features which have made them the focus of special studies by geologists, natural scientists and conservationists since the nineteenth century. Frequently, however, the historical and cultural environment of the islands is overlooked. Yet, the activities of human groups over more than three centuries have left a distinct cultural impact on the Abrolhos Islands. The topography of many islands in the archipelago has been markedly altered by specific forms of human activity, notably the mining of guano and rock phosphate. The native fauna and flora have been infiltrated with alien species as a result of human occupation; and, the destruction of natural habitats has led to adaptive plant and animal behaviour, particularly noticeable among certain species of migratory birds who regularly nest on the islands.

Concern for the preservation of marine and terrestrial fauna and flora are undoubtedly important issues. Yet, any plans relating to the future use of the islands for recreational and/or other purposes should also take into account their significance with respect to the national and Western Australian cultural heritage.

This report gives a brief description of three categories of land sites on islands in the Wallabi and Pelsaert Groups which are considered to be worthy of protection: (a) sites associated with pre-European settlement shipwrecks; (b) sites associated with post-settlement or colonial period shipwrecks; and, (c) sites associated with colonial maritime trade and industry. Each group of sites varies in its type of cultural significance; likewise, individual sites within each group. Apart from the educational, cultural, historical and social value that the protection of these sites may have for the Australian public, they inherently present those with more scholarly interests with a number of potential research themes.

The pre-settlement sites are culturally unique, reflecting the earliest attempts by Europeans to survive on Western Australia's isolated, relatively waterless, off-shore islands. These are sites which were temporarily occupied, visited or utilized for some specific purpose by survivors of the seventeenth and eighteenth century Dutch shipwrecks *Batavia* (1629) and *Zeewijk* (1727). They represent the earliest evidence of European settlements on Australian territory. Underlying the dramatic circumstances and historic events which placed the survivors on the various islands, the sites may be used to interpret the particular social and economic problems associated with survival in an harsh alien environment, such as colonists were to face more than a century later.

The association of these sites with the early European discovery and exploration of Australia makes them historically significant at a national and international level. Certain sites in this group are known to be at risk, recent reports of interference giving cause for concern as to their future integrity.

The second group of sites is related to shipwrecks of the colonial period and the fate of these ships' crews. While the sites may not be classified as culturally unique, they are significant in terms of the maritime history of the Abrolhos Islands as a discrete region and to the broader colonial history of Western Australia. Such sites reflect the gradual increase in colonial shipping to and/or past the Houtman Abrolhos and the hazards these islands continued to present to mariners, even in times of improved navigation technology. They further extend the theme of survival into the nineteenth century and emphasize the geographical isolation facing settlers in the early phase of colonization.

The remaining sites are associated with nineteenth century maritime industries established by pioneer colonial entrepreneurs, in particular the Pelsart Fishing Company and Charles Edward Broadhurst, for the exploitation of island and marine resources. Maritime industries such as whaling, fishing, sealing and guano mining were important economic enterprises in the early colonial years. They provided valuable export and domestic produce which aided colonial economic and rural development and contributed to the growth of colonial shipping and shipbuilding.

Guano mining was carried out on many of Australia's off-shore islands. The archaeological remains of this industry on the Houtman Abrolhos provide a useful data base for comparative research with similarly exploited islands in Shark Bay, the Lacepedes, Browse Island and other Northwest archipelagos, along with off-shore islands in other states of Australia. The remains on certain islands have been surveyed, documented and their historical background researched, but no archaeological excavation has been undertaken. The guano industry was one of the first in Western Australia to employ indentured labour. Apart from the specific technological and operational aspects of the industry, therefore, the sites have an inherent social significance. In many instances, the residual effect on the landscape is very obvious and is of value inasmuch as it reflects the historical pattern of land use in the Houtman Abrolhos from the early nineteenth century through to the mid-twentieth century.

Maritime Archaeological Sites.

The islands of the Houtman Abrolhos are situated in State waters as defined by the base lines in the *Commonwealth of Australia Gazette*, No. S 29, 9 February 1983. They therefore fall within the jurisdiction of Western Australian legislation.

Under the State **Maritime Archaeology Act, 1973**, Section 4, a maritime archaeological site - other than the remains of a historic ship (Section 4. 1. a.) - is defined as follows:

4. (1) (b) any area in which any relic is known to be located, or where in the opinion of the Director unrecovered relics associated with a ship which may have been a historic ship are likely to be located; and

4. (1) (c) any structure, camp-site, fortification or other location of historic interest that, in the opinion of the Director, is associated with, and was occupied or used by, persons presumed to have been in a historic ship.

The sites referred to in this report are considered in reference to this legal definition in order to justify their status in respect of protection under this Act. The following extracts from the legislation are included for reference in respect to certain of the recommendations.

Protected zones

9. (1) For the purpose of preventing the plunder, damage or disturbance of maritime archaeological sites, and of the ships, relics, or things vested in the Museum on behalf of the Crown, the Governor may, by an instrument published in the *Gazette*, declare that an area is a maritime archaeological site and that a specified area surrounding that site is a protected zone, and that zone may be declared to include the waters lying above and the land or bed of the sea below it.

9. (4) The declaration of a protected zone shall specify the boundaries of that zone in sufficient detail to enable them to be established but it shall not be necessary that the boundaries are surveyed or demarcated, and notwithstanding that the boundaries are not demarcated a person may be convicted of an offence against this Act in relation to a protected zone where the court is satisfied that the location of that zone could have been established by reference to land marks, leading marks, a buoy or other position marker specified in the declaration, but it shall be a defence to show that the location could not have been so established.

Sites associated with the survivors of the Dutch East Indiaman *Batavia* (1629).

AREA: Houtman Abrolhos

LOCATION: Wallabi Group

MAP: (i) 1: 100 000 WALLABI, SHEET 1641 (EDITION 1) SERIES R 611.

(ii) 1: 5000 MORNING REEF, WALLABI GROUP, HOUTMAN ABROLHOS, W. F. JEFFERY, Surveyor, 1980.

(iii) 1: 500 BEACON ISLAND SURVEY, Paul Morris & Peter Harvey, 1986.

SITE 1. Beacon Island: '*Batavia*'s Graveyard' (1:100 000 GJ 725468)

SITE DESCRIPTION: Coral/ limestone island with (i) shipwreck survivors' encampments; (ii) burial or 'graveyard' site; and, (iii) coral/limestone structure (Cornelisz' 'prison')

Background History: (i) On 4 June 1629, the VOC ship *Batavia* was wrecked on Morning Reef in the Wallabi Group of the Houtman Abrolhos (AUS 332, Lat. 28° 29' 30"S, Long. 113 ° 48' 00"E) . Approximately 316 men women and children were aboard the ship. Immediately following the shipwreck, 180 persons, among them 30 women and children, were landed on a 'coral shallow', devoid of fresh water, with some ship's provisions - barrels of biscuit and water (Drake-Brockman, 1963: 44).

The island, now called Beacon Island, was referred to as '*Batavia*'s Graveyard'. While Commander Pelsaert, along with 44 survivors, sailed to *Batavia* in the *Sardam*, many of the people left on the Abrolhos were subjected to wilful murder and other cruelties instigated by the Undermerchant, Jeronimus Cornelisz, and a group of followers. In a short time, they killed 96 men, 12 women and 7 children.

Little is known of the day to day existence of the stranded community on *Batavia*'s Graveyard. Exactly where and how the survivors organized their encampments; what they subsisted on; and how they coped with their environment is scarcely documented in available historical records. Before the atrocities began on 4 July 1629 (Drake-Brockman, 1963: 252), the community had been on the island for one month (30 days), Cornelisz having spent 10 days on the wreck and 'one month' ('20 days') on the island (Drake-Brockman, 1963:158). During this time, the number of people occupying *Batavia*'s Graveyard was only marginally reduced: a group of 22 people, led by Weibbe Hayes, had been sent to search for water on a 'long island' (West Wallabi) and had not returned (Drake-Brockman, 1963: 143) and a smaller group had been marooned on Traitors Island. Given the relatively small area of Beacon Island (c. 5.25 ha), a population of 180 people with mixed social and cultural backgrounds would have been a sizeable community in terms of social space and pressure on natural food and/or other available resources, even for a short period of time. In the best of circumstances, social conflicts could be expected to arise from the proximity of living, the diversity of the social group and the stressful situation.

According to Pelsaert's Journal the survivors lived in 'tents', although there is no indication as to the exact number (Drake-Brockman, 1963). A contemporary illustration by Jan Jansz in the 1647 edition of *Ongeluckige Voyagie* shows four: a large tent and three smaller ones. Most likely, the larger tent belonged to Cornelisz and his immediate Council while two of the remaining three were probably the main mess tents for the community. To allay suspicion, 20 to 24 of Cornelisz' most willing supporters were said to be divided, with their weapons, into two tents, taking away all weapons from those who had any (Drake-Brockman, 1963: 252). The fourth tent was probably that occupied by the predikant, Gijsbert Bastiaensz, his wife and six children and their young maid as reference is made to the 'predikant's tent' (Drake-Brockman, 1963: 181;184).

Following the discovery of the wreck site in 1963, Beacon Island became the focus of exploratory digging. In 1963 a site (E.S. "C") was excavated on the 'northern end' of Beacon Island believed to be to the north and west of Bevilaqua's hut, (Edwards, 1988, pers. comm.) and artefacts were found at a depth of 3 to 18 inches (7.6 - 45 cm). They included a 'metal object with a type of crest on it, two keys and the hinges of a box' (WAM File MA 74/74). In addition, there were sherds of tin-glazed majolica ware and earthenware from apothecary jars or albarelli.

