

# MAAWA



1974-1978

A REVIEW OF THE PAST  
FOUR YEARS INVOLVEMENT  
IN MARITIME ARCHEOLOGY  
AND HISTORY.

EDITOR  
MIKE M<sup>C</sup>CARTHY

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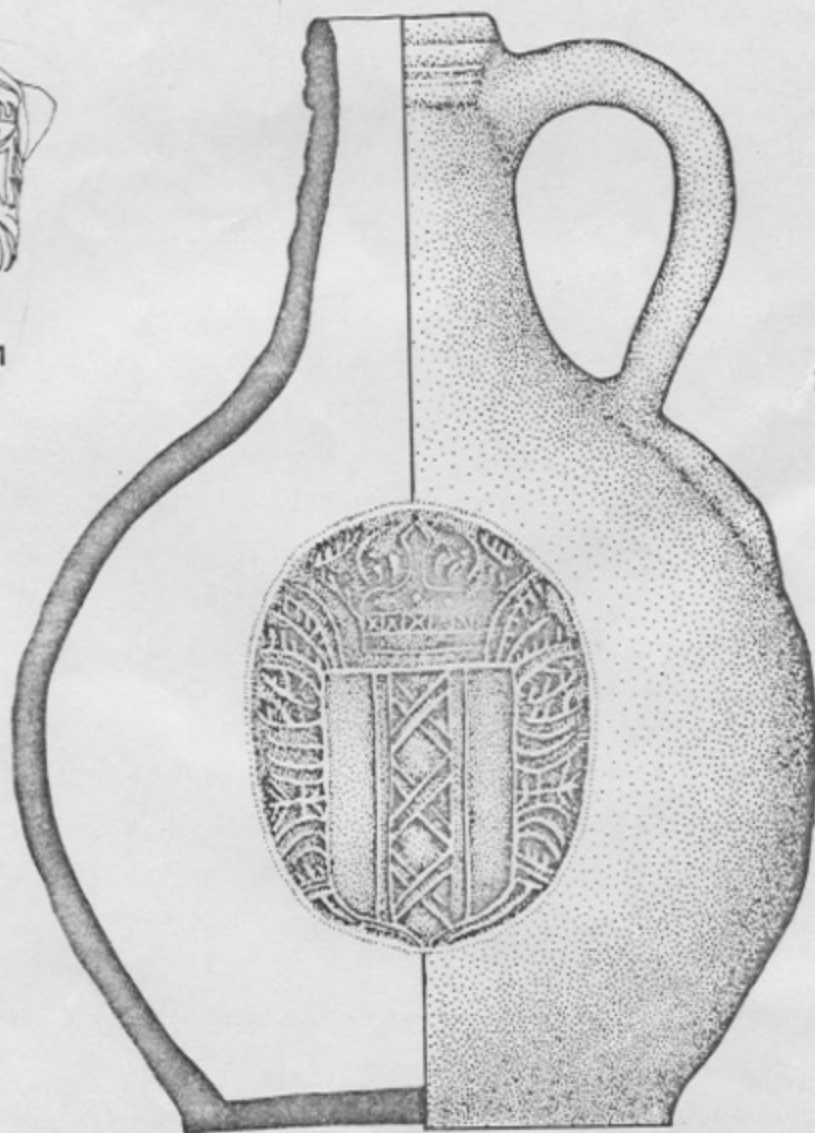
Typing by museum staff and Cynthia Baker.



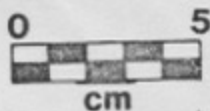
BAT 2481



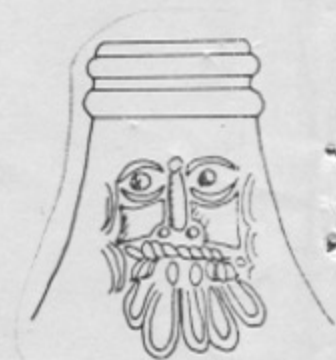
BAT 354



Batavia Stoneware  
drawn by  
Myra Stanbury.



BAT 2397



BAT 2055

## Introduction

The Maritime Archaeological Association of Western Australia was formed in October, 1974.