A trench (T.T.A.) was dug between the houses of Mr. W. Bevilaqua and Mr. D. Johnson, but this yielded nothing. Three trenches "A", "B", and "C" were run off at right angles to the main trench, again with no result.

In 1967, test excavation of Site "C" was undertaken by Colin Jack-Hinton of the W.A.Museum. Artefacts included a bone comb, button, porcelain and majolica sherds, metal fragments and so on. A large quantity of midden material was recovered from the Site "C" surface area among which were butchered animal bones, a musket ball and a copper-alloy fish-hook. A coral/limestone structure at the southern end of the island, commonly referred to as 'Cornelisz' prison', produced brass sheeting, a small piece of fabric, iron fragments and animal bones. A clay pipe bowl was found nearby but this, together with remains of a pale green glass bottle appear to be 19th century in origin. The exact location of Site "C" is presently uncertain.

In 1973, a series of 0.5 m wide by 0.5 m deep test trenches were dug: one in the area between Johnson's and Bingham's (formerly Bevilaqua's) hut on the east side of the island and three between Johnson's hut and the jetty on the south side of the island. All proved to be sterile.

In 1974, a test excavation [Test trench 1] in the sandy interior of the Southeast portion of Beacon Island - between Johnson's and Royce's huts - was carried out (Bevilaqua, 1974). This test excavation revealed a range of

artefacts that closely corresponded with material associated with the wreck of the *Batavia*. Some objects were identical to items raised from the wreck site. The evidence reinforced the belief that Beacon Island was *Batavia's* Graveyard. Unfortunately, the natural disturbance of the site by nesting shearwaters made it difficult to determine whether the midden remains were the result of human activity or natural deposition.

In 1980, a further test excavation [Test trench 2] was carried out, parallel and adjacent to the northeast side of Test trench 1. Again, the artefacts were consistent with similar finds from the wreck site and included a brass buckle, shoulder-belt fitting, bone bead and numerous majolica, glass and metal sherds.

(ii) In the confessions made by the murderers, reference is made to 'holes' having been prepared for the purpose of disposing of certain victims' bodies. The predikant's wife, his six children and young maid appear to have been buried in this fashion (Drake-Brockman, 1963: 181; 184), likewise Jacop Hendricxs (Drake-Brockman, 1963: 186). In 1960, the first evidence of human skeletal material was discovered by Pop Marten and after examination by Dr. Roylance the find was reported to the police. Other skeletons were subsequently unearthed and more are reputed to be buried beneath Johnson's hut.

(iii) Following Pelsaert's return from Batavia, attempts were made to salvage as much of the valuable cargo from the wreck site as possible. Much of the salvaged material, including several money chests, was taken to *Batavia's* Graveyard. Here too, Cornelisz was bound and subjected to torture in order to extract a confession from him. A coral /limestone structure at the southern end of Beacon Island has been traditionally referred to as 'Cornelisz' prison' although there is no documentary evidence to support this. A small number of artefacts have been recovered from the site and its surrounds but, apart from a few iron fragments and brass sheeting, none of the objects can be conclusively associated with the *Batavia*, one clay pipe bowl exhibiting mid to late 19th century characteristics.

Classification of sites:

1. Northern end of Beacon Island.

Encampment site: Site E.S. "C" (exact locality unknown but believed to be to the north and west of Bevilaqua's hut); ceramic, iron, lead and copper fragments; iron key, hook, hinge and nails all consistent with similar finds from the *Batavia* wreck site.

Midden site: Site "C" (surface); variety of animal, bird and fish bones with evidence of butchering; musket ball, fish-hook and metal fragments.

Burial site: 1960 - Skeleton - BAT.M3901 (5 ft. $7\frac{1}{2}$ in; 1.71 m) found on Beacon Island by Pop Marten and Dr. Roylance about 8 feet (2.4 m) from the south side of William Bevilaqua's (later Bingham's) shack on the north side of the island. Covered by 16-18 inches of soil and resting on coral. Soil around grave sifted but nothing found which was foreign to the island.

2. Southeast sandy interior.

Encampment site: Test trenches 1 & 2, between Johnson's and Royce's huts; variety of artefacts consistent with similar finds from the *Batavia* wreck site.

Burial sites:

1963 - Two skeletons - BAT.A15507 & BAT.A15508 found by Dr. Naom Haimson on Beacon Island.

No. 1. [BAT.A15508] Incomplete - possibly female or boy (pelvis missing), found in association with pistol shot in ribs, a purse and two copper coins.

No. 2. [BAT.A15507] Lying in north-south direction at east corner of Mr. Johnson's house. 6 ft (1.8 m) tall, right foot missing, right shoulder blade broken and cutting edge wound along top of skull (possibly Andries de Vries - Edwards, 1966: 167).

3. Southeast promontory.

Coral/limestone structure: 'Cornelisz' prison' (see Figure). This structure has been subject to interference in recent years (i.e. reconstruction of the walls) and probably differs from its original form.

Maritime archaeological significance: Beacon Island is historically, culturally and archaeologically significant in view of its confirmed association with the crew and passengers of the wreck of the *Batavia*. Although there has been a substantial amount of uncontrolled and controlled excavation on the island, the exact areas of 17th century human encampment are not clearly defined. Should the existing cray fishermen's huts at any time be demolished, the island would still offer some archaeological research potential, there still being a likelihood that artefact material lies buried beneath these structures, as well as in unexcavated parts of the island. The question of the exact location and limits of the encampments could be determined more accurately by sample survey techniques and/or limited test excavation. It is known that at least one of the present buildings overlies human skeletal material which would provide an interesting resource for physical anthropologists to study 17th century individuals.

Recommendation: that the whole of Beacon Island be protected as a maritime archaeological site under sections 4.(1) (b) and 4. (1) (c) and as a protected zone under section 9. (1) of the Maritime Archaeology Act, with particular reference to the restriction of digging and/or any major earthworks without Museum approval. Also, that no further occupation or dwellings be permitted on the island and that in the long-term (10-20 years) the existing camp-sites be removed.

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WAM File MA 74/74 *Batavia*

AREA: Houtman Abrolhos

LOCATION: Wallabi Group

MAP: (i) 1: 100 000 WALLABI, SHEET 1641 (EDITION 1) SERIES R 611.

(ii) 1: 5000 MORNING REEF, WALLABI GROUP, HOUTMAN ABROLHOS, W.F. JEFFERY, Surveyor, 1980.

SITE 2. Long Island: 'Seals Island' (1:100 000, GJ 715475)

SITE DESCRIPTION: Coral/limestone island with (i) occupation and slaughter site of survivors; (ii) gallows site of *Batavia* mutineers; (iii) mutineers' prison.

Background History: (i) A party of cabin Boys, Men and Women, about 45 in number, were sent to Seals Island (28 Jun 1629) to search for water. Seventeen days afterwards, on 15 July 1629, all except '7 Boys and some Women' were murdered (Drake-Brockman, 1963: 159), these subsequently suffering the same fate (Drake-Brockman, 1963: 173). Four people, however, managed to escape.

Melrose (1981) states that about 1967:

'a party made two excavations on the northern end of Long Island. After a section of loose coral was cleared to some depth, small rectangular man-made shafts led down to water. This was at first drinkable but soon turned to salt' (Melrose, 1981: 12).

The only artefact recovered on Long Island that can be positively associated with the *Batavia* is a saltglazed stoneware beardman jug sherd, found at the northern end of the island in 1967 by Jack-Hinton et al.

(ii) On 18 September 1629, Pelsaert ordered the principal mutineers and other accomplices to be taken to Seals Island for security pending their interrogation on Beacon Island (Drake-Brockman, 1963: 118; 146). Following the confession of their crimes, the condemned mutineers were sentenced to have either both hands or their right hand cut off prior to being put to death on the gallows. Seals Island was the place designated for these punishments to be carried out.

(iii) A coral/limestone structure, of similar construction to that on Beacon Island, on the east side of the central part of Long Island is traditionally believed to be the place where the prisoners were held prior to punishment. No artefactual evidence has been recovered from this site to confirm this belief. On the other hand, no alternative historical evidence has been put forward to refute the assumption that this structure is associated with the *Batavia* incident.

Classification of sites:

1. **Occupation site:** possibly north end of Long Island, exact location not identified.
2. **Slaughter site** - of survivors.
3. **Gallows site:** possibly on the high ridge on the east side of Long Island, exact location not identified.
4. **Coral/limestone structure** - possibly mutineers' prison.

Maritime archaeological significance: Long Island is historically significant in terms of the *Batavia* incident. Although few artefacts have been found, the island has never been subjected to close archaeological scrutiny, except for surface exploration for potential occupation sites. No excavation has been undertaken on the island by the W.A. Museum and the potential for such work remains.

Recommendation: that Long Island be protected as a maritime archaeological site under section 4. (1) (b) and (c) of the Maritime Archaeology Act.

References.

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AREA: Houtman Abrolhos

LOCATION: Wallabi Group

MAP: (i) 1: 100 000 WALLABI, SHEET 1641 (EDITION 1) SERIES R 611.

(ii) 1: 5000 MORNING REEF, WALLABI GROUP, HOUTMAN ABROLHOS, W.F. JEFFERY, Surveyor, 1980.

SITE 3. Traitors Island (1:100 000, GJ 725459)

SITE DESCRIPTION: Limestone island occupied by shipwreck survivors.

Background History: Fifteen people were marooned on Traitors Island by Cornelisz. While attempting to escape to the Wallabi Islands on rafts, they were intercepted by some of the mutineers. Those that did not manage to escape by swimming away were either drowned or killed. The small islands situated along Morning Reef would likely have assisted survivors in their escape.