Since that time the Association has become the amateur wing to the Marine Archaeology Department of the W.A. Museum and it is the source of much of the voluntary labor and expertise used on Museum projects. The Association has developed its expertise steadily, such that it now operates its own projects and often uses museum equipment and workboats.

The following are members personal reminiscences of various projects undertaken over the years. They are deliberately kept on a personal and informal level and as such give an insight into the human aspect of our involvement in what is becoming a very exact and demanding activity.

In chronological order they are as follows:

### OCTOBER-DECEMBER 1974

#### "A Summary of Shipwrecks in and Around the Port of Fremantle".

(Author Denis Robinson) published by the Fremantle Port Authority. An excellent small publication summarising the vessels wrecked (in alphabetical and geographical order). In October Denis and Raina accompanied Assistant Curator, Scott Sledge on an inspection of over 30 wrecksites on the North West coast from Broome to as far South as Jurien Bay. (Exerpts from Scott Sledges Report) A kelp cutting programme was undertaken by the association in November to allow a photo-mosaic and survey of the Lady Elizabeth (1878) site. This was the first group project undertaken by the Association and was finally completed with the display of the photo-mosaic at the Marine Archaeology Conference held in Perth late in 1977. Details of that work are outlined by Steve Hill.

### 1975

Association members worked solidly on the ex slaver JAMES MATTHEWS (1841) the only known slaving hull excavated to date. Over 7,000 roofing slates were recovered and many hours over many seasons were spent drawing and airlifting, water dredging, cataloguing and sorting out of materials on site. Mike Pollard describes the preliminary work undertaken on site.

Tony Rechner also reports on the DATO project (commenced 1975); an investigation of a wreck found upside down in Careening Bay.

### 1976

An expedition including Association members left in April to work on the V.O.C. ship Batavia (1629) wrecked on the Abrolhos Islands west of Geraldton. On this project members worked alongside the museum staff on site, in reef searches, and in the drawing up, cataloguing and conservation of material found. (Bill Marshall Reports)

Members prepared to depart for a long expedition on the Zeewijk (1727), another V.O.C. ship lost in the Southern Abrolhos. Work undertaken included swimline searches and land excavation. (Peel Howden) A wreck

(subsequently identified as the Day Dawn (1886) was found. In March, 1976 this project became one of the most ambitious undertaken by the association, as it was given a virtual free hand in the excavation and investigation of the site. Profiles of the hull were taken using equipment designed and constructed by project leader and association president Lindsay Hill, while other association members were involved in the archival research, surveys of local residents, drawing up and conservation of artifacts raised. The Association has produced a brief report on the excavation soon to be published in the Journal of Nautical Archaeology and is producing a detailed analysis of the project for publication in book form. President Lindsay Hill gives an on site report while Ron Stevens describes the work undertaken on the drawings.

This project together with the Batavia and Zeewijk projects carried into 1977, whilst throughout the year searches (successful and otherwise) were conducted by other groups for undiscovered wrecks. Work was also commenced on an investigation of the old Fremantle Jetty, a rich source of old bottles and sundry artifacts. (Mark Cliff).

A group of 11 West Australians including Association members worked on the site of the 42 gun frigate Santo Antonia De Tanna an historic Portuguese wreck in Mombasa Harbour, Kenya, East Africa. (Conrad Groen reports).

#### 1977

This year saw the conclusion of the Day Dawn project with the lifting of the capstan for conservation by the Association. (Report by George Green)

A group accompanied Museum officer Warren Robinson on an investigation of a well thought to have been used by survivors from the Vergulde Draeck (1656), another Dutch ship lost off the Western Australian coast. (Raina Robinson reports).

#### 1978

Projects were commenced on a study of the relative output and efficiency of water dredges and airlifts and on the investigation of a 'Wall of Stones' believed to be the remains of the ex hulk Redemptora (1910's), scuttled south of Fremantle. (Bill Marshall and Russell Miners).

3 Cement "kegs" were raised by Association members from the wreck of the Sepia (1898) using the museum workboat Henrietta and further field days were held on the use of magnetometers and metal detectors.