Classification of site:

1. **Occupation site** - no archaeological evidence located.

Maritime archaeological significance: Traitors Island is historically significant as an occupation site of *Batavia* survivors. Other islands in the Morning Reef complex might also have been similarly used by survivors attempting to escape from the shipwreck and/or the mutineers and during salvage operations.

Recommendation: that Traitors Island and all the small islands of the Morning Reef complex be protected as maritime archaeological sites under section 4. (1) (c) of the Maritime Archaeology Act.

AREA: Houtman Abrolhos

LOCATION: Wallabi Group

MAP: (i) 1: 100 000 WALLABI, SHEET 1641 (EDITION 1) SERIES R 611.

SITE 4. Slaughter point, West Wallabi Island (1: 100 000 GJ 651481)

SITE DESCRIPTION: Weibbe Hayes encampment.

Background History: Jeronimus Cornelisz had sent Weibbe Hayes, a soldier, with a party of people (primarily soldiers) to a 'long island' in search of water (Drake-Brockman, 1963: 143). After searching for twenty days, they found 2 pits with fresh water which rose and fell with the tide (Drake-Brockman, 1963: 143; 149). The island also had good food resources in the form of birds, fish, eggs and 'Cats' (Drake-Brockman, 1963: 235). According to prior arrangements, they made three fires as signals which Cornelisz, preoccupied with massacre, disregarded.

Meanwhile, several parties of 4 to 5 people escaped to 'Weibbe Hayes' island on rafts until 45- 47 people were safely ashore. After hearing of the developments on Batavia's Graveyard, they prepared to defend themselves against attack, making weapons out of 'hoop-iron and nails, which they bound to sticks' (Drake-Brockman, 1963: 143-44). Three times they were attacked by the party of murderers, managing to capture Cornelisz when he approached them with cloth as a peace-offering in exchange for 'the little yawl that those who had escaped had taken with them' (Drake-Brockman, 1963: 253).

Returning to the Abrolhos, Pelsaert noticed smoke on a 'long island 2 miles West of the Wreck.....' (Drake-Brockman, 1963: 141) and anchored the *Sardam* off the 'High island' (East Wallabi). As Pelsaert approached the island in the ship's boat on 17 September, 1629, he was intercepted by Weibbe Hayes who informed him that mutineers were ready to seize the *Sardam*, and that 14 days previously he had captured Cornelisz. Only that morning, 2 sloops of men led by Wouter Loos, had attacked them, leaving four of Weibbe Hayes' men seriously injured.

In 1963, while researching the history of the *Batavia* disaster, Edwards (1966: 191) found that John Forrest had reported the 'remains of two old stone huts' on West Wallabi Island (Forrest, 1879). Edwards hypothesized that the 'huts' represented Weibbe Hayes' camp and subsequently accompanied a team of students from Aquinas College in 1964 to search for the ruins.

The Aquinas College expedition located two structures, (the inland site and the coastal or Slaughter Point site) and described several other features in this part of the island - 'fireplaces' along the coast, wells and cairns. They excavated narrow trenches along the walls of the coastal structure finding Rheinisch stoneware sherds from a beardman jug with the Coat of Arms of Amsterdam (BAT 446), iron nails, fire pits, burnt remains of tammars, seals, shearwater and oysters. In 1965, they continued their investigations and excavated the interior of the structure and an extensive area surrounding the site. Their evidence further substantiated a belief that this was the site occupied by Hayes and his men.

In 1967, the W.A. Museum re-excavated portions of the interior of the Slaughter Point site and two trenches in the nearby vicinity. Artefacts recovered from this excavation were identical to objects found on Beacon Island and from the wreck site. In 1974, the W.A. Museum carried out a survey of sites on West Wallabi and a test excavation of the Slaughter Point site (Bevacqua, 1974). A considerable amount of midden or food remains were recovered representing naturally occurring food resources. The artefacts consisted primarily of iron nails and portions of barrel hoops. The combined archaeological record is compatible with the historical evidence and archaeological material recovered from other sites associated with the *Batavia*.

In 1980, the W.A. Museum re-investigated the inland structure. Excavation was not possible as the site is situated on flat pavement limestone. Debris within the structure was sifted but no significant artefacts were found. The origin of this site, therefore, remains questionable. If this was one of the two stone huts referred to by Forrest in 1879, then it certainly pre-dates his visit. It is curious, however, that earlier visitors to the island, notably Stokes, did not mention seeing the structure, while they reported finding wells of good water that are situated in its vicinity. It is possible, therefore, that this inland structure is associated with the 19th century guano miners, L.A. Manning having had a lease for the Wallabi Islands for two years prior to Forrest's visit. Evidence for this, however, is still inconclusive.

Summary of 19th century visits to West Wallabi.

1840 - Stokes named the easternmost point of West Wallabi 'Slaughter Point' and reported that two caverns about half a mile (c. 0.8 km) west of this point contained 3 tons of excellent water. He makes no reference to any stone structures (Stokes, 1846, 2: 161).

1843 - Gilbert visited the island, but failed to locate fresh water and makes no mention of the stone structures (*Inquirer*, 19/4/1843).

1876 - L.A. Manning & Co. granted a lease for two years to remove guano from islands in the Wallabi Group (SDUR/M6 795).

1879 - Forrest examined the island for guano deposits. He reported a good well of fresh water and the 'remains of two old stone huts...' but does not indicate where these are located (Forrest, 1879, Fieldbook No. 22, 6/4/1879).

1897 - Survey of guano deposits on West Wallabi by A.J.Wells - no mention of 'stone huts', but a house is shown on his survey map, midway along the northwest shore of the island. A jetty is shown extending from this point on later maps with a tramway extending southwards to Horseyard Bay (Storr, 1965). In 1986, traces of this tramline were found to continue to the south west guano fields. These are all related to the 19th and early 20th century activities of guano miners (see Site 16).

Classification of sites:

1. **Limestone Structure 1** - coastal or Slaughter Point site (Weibbe Hayes' encampment). Rectangular structure approximately 7.9 m x 3 m x 0.55 m, originally divided into two 'rooms'. Walls show marked reconstruction since 1974. Rheinisch stoneware jug sherds, iron nails and barrel hoops, midden material, lead objects etc.
2. **Limestone Structure 2** - inland site. Four walls broken by an entrance in north facing wall, approximately 6.5 m x 5 m x 0.75 m. No artefacts of 17th century origin.
3. **Fireplaces** - three structures on east coast of Slaughter Point (to the NE and ENE of Structure 1) consisting of limestone slabs that have been stood upright to form a three-sided protection from the wind.
4. **Middens** - possible midden site (marked 'site' on compass traverse by Orme and Randall, 1986). No evidence of Dutch material.
5. **Wells** - a deep brackish well lies to the northeast of Limestone structure 1, recently marked by the placement of a wooden fence post; another lies to the east. Several small wells are located in the vicinity of Limestone structure 2 with a deep well situated to the WSW, close to a survey cairn.

Maritime archaeological significance: West Wallabi Island is historically and culturally significant as it was a site occupied by survivors of the *Batavia*. Limestone structure 1 (Slaughter Point site) and its surrounds have produced archaeological evidence which confirms its association with the *Batavia* incident. Other features, such as Limestone structure 2, the fireplaces and middens, possibly relate to the incident but there is no conclusive proof. The wells would certainly have been used by the survivors but no in situ archaeological material has been found to substantiate this.

Recommendation: that the two limestone structures be protected as maritime archaeological sites under section 4 (1) (b) and (c), each within a protected zone of 100 metres radius, and that any interference with the structures and/or removal of material from within the protected zones be prohibited and that any digging within these zones be restricted to bona fide archaeological researchers with the permission of the Museum. Access to the site should be permitted, but suitable markers and notices should be erected in order to make known to the public the above recommendation.

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AREA: Houtman Abrolhos

LOCATION: Wallabi Group

MAP: (i) 1: 100 000 WALLABI, SHEET 1641 (EDITION 1) SERIES R 611.

(ii) 1: 5000 MORNING REEF, WALLABI GROUP, HOUTMAN ABROLHOS, W.F. JEFFERY, Surveyor, 1980.

SITE 5. East Wallabi: 'High Island' (1:100 000, GJ 670510)

SITE DESCRIPTION: (i) Wells; (ii) Slaughter site.

Background History: (i) Pelsaert ordered the thickets on the 'High Island' to be burned so that they could catch the wallabies - 'Cats' - better and see if they could find 'hidden pits [*putten*] as had been found on Weibbe Hayes' island' (Drake-Brockman, 1963: 214). They found one pit with stinking water, one with brackish water and one with good water the opening of which they enlarged with pick-axes and crowbars (Drake-Brockman, 1963: 214). From this well, they filled the ship's empty water vessels and took them on board.

(ii) At least one survivor was reported to have been killed on the 'other High Island' by Cornelisz' men (Drake-Brockman, 1963: 116). While Cornelisz visited Weibbe Hayes' island on 5 August 1629 (West Wallabi) he left Zevanck and others to kill the upper barber, Frans Jansz, of Hoorn on the High Island (East Wallabi). Under the pretext of going in search of seals, Lenert Michielz, Hans Jacobsen, Mattys Beer and Lucas brutally killed Frans Jansz (Drake-Brockman, 1963: 187).

No detailed archaeological survey of East Wallabi has been undertaken but surface investigation in the 1960s produced a mammal bone that had clearly been butchered. There was no other archaeological evidence, however, to associate this find with the *Batavia* . Stokes visited the island in 1840 and he and his men could have shot wallabies on East Wallabi Island as they did on West Wallabi, at Slaughter Point. Storr (1965:4) reports that the island was once used to depasture a flock of goats.