Some Association members were also involved in a search for anchors lost from the Dutch vessel Wackende Boey off Yanchep, north of Fremantle, while another group operated a large scale swimline search of the shoreline of Jervoise Bay in an effort to pinpoint any unknown wrecksites before the area was resumed for heavy industry and shipyards. (Drew Bathgate).

The Zeewijk expedition involving Association members was a great success and Lyn Hall gives the story from the women's point of view.

There was also a great deal of individual and joint research conducted by Association members and a number of articles published, notably a lengthy and very learned treatise on coal hulks by Historian Richard McKenna.

Other articles come from Wally Marshall who outlines his activities with the M.A.A.W.A.; Mark Cliff (Conservation of materials), Graham Anderton on Hunting for Wrecks, A Diary of M.A.A.W.A. activities by Secretary Denis Robinson, Scott Sledge on Finding a Wreck.

Following the completion of this 1974-1978 review, the Association plans to produce a regular informal report on its activities, excerpts from which may be published in a new Australia wide publication due to be printed shortly.

Mike McCarthy  
Editor.



BAT 2213

Daily News, Wednesday, September 6, 1978

## DIVERS IN BIG WRECK HUNT

By Tony Fitzpatrick

Seventy WA divers have turned wreck-hunters.

The divers, members of the WA Maritime Archaeological Association, are doing an underwater survey at Jervis Bay for the WA Museum.

The Fremantle Port Authority has allowed them to use the area, which is a former graveyard for ships.

Association secretary Mr Denis Robinson said the survey was being conducted because of a proposal to establish a shipbuilding industry in Jervis Bay, in Fremantle's outer harbour. "We know of at least eight wrecks. However, records show there are others which so far have not been located.

He warned boat users to keep clear of marker buoys and boats flying the international divers signal—flat A—in the search area.

The four-year-old association is conducting the survey as a diving exercise.

"THE Museum and the Port Authority want to know the loca-

tion of the wrecks for historical and reference reasons," Mr Robinson said.

He said that up until about 1911, Jervis Bay was used as a dumping ground for old hulks.

"Many of the ships were scuttled in the bay or run onto the beach as precious metals were salvaged from them.

"Other ships were wrecked there."

Mr Robinson said most diving activity would be concentrated about 100 metres offshore to about 10 metres depth.

Divers recently found the wreck of the 42-metre Redemptora lying on a sandy bottom near a cluster of rock.

"We think she is of Brazilian origin because of her timber structure and we believe that the rock around her was used as ballast.

"She was apparently dumped there around 1888," he said.

Western Australia is the largest of the Australian States, comprising approximately one third of the total area of Australia, and has a coastline of some 6,450 kms (4,000 miles).

It has been estimated that there are 1,500 shipwrecks scattered throughout the State with concentrations, naturally, around the main shipping centres such as Fremantle, Bunbury, Albany, Port Hedland, Broome and trouble spots such as the Abrolhos Islands.

The Western Australian Museum has been charged with the care of the historic shipwrecks, that is, those wrecked before the year 1900. With limited funds and a small staff of less than 10 persons, made up of university graduates and technical assistants, working at the present rate of one or two surveys, excavations, preservation and display per year, it would take at least a hundred years to do the important wrecks. One must realise that there are now wrecks up to 77 years old that are not covered by law. It must also be borne in mind that some of those 'modern' wrecks may be up to 30 years old when they were wrecked. It becomes quite obvious that as work goes on the old wrecks, the modern ones become just as important to future generations as the historic wrecks are to us. An alternative solution to the problem had to be found — increase the staff or enlist the services of interested amateur diver/researchers and train them in the technical aspects of maritime archaeology.

### THE ROLE OF THE AMATEUR IN MARITIME ARCHAEOLOGY

Denis Robinson

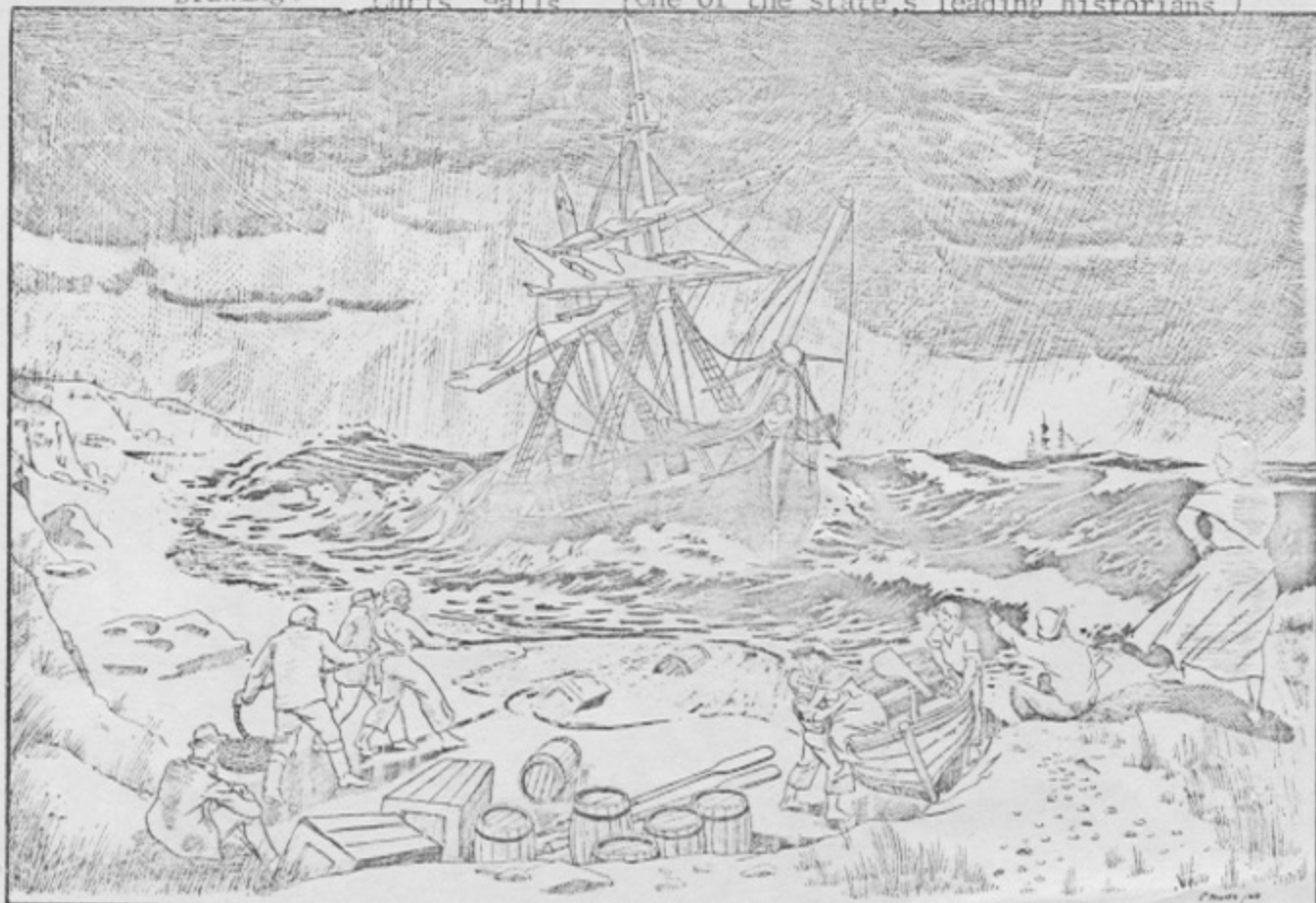
# SHIPWRECKS

## Map Reference Areas

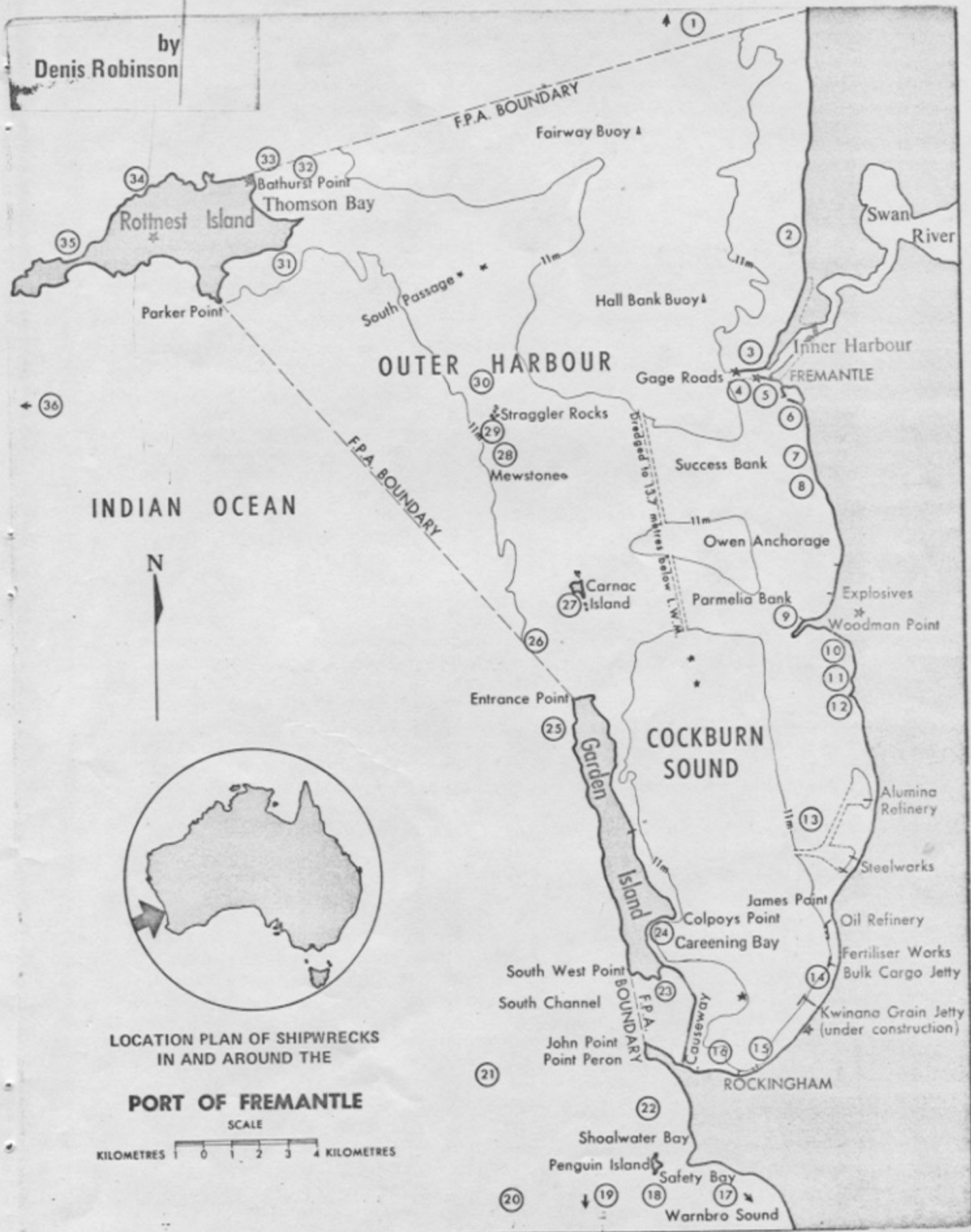


- |   |  |   |   |
|---|--|---|---|
| 1. Centaur  | 10. Abemama<br>Alacrity<br>K X1 (submarine)                    | 21. Orizaba                                 | 34. City of York  |
| 2. Elizabeth  | 11. Gemma  | 22. Cumberland                              | 35. Herald<br>Mira Flores<br>Pauline  |
| 3. Eagle<br>Greenup<br>Susan  | 12. Conference<br>Harrison<br>Helen<br>Herschell<br>Redemptora | 23. Cambria<br>Devonshire                   | 36. This area, south west of<br>Rottneft Island, is "the<br>Graveyard" for these<br>scuttled ships.   |
| 4. Advance<br>Antelope<br>Lygnern<br>Samuel Plimsoll                  | 13. D9 (Dredge)  | 24. Annie Lisle<br>Dato<br>Rockingham       | Banksfield<br>Cape Otway<br>Clevedon<br>Concordia<br>County of Caithness<br>Egmont<br>Eucla<br>Fremantle<br>Governor<br>Junee<br>Kirkcudbrightshire<br>Kos VII<br>Lalla<br>Lock Ness<br>Maranda<br>Narwhale<br>Robert Moore<br>Sesa<br>Tamerlane<br>Thornliebank<br>Tocopilla |
| 5. Marquis of Anglesea<br>Thames                                      | 14. Kwinana  | 25. Twinkling Star                          |   |
| 6. Argo<br>Canning<br>Inbat<br>Kebroyd<br>Mana<br>Mary Smith<br>Vixen | 15. August Tellefsen   | 26. Sepia                                   |   |
| 7. Fitzgerald<br>Sea Nymph<br>Wyola                                   | 16. Contest  | 27. H.M.S. Success                          |   |
| 8. Orneo  | 18. Belle of Bunbury<br>Bungaree<br>Chalmers<br>Star           | 28. Zedora                                  |   |