Classification of sites:

1. **Resource site (water) - wells.**
2. **Slaughter site** - killing of Mr. Frans Jansz, Upper barber.

Maritime archaeological significance: East Wallabi is historically significant as a place visited by the *Batavia* survivors and from which they obtained fresh water but there is little evidence to indicate the survivors had any encampments there. The island has not been subjected to detailed archaeological survey but based on the historical evidence its archaeological potential would appear to be limited.

Recommendations: that the wells on East Wallabi be protected as maritime archaeological sites under section 4. (1) (c) of the Maritime Archaeology Act within a protected zone of 100 metres radius of each well.

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Sites associated with the survivors of the Dutch East Indiaman *Zeewijk* (1727).

AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 WALLABI, SHEET 1641 (EDITION 1) SERIES R 611.

(ii) 1: 1000 GUN ISLAND 1976, Surveyed and drawn by J.W. Willis.

(iii) 1: 1000 GUN ISLAND 1976, 1978 version showing areas of archaeological significance.

SITE 6. Gun Island [1: 100 000 GH 789010, NM/F/635]

SITE DESCRIPTION: (i) Survivors' camp-sites or 'messes'; (ii) areas of special activity; and (iii) burial sites.

Background History: In June 1727, the VOC ship *Zeewijk* was wrecked on what is now known as Half Moon Reef in the Pelsaert Group of the Houtman Abrolhos (AUS 332, Lat. 28° 54' 30" S, Long. 113° 49' 00" E). From historical journals, it is known that 96 of the *Zeewijk's* complement of 208 seamen and soldiers reached the safety of a nearby island. This island is now known as Gun Island, named after Stokes' discovery of a bronze breech-loading swivel gun, marked ZVOC, and other Dutch artefacts in 1840.

For a period of nine months, from June 1727 to the end of February 1728, the survivors lived on Gun Island, 82 of them finally arriving safely in Batavia, present day Jakarta. The vessel used for this purpose was the *Sloepie*. The craft was built by the survivors from materials salvaged from the wreck of the *Zeewijk* and possibly from timber found growing on other islands in the Pelsaert Group, notably Pelsaert Island.

Although the *Zeewijk* survivors had the impression that other mariners had been shipwrecked in the area before them, their charts and descriptions of the islands are probably the earliest geographical records of the Pelsaert Group. Annotations on the charts together with the journal entries give some indication as to the identity of the various islands occupied and/or visited by the survivors in their search for food, water, wreckage and other useful resources.

During the nineteenth century, surveyors and colonists visiting and/or working on the islands recovered numerous eighteenth century artefacts. The largest collection of material was discovered by a firm of guano miners, Broadhurst, McNeil & Co., on Gun Island in 1893, some of it buried to depths of 4-5 feet (1.2 to 1.52 m). The collection was purchased from the finders by the State government in 1895 and passed into the custody of the Western Australian Museum in 1901. The identity and provenance of the objects are sufficient to link this site with the survivors of the *Zeewijk*.

In 1968, British Petroleum erected an oil drilling rig on the island, demolishing the guano miners' camp-site on the east side of the island and unearthing human skeletal material at the south west end of the island during the removal of sand for the drilling rig platform. In 1974, an archaeological evaluation of the island was carried out by Bevaqua for the W. A. Museum (Bevaqua, 1974). Then, in 1976, 1977 and 1978, the maritime archaeology department undertook a comprehensive archaeological investigation of the *Zeewijk*, including surveys and test excavations of land sites in order to identify regions likely to yield archaeological remains (Ingleman-Sundberg, 1976; 1977; and 1978). The most intensive work was carried out on Gun Island but other islands in the Pelsaert Group were visited also and subjected to surface survey and/or limited test excavation, particularly where sites were reputed by informants to have previously yielded Dutch artefacts.

From the historical journals relating to the VOC ship *Zeewijk* it is known that survivors on Gun Island lived in ten 'messes' or camps. Artefacts recovered by guano miners in the late nineteenth century came from an area on the southern coast of the island known traditionally as the '*Zeewijk* camp-site', [Area 2, map (iii)]. The southern and western coasts of the island were left undisturbed and are now the only part of the island left with any substantial amount of topsoil, the remainder of the island having been mined for guano down to the limestone bed-rock.

Archaeological material was recovered from several test locations in these 'undisturbed areas' of Gun Island. The work carried out identified a number of habitation or special activity sites. On the southern coast, between Mutton Bird Hill and Lunch Point [maps (ii) and (iii)], Areas 1 to 7 represent areas where concentrations of artefacts have been recovered from archaeological test-holes, indicated by the rows of black dots on the map. Likewise, on the western coast, Areas 8 to 11, between Lunch Point and Point Happy, also yielded artefacts. Areas in between these sites were largely sterile.

Six areas (Areas 1 to 6) along the southern coast of Gun Island were likely encampment sites or 'messes' and one area (Area 7) appeared to be a storage area, possibly for provisions to be taken on board the *Sloepie*. On the western coast, Area 8 produced artefacts consistent with an ordinary mess but Area 9 to the north of it appeared to be a much larger encampment, possibly occupied by survivors involved in the construction of the *Sloepie*. In Area 11, at the northwest point of the island, test trenches yielded artefacts consistent with boat-building. Other evidence, based on the journal entries, water depth soundings, suitability of the site for launching and anchoring a boat, and so on, all appear to suggest that this is the site where the survivors built and launched the *Sloepie*.

Classification of sites on Gun Island.

The Areas 1 to 11 may be provisionally classified as follows:

1. Mutton Bird Hill to Lunch Point.

- Area 1 **Ordinary mess:** bottle fragments, drinking glasses, barrel hoops, clay pipes, charcoal, bones and some personal belongings.
- Area 2 **Large encampment** - possibly the Officer's mess, or remains of two major camp-sites observed by surveyor John Forrest in 1879 and Florance Broadhurst in the 1890s. Heavy concentration of artefacts, more than in any other location on the island. Area known to local people as the '*Zeewijk* camp-site'. Very fragile area situated in sand dunes with artefacts having been found on or near the surface.
- Areas 3 to 6 **Ordinary mess sites:** artefact assemblages as for Area 1
- Area 7 **Storage area** - possibly for provisions to be taken aboard the *Sloepie*. Artefacts include barrel hoops; bones - beef, pork and seal; bottle fragments, clay pipes, musket balls and parts of a pistol.

2. Lunch Point to Point Happy.

- Area 8 **Ordinary mess:** artefact assemblage similar to Areas 1, 3,4,5 and 6.
- Area 9 **Major encampment site** - possibly survivors involved in the construction of the *Sloepie*. Bottles, clay pipes, drinking glasses, ceramics, bones, barrel hoops, iron, charcoal, buttons, tools, coins, dice, pulley sheaves and nails were among the artefacts found in this area.
- Area 10 **Non-specific site:** fragments of nails, iron and glass found in test holes in a depression on the beach but assemblage did not suggest a specific activity site.
- Area 11 **Probable construction site of the *Sloepie*.** Test trenches revealed few artefacts associated with camp-sites. Pulley sheaves, pitch, whole and fragmented iron bolts and nails were more likely to be associated with boat-building.

3. Mutton Bird Hill to Ross Point.

Burial site or graveyard.

Test holes in this area were sterile except for a few seal bones. In 1965-8 however, British Petroleum unearthed 'several' Dutch graves in this area while removing sand to build a platform for an oil drilling rig [possibly ZW.A15831 and ZW.A16361]. It is possible that the area could contain more buried human remains. Skeletal material was also recovered by the guano miners in 1893 but whether it was from this location is uncertain. The material is held in the Department of Anthropology collection, W.A. Museum (ZW.M3789 and ZW.M3790).

4. Eastern coast.

Test holes in this area were sterile.

5. Central area of island.

Resource sites (water) - rock holes or 'wells'.

Water was collected regularly from rock-holes or 'wells' on Gun Island. The 'main well', RH 20, at the northern end of the island, was drained and the mud at the bottom geologically probed. A fragment of 'onion' bottle glass was the only cultural material found, at a depth of 1 metre under the mud.

6. Remainder of the island.

Surface artefacts - including loose sherds of metal and 18th century glass - were found in various places around the island, in particular near rock-hole number 15, the area of the guano miners' camp on the east side of the island, and at the north end of the island where broken Dutch bottles appeared to have been discarded from guano screens.

Maritime archaeological significance. Based on archaeological evidence, the sites on Gun Island designated Areas 1 to 11, have a direct cultural association with the historic shipwreck *Zeewijk*. Although a substantial amount of material was recovered during test excavations, it is likely that further material remains in unexcavated areas in these regions. Archaeologically, the site offers limited potential for future work owing to the natural and human disturbance that has occurred over more than a century.

The multiple site (i.e. 'Gun Island') falls into category 4 (1) (b) and (c) of the Maritime Archaeology Act. It is nationally and culturally significant: it is a site of European encampment pre-dating the European colonization of Australia, making the artefacts recovered among the earliest European cultural relics to be found in Australia; it is the site where the first ocean-going vessel in Australian history was built, possibly incorporating native timber; and it is the site where some of the *Zeewijk's* crew were buried.

Recommendation: that the whole of Gun Island be protected as a maritime archaeological site under sections 4. (1) (b) and 4. (1) (c) of the Maritime Archaeology Act and as a protected zone under section 9. (1) of the

Maritime Archaeology Act, with particular reference to the restriction of digging and/or any major earthworks or building without Museum approval.

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AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 ABROLHOS SHEET 1640 (EDITION 1) SERIES R 611.

(ii) Sketch-Map of Middle Island by R.W. Fairbridge, 1945.

SITE 7. Middle Island (1:100 000 GH 838985) 28° 55' S., 113° 56' E.

SITE DESCRIPTION: (i) Wells used by *Zeewijk* survivors; (ii) sailmaker's scissors reported to be found by *Zeewijk* survivors.

Background History: The islands of the Houtman Abrolhos have no natural supplies of fresh water although rainwater collects in natural holes in the limestone bed-rock during the winter months, deeper holes or "wells" retaining their water for variable periods. One of the most pressing needs of the *Zeewijk* survivors was to procure fresh water. Although there was some water on Gun Island, it was insufficient for the number of people living on the island for nine months.

Using small boats recovered from the shipwreck, the survivors explored the islands of the Pelsaert Group in search of water, seals and other potential food or useful resources. A good supply of fresh water was found on 'the large island' - now believed to be Middle Island - and frequent excursions were made from Gun Island to collect water from this location. Notations on the *Zeewijk* charts indicate that the survivors believed the well to have been dug by previous sailors as they reported finding a 'pair of sail-maker's scissors' on the island. It is possible, however, that these could have been washed ashore from the *Zeewijk* or alternatively, have been left by the crew of the *Fortuyn* or the *Aagtekerke* (Henderson, 1980: 39-44).

During his survey of the Pelsaert Group in 1840 in HMS *Beagle*, Stokes failed to visit Middle Island and therefore missed finding its valuable source of water (Stokes, 1946, 2: 150); it only became known to him later, most likely from the account of John Gilbert, an ornithologist. Gilbert visited the Pelsaert Group in January 1843 in company with Captain Daniel Scott, Harbourmaster, and salvor of the *Ocean Queen*, wrecked on Half Moon Reef in September 1842. Gilbert reported an inexhaustible supply of water on Middle Island, the well being 'merely a hole in the limestone on the lowest part of the island, and about 100 yards inshore from a sandy beach on the east side near the southern end' (*Inquirer*, 19/4/1843). The presence of hoops and portions of casks led him to suppose that the crew of the *Beagle* must have visited Middle Island to obtain water. This was clearly an invalid assumption, but one which has often led to confusion as to the origin of material observed by Gilbert and recovered in more recent times from the island.

Gilbert reported that there were also 'numerous Dutch jars, and bottles, which have perhaps been lying there for the last 200 years...' The crew of the *Ocean Queen* were said to have landed on 'one of the large islands of the Abrolhos Group' and stayed for two days (*Inquirer*, 12/10/1842). But, since they were attempting to reach Fremantle, to the south, when they took to their boats, it is more likely that they landed on the southern end of Pelsaert Island rather than Middle Island, which lay to their north, in the middle of the Pelsaert Lagoon. Even if the *Ocean Queen* crew did visit Middle Island rather than Pelsaert Island, Gilbert's specific reference to 'Dutch' jars and bottles indicates that he clearly did not associate these finds with the wreck of the Whitby barque *Ocean Queen*, which had foundered only four months previously (Gilbert visited the wreck in January 1843).

In 1847-48, the Pelsart Fishing Company operated in the Abrolhos members of this company reporting finds of human skeletal material, coins, belt buckles, an officer's epaulette, part of a sword with the name "Houtman" on it, and so on, on islands occupied by them (*Perth Gazette*, 15/4/1848). They discovered water in a well in the rock on an island they named "Bolt Island" on account of an 'iron bolt' having been fixed in the rock by the well. They assumed this had been left by Houtman. Skeletons were also found on one of the "Mangrove" islands, again with 'Dutch' bottles that appeared to have been thrown away 'as they had been emptied during a carouse' (*Perth Gazette*, 15/4/1848).

Although there is no definite indication that these reports refer to the Pelsaert Group, the name of the fishing company, likewise its schooner *Pelsaert*, and the fact that they were shipping 'superior quality' guano from the Abrolhos, tends to suggest that this is the region in which the company were operating. The area had received a good deal of publicity following its survey and charting by HMS *Beagle* and attention was drawn to the valuable guano deposits on Pelsaert Island. The Pelsaert Group is also noted for the presence of mangrove trees on some of the islands. One of the proposers for a Joint Stock Fishery in the Abrolhos was a Mr Helpman. This could well have been Lieutenant Helpman of the Colonial Schooner *Champion*, and ex-officer of the *Beagle*. Having missed out on the trip to the Abrolhos in the *Beagle*, he was anxious to re-investigate the findings of Stokes and Wickham. In 1844 he visited Pelsaert Island to collect samples of guano and would have been familiar with the area's potential for fishing and other maritime ventures (C.S.R. File 132/172). It seems likely, therefore, that these early accounts of Dutch material refer to islands of the Pelsaert Group rather than the Wallabi Group. The well referred to on "Bolt Island" could possibly be the southern well on Middle Island but there is no positive evidence for this.

In May 1963, Edwards et al. found broken glass and pottery, and old barrel rungs in the surrounds of the main well on Middle Island (*Daily News*, 10/5/63). An intact onion-shaped bottle was recovered by Brian Stagg

from bushes near the well (*Daily News*, 7/5/63). In 1978, the Western Australian Museum expedition investigated two wells on Middle Island. The largest well on the southeastern side of the island was pumped out and a 1.5 m deep layer of black mud searched for artefacts. Only bird bones, stones and shells were recovered. Near the opening of the well, however, sherds making an almost complete Rheinisch saltglaze stoneware jug with stamped decoration on the neck and belly were found (see ZW 5506). The restored jug is now on display in the Maritime Museum.

At the north end of the island, test excavations were carried out in a smaller well believed to be 'the narrow neck well', referred to in van der Graeff's journal (30/9/1727). No archaeological material was recovered. In 1979, Museum staff made random surface finds of other saltglaze stoneware jug sherds compatible with the *Zeewijk* (ZW 5545 & 5562).

Classification of sites.

1. **Resource site (water) - well** at southeastern end of Middle Island to north of stone structures; assemblage indicates intermittent visitation for the purpose of obtaining water - stoneware jug and fragments; glass bottle and fragments; barrel rungs; pieces of clay pipe stems; and fragments of leather.
2. **Resource site (water) - well** at northern end of Middle Island. No archaeological finds but historic records suggest an association with the *Zeewijk* survivors (van der Graeff, 1727 [journal]).

Maritime Archaeological Significance. Ceramic material from Well No.1 at the southeastern end of Middle Island is sufficient to link this site with the survivors of the historic shipwreck *Zeewijk*. Middle Island's water resource was probably one of the major factors contributing to their survival. Surface material further indicates that *Zeewijk* survivors visited the island though there is little in the journals to suggest that they used the island for any other purpose other than to collect water. The absence of obvious concentrations of artefact deposits (such as those on Gun Island) which might indicate an occupation area appears to substantiate the historical record. The island has little surface soil cover and is one of the few islands in the Pelsaert Group which does not appear to have been mined for guano, though it has clearly been occupied at some time during the nineteenth century. Although a systematic surface survey was not undertaken (again because of concern for the fragile environment), it would appear that the island has limited potential as a future source of 18th century artefacts; few objects have ever been reported as being positively found in this location either in the nineteenth century or in more recent times.

Recommendation: that the whole of Middle Island be protected as a maritime archaeological site under sections 4. (1) (b) and 4. (1) (c) of the Maritime Archaeology Act and that the well be specifically protected within a protected zone of 100 metres radius under section 9. (1) of the Maritime Archaeology Act, with particular reference to the restriction of digging and/or any major earthworks or building without Museum approval.

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AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 ABROLHOS SHEET 1640 (EDITION 1) SERIES R 611.

(ii) Geological Map of PELSART ISLAND by Teichert, 1946.

(iii) HOUTMAN'S ABROLHOS near the W COAST of NEW HOLLAND From Van Keulan: Dalrymple 1782.

(iv) Jan Steyn's map, 1727 [of the Pelsaert Group].

(v) Adriaan (van) de Graaff's map, 1727 [of the Pelsaert Group].

SITE 8. Pelsaert Island.

SITE DESCRIPTION: (i) Sawn-off mangrove tree stumps (1: 100 000 GH895955); and (ii) artefact and wreckage deposit areas on the west side of the island (1: 100 000 GH 880920).

Background History: To the *Zeewijk* survivors, Pelsaert Island initially appeared to be the shore of the mainland. Consequently, six men set off in a small scow on 19 August 1727 with the aim of reaching this 'mainland' and investigating its resources. Contrary to their expectations, they found the land to be an oblong island, rich in seals, birds and fish and the occasional 'laurel tree' (van der Graeff, 3/9/1727). At the south end of the island, on the east coast, they recovered their gig, two rafts and miscellaneous wreckage from the *Zeewijk*. On the west side of the island they found a ship's figurehead (or gallery figure) but believed this to be from an earlier shipwreck, rather than the *Zeewijk*, likewise the beams, planks, bolts and other wreckage which was strewn along the east coast of the island (see Henderson, 1978 and 1980: 39-46 for discussion).

The *Zeewijk* journals indicate that several visits were made to the 'long island' (Pelsaert Island). Parties of two to eighteen people spent up to four days and nights on Pelsaert Island at each visit, but there is no indication of one particular spot being regularly chosen as a camp-site. From the sketch maps it is clear that they explored the whole island very carefully, and probably camped in various places.

The island was found to be a good source of driftwood and, in addition, clumps of mangrove trees grew in the central part of the island. Journal entries and notations on the sketch maps have been variously translated, some versions implying that the mangrove trees were cut to provide knees for the vessel under construction (i.e. the *Sloepie*), while translated notes from Jan Steyn's map suggest that the drift wreckage was used to fashion the knees of the ship and the mangrove timber was cut for dunnage and firewood. In Zuiderbaan's translation of the *Zeewijk* journal 'knees' is often translated as 'trees' (1977:26-27).

The central clump of mangroves on the west coast of Pelsaert Island, [Mangrove Bay on map (ii)] (c. GH 895955) were noted to be 13 feet (3.9 m) on Stokes' chart and 15 feet (4.57 m) high on British Admiralty chart 1723 (corrected to 1950). In 1979, trees on the northern shore of the bay were found to show clear evidence of stumps which had been sawn off some considerable time ago (see photo).

During the nineteenth century, the southern end of Pelsaert Island was heavily mined for guano by Broadhurst, McNeil & Co., the same company that worked on Gun Island. On Pelsaert Island, however, they did not report finding any Dutch artefacts during their diggings though objects have clearly been recovered by people working the guano deposits on the island and by visitors to the island post World War II.

A complete stoneware beardman jug, recovered from Pelsaert Island in 1906, was recently donated to the Museum. It was found by Captain Arthur Davis, former manager of Broadhurst's guano plant on Pelsaert Island and later a partner in the Geraldton firm of Davis & Fallowfield, which continued working the deposits after Broadhurst relinquished his lease in 1904 (Rob Thomas, 1988, personal communication).

The jug (ZW5580) has clearly come from the marine environment and has signs of abrasion around the belly of the jug where it has obviously been rolled around on the seabed. No location was given as to its exact provenance on the island but it is likely that it was washed up somewhere on the western coast of the island, possibly on the beach near the old guano settlement (GH 878905) or further north where the island begins to narrow (GH880920). In 1979, and on earlier visits by the WA Museum to Pelsaert Island, ceramic and glass sherds were found in the shallows and washed up in the mangroves and saltbushes on top of the limestone reef platform in this vicinity, approximately 100 m north of the Moresby bench mark AG 13 (or 17). The assemblage of material was mixed, containing modern beer bottle glass, fragments of green glass bottles consistent with material from shipwrecks of the mid-nineteenth century and flat 'case' bottle fragments, more in keeping with the *Zeewijk*. Stoneware beardman sherds (compatible with the *Zeewijk*) were also found in this region in 1978 by Peel Howden (MAAWA).

Strong currents of 2-3 knots run from south to north within the Pelsaert Lagoon over extended periods and material washed over Half Moon Reef tends to be deposited more in the southern part of the lagoon than in the northern part. A strong tidal current is pressed northwards along the southwest coast of Pelsaert Island and material is carried rapidly along the shore. It is to be expected, therefore, that from time to time small sherds and/or other small artefacts from the *Zeewijk* (or other colonial shipwrecks in the region) may be found along the southwest shore of Pelsaert Island.

In the 1930s Walter W. Trigg had a hut on the west side of the southern end of Pelsaert Island in the region of the 19th century guano miner's camp. Following a period of rough weather, he recovered a centuries old 'flagon' which was floating in the water a few metres from the shore (Uren, 1940: 53). An onion-shaped

wine bottle was found in 1949 on the north-eastern part of the island by Messrs Finlay Beaton and Ron Smith and given to Mrs Cecilia Cook (*West Australian*, 12/2/1949). More recently, a brass gimbal mount was found at the north end of the island by Mr. R.G. Bone of Mt. Tarcoola. While it was comparable to similar fittings from the *Vergulde Draeck*, it could just as easily have come from a vessel of the colonial period.

Classification of sites.

1. **Resource site** (timber) - sawn off mangrove tree stumps (GH 895955).
2. **Artefact deposit site** - material that has drifted across the lagoon (approximately GH 880920)
3. **Wreckage sites:** (a) *Zeewijk* gig (approx. GH 878906 - possibly beach used by 19th century guano miners); (b) Figurehead (approx GH 898962).

Maritime archaeological significance: It is clear from the historical records that survivors from the *Zeewijk* visited Pelsaert Island for the purpose of investigating its resources. Their utilization of wood from the mangrove trees for firewood, dunnage and possibly boat-building is evidenced by the sawn-off stumps of certain trees on the west coast of the island. In the absence of any substantial concentrations of cultural material, save that which appears to have drifted across the Pelsaert Lagoon and been deposited along the southwest coast of the island, these trees today are perhaps the clearest evidence of the survivors' presence on the island.

Recommendation: that the southern end of Pelsaert Island, the mangrove area on the west side of Pelsaert Island and an area of shoreline on the west side of the island, 10 metres wide and extending for 100 metres to the north of the HMAS Moresby Bench Mark be protected as maritime archaeological sites under section 4. (1) (b) and (c) of the Maritime Archaeology Act.

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AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 ABROLHOS, SHEET 1640 (EDITION 1) SERIES R 611.

SITE 9. Murray Island. (GH 825998)

SITE DESCRIPTION: Well used by *Zeewijk* survivors.

Background History: On 8 March, 1728, *Zeewijk* survivors reported finding a well of reasonable water on an island midway between Gun Island and Middle Island (i.e. Murray Island). In 1978, a geological core was sunk in the well on Murray Island to compare the sequence with sites on Gun Island and assess their age (Brown, 1978: 24-25). No Dutch artefacts were recovered from the sediment and there is little in the journals which suggests the survivors made regular visits to the island as they did to Middle Island.

Classification:

Resource site (water) - visited by *Zeewijk* survivors.

Maritime archaeological significance: the well on Murray Island is historically significant in terms of the *Zeewijk* incident but does not appear to offer any archaeological potential.

Recommendation: that the well on Murray Island be recognized as a place of historic interest.

References:

Brown, R.G., (1978)

Preliminary Report on the Geology and Sedimentology of Selected Sites Associated with the Wreck of the V.O.C. Ship Zeewijk, Gun Island, Western Australia.

Report - Department of Maritime Archaeology

Western Australian Museum, No.8.

Sites associated with colonial shipwreck survivors and/or maritime industries.

AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 ABROLHOS, SHEET 1640 (EDITION 1) SERIES R 611.

(ii) 1: 2000 PELSART ISLAND, JOB 780265, 1979.

(iii) 1979 Site plans.

SITE 10. Southern end of Pelsaert Island.

SITE DESCRIPTION: (i) temporary encampment site of survivors from the *Ocean Queen*; (ii) Maritime industrial site - 19th and 20th century guano mining settlement and activity sites.

Background History: (i) On the night of 13 September, 1842 the 268 ton barque *Ocean Queen* was wrecked on Half Moon Reef in the Pelsaert Group. Members of the crew were said to have landed on one of the large islands where they stayed for two (? ten) days. The most accessible island from the wreck site would have been Pelsaert Island and it seems reasonable to assume that the survivors landed here. Artefacts - cannon balls, iron bolts, rings etc. attached to timbers -which might have come from the *Ocean Queen* were observed by Gilbert in 1843 on the South Island (Pelsaert Island). There is no evidence, however, to support this and the objects could equally have washed ashore from another shipwreck (possibly even the *Zeewijk*). Likewise, no archaeological evidence has come to light which might identify the site of encampment of the *Ocean Queen* survivors.

(ii) Guano mining was established on Pelsaert Island in 1890 by the firm of Broadhurst, McNeil & Co. They built accommodation and storage facilities on the island; constructed jetties to facilitate the transshipment of guano to vessels anchored in the Pelsaert Lagoon and land stores; and, laid down a system of rail tracks to enable guano to be transported from the guano fields to the jetty (Stanbury, 1982). When Broadhurst relinquished his lease in 1904, the mining was continued by Davis & Fallowfield of Geraldton until the 1920s. [N.B. this is the same Captain Arthur Davis who recovered a *Zeewijk* stoneware jug.] During World War II, the southern end of the island was again heavily mined, this time for rock phosphate (rather than simply the live guano), by the British Phosphate Commissioners. Their operations were wound up in 1946, following which, attempts were made by two ex-R.A.A.F. Officers, Messrs. Fox and Gaze, to use the vacated buildings as a holiday centre. The lack of fresh water and crude accommodation facilities, together with the government's concern for the preservation of the island's birdlife, eventually brought the somewhat unsuccessful venture to a close in 1951. The B.P.C. buildings were finally demolished in a storm in 1961 since which time the only permanent structure erected on the island has been the lighthouse, in 1974. In 1965, when the Abrolhos Islands became vested in the Ministry of Fisheries and Fauna for the purpose of 'Conservation of Flora and Fauna, Tourism and for purposes associated with the Fishing Industry' (L & S File, 3756/29; Reserves Act, 1965, No. 87), it was determined that Pelsaert Island should be kept free of all settlement so that any future lease proposals for tourist development would not be compromised by the existence of structures or other forms of occupation. To date, there has been no development although the matter is the subject of frequent debate.

Classification of sites.

1. **Possible encampment site** - *Ocean Queen* survivors; not identified.
2. **Occupation or settlement site** - 19th and 20th century guano miners (1: 100 000 GH878906). Both groups established their living accommodation in the same general area on the west side of Pelsaert Island. Archaeological remains representing the various periods of occupation have been identified and remain *in situ* in this area - cement foundation slabs for dwellings and water storage tanks; an enclosure for animals; remnants of miscellaneous structures; glass, ceramic, iron and other artefacts associated with a settlement area. A piece of Muntz metal sheeting (PI 2494) from this area was chemically analysed and found to correspond with Muntz's 1846 patent. It could possibly relate to a historic shipwreck.
3. **Northern guano field** - environmental evidence of guano mining including pick-axe marks on limestone bed-rock; archaeological evidence of 19th century modes of guano transportation (i.e. rail tracks and trucks); and 20th century portable rock-screening plant with a rotating trommel screen and bucket elevator and hoppers for loading motorized tip-trucks; 20th century wheels and axle from tractor-drawn scoop for digging guano; man-made well and other remains.
4. **Southern guano field** - environmental evidence of guano mining; few late 19th century beer and spirits bottles recovered.
5. **Guano loading bay and chute** - 20th century (guano stockpile area near Moresby bench mark AG13 - see Figure).
6. **Phosphate loading wharf and causeway** - 20th century (leading from 4).
7. **North jetty (settlement area)** - 19th century, for loading guano onto lighters for transshipment to larger carriers; the railway line from the guano fields would have extended the length of the jetty. Wooden pile stumps, fallen pylons, railway line and truck wheels are evident underwater.

8. **Centre jetty (settlement area)** - 20th century, for unloading supplies for the settlement.
9. **Limestone causeway** (rock groyne) - 20th century, for unloading heavy equipment such as trucks, tractors, and so on.
10. **Quarry** (south of settlement area) - 20th century; source of limestone from which causeways were constructed.
11. **Wooden punt or lighter** (settlement area beach) - 20th century; contained circular steel guano hoppers with bucket-type lifting frames so that they could be emptied directly into the hold of guano carriers.

Maritime archaeological significance: A number of vessels associated with the Abrolhos guano trade have been lost either in the Houtman Abrolhos or elsewhere on the Western Australian coast. Among them are the following:

1. ***Ione*** - Fremantle-built schooner of 25.51 tons, owned by Florance Broadhurst from 1893 to c. 1904. Lost off Port Gregory on 4 August 1907.
2. ***Neptune*** - Perth-built wooden cutter of 21 tons, owned by Charles then Florance Broadhurst from 1885 until her loss in Geelvink Channel near Geraldton on 13 June, 1901. Referred to as one of Broadhurst's lighters.
3. ***Orpheus*** - 52 ton wooden schooner owned by Broadhurst & McNeil and used by them for transporting stores and gear. Vessel ran aground on a reef near Woody [sic] Island (probably Wooded Island in the Easter Group of the Houtman Abrolhos) on 5 February, 1897 and was abandoned. The vessel was later salvaged and re-named the *Harriet Constance* only to be reported a total loss on 8 March 1907.
4. ***Pelsart*** - 64 ton ketch built in Perth in 1899, owned by Florance Broadhurst and trading under the name of Broadhurst & McNeil. Sold to the Swan River Shipping Co. in 1907 and to Whim Wells Copper Mines in 1908. Wrecked 12 miles northwest of Imperieuse Reef on 16 October 1908.
5. ***Nautilus*** - private yacht, owned by Broadhurst & McNeil. Lost off Gun Island on 17 August 1879.
6. ***Marten*** - wooden schooner of 27.35 tons, owned by the Browse Island Guano Company, lost on the South Island (the former name of Pelsaert Island) of the Pelsaert Group on 4 March 1878 while on a voyage from Adelaide to Browse Island.
7. ***Hadda*** - 316 ton wooden barque wrecked on 30 April 1877 off Beacon Island, Wallabi Group, while on a voyage from the Lacepede Islands under charter to a Melbourne firm engaged in the guano industry.
8. ***Nugarea*** - 99 ton vessel owned by Messrs Fallowfield & Co. (Guano contractors) of Geraldton. False keel broken and engine disabled off the Abrolhos Islands on 9 February 1912 while carrying a cargo of guano.
9. ***Seaflower*** - 53 ton vessel totally lost at Cape Leschenault on 19 September 1923 while carrying a cargo of whale oil and guano.

Although the Muntz metal sheeting is the only artefact found on the site which might be directly related to a historic shipwreck, the site provides a useful context in which to study the inter-relationship between patterns of land-use and shipping in the Houtman Abrolhos in the nineteenth and early twentieth century. Such an approach is likely to provide an explanation as to why certain colonial ships were wrecked in this region.

Recommendations: that the area of Pelsaert Island including and southward of the 20th century phosphate loading jetty be protected as a maritime archaeological site under section 4. (1) (c) of the Maritime Archaeology Act and/or the forthcoming Heritage legislation if this is deemed more appropriate.

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Pelsart Group Expeditions. Aquinas College Third and Fourth Expeditions to the Pelsart Group of the Houtman's Abrolhos. Aquinas College, Perth.
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 Guano - A Forgotten Fertilizer. *Our Land*, September 1982: 7-10.

AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 ABROLHOS, SHEET 1640 (EDITION 1) SERIES R 611.

SITE 11. Northeastern end of Pelsaert Island

SITE DESCRIPTION: Shipwreck survivors encampment: *Marten* (1878) and *Ben Ledi* (1879).

Background History: These two vessels were wrecked in the same vicinity on the northeast side of Pelsaert Island (Lat. 28° 56' S, Long. 113° 47'30" E (McCarthy, 1981: 3;18- 25). Survivors from both shipwrecks are known to have come ashore. Three of the *Marten's* crew stayed behind on the island while the master and two men rowed to Geraldton (Uren, 1940: 120). Those from the *Ben Ledi* used sails to rig up tents (Uren, 1940: 118). To date, shipwreck remains of the *Marten* have not been located and material consistent with a wooden ship has not been identified among the shore remains. It is reasonable to assume therefore, that the concentrations of artefacts on the land site are associated with the survivors of the *Ben Ledi*. The remains were surveyed in 1979 by McCarthy (1981).

Classification:

Ben Ledi survivors' encampment - sheathing fragments and other miscellaneous material.

Maritime archaeological significance: the site is historically significant as one occupied by shipwrecked survivors of the *Ben Ledi*. No excavation of the area was undertaken and it is anticipated that material associated with the *Ben Ledi* may still be present in this area.

Recommendations: that the *Ben Ledi* survivors' encampment be protected as a maritime archaeological site under section 4. (1) (b) and (c) of the Maritime Archaeology Act within a protected zone of 100 metres radius under section 9. (1) of the Act with the restriction that no digging be undertaken without Museum approval.

References.

McCarthy, M., (1981),

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AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 ABROLHOS, SHEET 1640 (EDITION 1) SERIES R 611.

(ii) Sketch-Map of Middle Island by R.W. Fairbridge, 1946.

SITE 12. Middle Island.

SITE DESCRIPTION: Shipwreck survivors refuge. (i) Two stone structures; (ii) burial site.

Background History: (i) In a report on his visit to the Houtman Abrolhos in 1879 for the purpose of assessing the guano deposits, John Forrest made note of the 'remains of two old stone houses [on Middle Island] erected by a fishing party from Fremantle' (Forrest, 1879). One structure still resembles part of a rectangular building but the other appears to be a tower a little under 2 metres square and 2 metres high. In 1946, Fairbridge noted that 'In the south-east [of Middle Island] there are some ruined buildings, including a stone tower 10 feet high from which a commanding view may be had of the whole lagoon, no part of its rim being more than 6 nautical miles distant' (1946: 19). The structures are marked on his sketch-map as a 'Ruined hut' and 'STONE TOWER (10\')' (Fairbridge, 1946, map ii). The fact that only one ruined hut is marked on the sketch-map tends to suggest that this was the only structure recognizable enough to be worthy of inclusion. It is possible that the second hut was partially demolished to provide stone for the construction of the tower. Tomato plants seen growing on the island by Fairbridge (1946: 21), and still present today, are evidence of earlier human occupation.

So far, no evidence has come to light which conclusively explains the origin, date of construction or function of these structures. These questions thus remain a matter of conjecture. One of the first colonists to venture to the Abrolhos from Fremantle for the purpose of fishing was Anthony Curtis (*Perth Gazette*, 6/1/1844, p. 2), but there is little to indicate that he established a base on Middle Island. It seems more likely that the Pelsart Fishing Company, established in 1847, was responsible for their construction since members of this company were reported as finders of Dutch material on 'islands lately occupied by them' (*Perth Gazette*, 15/4/1848). In December 1848 the company was reported to have moved their station to an island more suited to their operations, one where fish and trepang were abundant and the guano superior to any previously procured. The presence of water on Middle Island would certainly have been an attraction for settlement but the island does not ever appear to have been abundant in guano and there are few indications that the resource was commercially exploited on Middle Island.

An alternative theory is that survivors from the wooden schooner *Venus*, wrecked in the Abrolhos Islands on 10/4/1851 while returning to Fremantle on a voyage from Singapore, may have erected the structures as a shelter and signalling station. Three of the five remaining survivors are reported as having arrived at Champion Bay in a small dinghy after surviving for seven months on seal meat and rice 'obtained from the wreck' (*Perth Gazette*, 7/11/1851). The other two survivors were rescued by a Mr. George Green (McCarthy, 1981: 9).

(ii) A grave with headstone engraved:

Here lieth the body of John Williams Seaman, died April 1851 in the wreck of the *Venus* aged 41 years.

was observed on Middle Island in 1879 by John Forrest (Forrest, 1879). This evidence tends to support the assumption that the survivors from the *Venus* stayed on Middle Island, although a search for a grave with headstone in 1979 was unsuccessful. In 1978, members of the *Zeewijk* expedition discovered a human skeleton covered by a sheet of corrugated iron to the north of the stone structures. Anthropological identification of the skeleton indicated that it was a non-European male which suggests that another grave exists somewhere on the island.

Classification of sites:

1. **Stone structures** - (a) former 'house' or hut; and (b) stone tower; 19th century glass and brown and white transfer ware earthenware fragments found in the vicinity of the structures in 1976, 1977, 1978 and 1979 by W.A. Museum expeditions.
2. **Burial sites** - historical evidence of grave of *Venus* crewman John Williams; archaeological evidence of non-European burial.

Maritime archaeological significance: Apart from being a site used by the *Zeewijk* survivors, Middle Island is historically and culturally significant in terms of its use as a refuge and burial place by shipwrecked mariners of the *Venus*.

Recommendation: that the whole of Middle Island be protected as a maritime archaeological site under sections 4. (1) (b) and 4. (1) (c) of the Maritime Archaeology Act and that the two stone structures be specifically protected within a protected zone of 100 metres radius under section 9. (1) of the Maritime Archaeology Act, with particular reference to the restriction of digging and/or any major earthworks or building without Museum approval.

AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 ABROLHOS, SHEET 1640 (EDITION 1) SERIES R 611.

(ii) 1: 2 000 SWEET ISLAND, 1979. R. G. Brown & Myra Stanbury.

SITE 13. Sweet Island (1: 100 000 GH 800978)

SITE DESCRIPTION: Maritime industrial site - guano mining.

Background History: In addition to the guano deposits on the larger islands in the Pelsaert Group - for example Gun Island and Pelsaert Island - several of the smaller islands had profitable amounts of guano too. The geological formation of these islands - raised limestone platforms undercut by wave-action - made access difficult, especially for vessels required to transport the guano. The surrounding waters of the islands are generally quite shallow with the result that causeways and jetties had to be built to facilitate access and the removal of guano from the islands. The remains of quite lengthy causeways may be seen on several islands together with environmental evidence of guano mining.

In 1979, a geological and land survey was carried out on Sweet Island in order to map the observed archaeological features (Brown & Stanbury, 1979). The most striking of these is the alteration to the natural landscape resulting from the mining of guano. Discarded limestone rocks have been stacked to form 'walls' some over 2 metres high. These, together with other significant remains are shown on map (ii).

Classification of sites:

1. **Temporary or semi-permanent encampment site** - northeast promontory; limestone rocks delineate three sides of an 8 x 4 metre rectangle in the vicinity of which was scattered refuse consistent with a camp-site. This included 19th century glass bottles and sherds; iron nails and fragments of barrel hoops; mammal bones; rail iron; a large baler shell; a section of tree trunk; wood fragments and charcoal.
2. **Transportation facilities** - evidence of rail tracks extending from a jetty at the southeast promontory to a wooden stake on the northern part of the island together with two guano sleds (see Figures).
3. **Causeway and jetty** - southeast promontory; 120 metre long limestone causeway at the end of which are submerged wooden jetty piles, lengths of tramline, firebricks and other miscellaneous debris.
4. **Manmade rock walls** - mainly on the western side of the island and alongside the rail tracks.

Maritime archaeological significance: Sweet Island is a particularly good example of the alteration of landscape features resulting from historical patterns of land use and economic development. The wooden sleds (last seen on the island in 1979) represent a stage in the development of land conveyance and, in terms of mining technology, the sleds indicate a less sophisticated form of transport than that used on Pelsaert Island.

Recommendations: that Sweet Island be recognized as a place of historic interest and considered for protection under the forthcoming Heritage Legislation if this is appropriate.

AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 ABROLHOS, SHEET 1640 (EDITION 1) SERIES R 611.

SITE 14. Number One Island (GH 812986); Number Three Island (GH 799989); and Number Eight Island (GH 789998); Davis Island (GH 805980).

SITE DESCRIPTION: Maritime industrial sites - guano mining.

Background History: Several of the smaller islands in the Pelsaert Lagoon were mined for guano in the 19th and early twentieth century. Surface artefacts were recovered from some of the islands in 1979 and many are compatible with the guano mining technology of the period and/ or evidence of human activity on the islands.

Classification of sites:

1. **Number One Island** - small finds included an iron seaman's identity disc with the mark 'ABII' indicating Able Seaman Second Class.
2. **Number Three Island** - railway lines, iron dog nails, and wooden broomheads are all compatible with 19th century guano mining.
3. **Number Eight Island** - several late 19th century firebricks including one marked 'Rumley' and one marked 'BOXHILL C°, BOXHILL' (of Victoria, and datable to c. 1897 - 99).
4. **Davis Island** - 19th century wine bottle and fragments of woven iron mesh, probably from a guano sieve used for screening out roots and stones.

Maritime archaeological significance: these islands are historically and culturally significant inasmuch as they demonstrate the historical pattern of land use and economic development in the Houtman Abrolhos. Detailed archaeological survey of the islands has not been undertaken and they offer some scope for comparative analysis.

Recommendation: that the small islands in the Pelsaert Lagoon, in particular those mentioned above, be recognized as places of historic interest and considered for protection under the forthcoming Heritage Legislation if this is appropriate.

AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 ABROLHOS, SHEET 1641 (EDITION 1) SERIES R 611.

(ii) 1: 1000 GUN ISLAND 1976, Surveyed and drawn by J.W. Willis

SITE 15. Gun Island

SITE DESCRIPTION: Maritime industrial site - guano mining.

Background History: In 1879, during his survey of the Abrolhos Islands, Forrest reported that there was little guano on Gun Island 'except a small quantity heaped up by some one a short time ago on the North end....' (Forrest, 3/4/1879). By this date, the islands in the Pelsaert Group were a known source of guano and the Pelsart Fishing Company which operated there from 1847 to 1849 regularly shipped guano from the islands (*Perth Gazette*, 28/10/1847). In 1883, the guano firm of Broadhurst, McNeil & Co. obtained a lease to mine twenty islands in the Houtman Abrolhos. They initially established a station on Rat Island in the Easter Group but in 1890 moved their operational headquarters to the Pelsaert Group. Here, they established settlements on Gun Island and Pelsaert Island. The natural topography of the islands was substantially altered as a result of mining and this is particularly evident on Gun Island where almost the entire island was stripped of guano (see Map ii). The miners' encampment on the east side of Gun Island was demolished in 1968 by British Petroleum during the drilling of Gun Island 2 stratigraphic well (Moncreiff, 1978: 2).

From pre- oil drilling aerial photographs and a detailed survey of the island in 1976 (Willis), it was possible to identify and map many of the features associated with the guano mining period of occupation (see Map ii).

Classification of sites:

1. **Occupation site** - 19th century guano miners; area surrounding NM/F/635.
2. **Quarry** - inshore from causeway; probable source of limestone for construction of causeway south of occupation site.
3. **Tramline foundations** - the main tracks extend along the east and west coast and to the central and northern regions of the island. They would have originally converged close to the start of the causeway, the rail track continuing out to the loading jetty.
4. **Rock piles** - rocks discarded during the mining process.
5. **Causeway and jetty**- east coast, south of miners' occupation site; limestone causeway extends for 23 metres out to sea at the end of which would have been a wooden jetty.

Maritime archaeological significance: In addition to its historical and cultural association with the wreck of the *Zeewijk*, Gun Island was a major guano settlement in the late nineteenth century. Its founders, Charles Edward Broadhurst and his son Florance, were well-known colonial entrepreneurs. The site is significant in terms of the historical pattern of land use and economic development in the Houtman Abrolhos. However, owing to destructive interference as a result of oil drilling in 1968, the site offers minimal potential for future archaeological investigation.

Recommendations: that the guano mining sites on Gun Island be included in the overall protection of the island as stated in the recommendation for Site 6.

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Gun Island Geological Thoughts. Report - Department of Maritime Archaeology, Western Australian Museum: No. 7.

Perth Gazette, 28/10/1847

Stanbury, M. and Brown, Ray, (1979),

Report on the 1979 investigations into the nature of human activity and settlement on Pelsaert Island, Houtman Abrolhos, Western Australia. (Unpublished).

AREA: Houtman Abrolhos

LOCATION: Pelsaert Group

MAP: (i) 1: 100 000 ABROLHOS, SHEET 1641 (EDITION 1) SERIES R 611.

(ii) 1: 15840 ABROLHOS ISLANDS WALLABI GROUP VICTORIA, Houtman Rocks, B8051/2, Press 17e 325, 22.4.1898

SITE 16. West Wallabi.

SITE DESCRIPTION: Maritime industrial site - guano mining.

Background History: To date, little detailed historical information regarding the activities of the guano miners on West Wallabi has been compiled. The first licence was granted to L.A. Manning in 1876 but whether he established any permanent camp on the island is not known. It is also uncertain whether West Wallabi was one of the islands included in Broadhurst's lease of 22 islands from 1884 but this seems probable.

By 1897, when A.J. Wells undertook a survey of the guano deposits on the island, a house had been erected about midway along the northwest coast of the island (Map ii). From this point, a wooden jetty extended out to sea, submerged remains of the wooden jetty piles still being visible in 1980. Running WSW from the jetty was a tramline, its route still being identifiable in 1986 by made-up ground and the remains of wooden sleepers, particularly at the southern end of the track in the proximity of Horseyard Bay. A horseyard on the east side of the southern end of the tramline (Storr, 1965: Figure 1) was barely identifiable in 1986, a concentration of grasses and weeds being the only clue to its location. The well called 'Horse well' by Storr (1963, Figure 1) is a substantial well and was found to be protected with a sheet of corrugated iron in 1986. A series of limestone cairns and wooden survey posts at various points of the island are likely to relate to the survey undertaken by Wells in 1897.

Maritime Archaeological Significance: In addition to being an island occupied by the *Batavia* survivors, West Wallabi is historically significant in terms of the pattern of land use and economic development of the Houtman Abrolhos.

Recommendation: that the areas of the island formerly associated with the mining of guano be recognized as being historically significant.

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