| 9. James Matthews   | 19. Highland Forest<br>James Service<br>Thisbe                 | 29. Lancier                                 |   |
|   | 20. Carlisle Castle  | 30. Ulidia                                  |   |
|   |  | 31. Lady Elizabeth<br>Raven                 |   |
|   |  | 32. Denton Holme<br>Gem<br>Janet<br>Macedon |   |
|   |  | 33. Transit                                 |   |

An artist's impression, based on a contemporary newspaper account, of the wreck of the ELIZABETH which went aground on South Cottesloe Beach in 1839. Drawing by Chris Halls (One of the state's leading historians.)



by  
Denis Robinson



INDIAN OCEAN

N

LOCATION PLAN OF SHIPWRECKS  
IN AND AROUND THE

PORT OF FREMANTLE

SCALE

KILOMETRES 1 0 1 2 3 4 KILOMETRES



An Excerpt from Wreck Inspection 1974

By Scott Sledge

17/11/74 - Sunday - Pt. Cloates - Frazer Island

Despite generally unfavourable conditions, we managed to inspect two wreck sites this day.

After an early breakfast, Denis and I loaded up the boat and drove Betsy down to Ningaloo whence we launched near the freezer shed.

Weather: fine, cool. Winds: stiff breeze, gusting from SE to SSE and by evening back to SE, 20-30 knots. Seas: high, frothing chop, moderate swell breaking 2-3 metres on outside reef; strong inshore current all day.

Motored 'Turtle' nearly due west towards conspicuous boiler rising approx. 2 metres above the reef, continued west about 500 metres after crossing inshore reef until the propellor struck, breaking the prop swing. We immediately dropped the pick, mooring approx. 100 metres NE of the wreckage, part of which could be seen in the soup on top of the outside reef. According to Edgar Lefroy this the 'Perth'. (Edgar, Billie and Jane Lefroy operate Ningaloo Station, the site of an exciting new wreck found in 1978. Editor's note.)

Because the water was not more than 2 metres deep between our anchorage and the wreckage, I decided to walk out, but this failed due to strong currents and crumbling sharp coral. I turned back to fetch my flippers. Clutching measuring and recording gear in one hand and using the other to pull ourselves along against the current, which was too strong to swim against more than a few metres at a time, we eventually made the reef top which was awash. Thinking to stand and raise myself out of turbulence which carries one away at a tremendous pace when one loses hold of the bottom coral, I rose up triumphantly to look around. I maintained my footing at least 5 seconds before the first wave broke and washed me away, bumping painfully across the jagged coral.

Eventually, and with much difficulty, we gained the lumps of wreckage which lay awash. All about these lumps, besieged by tumbling surf, pieces of iron hull plating fastened with rivetted L-shaped angleiron ribs lay on the bottom. In vain we searched for some identifiable or measurable section among the morass of corroded, oyster-covered iron, all the while hanging on tightly to anything stout enough to hold us in place in the furious turbulence of the surf.

Let us say that conditions were less than ideal. We quailed at our prospects for remaining alive should we attempt to reach the boiler 20 metres distant on the outside edge of the reef. The swells breaking there sent water spraying out of holes in the boiler like it was a bursting water main. This site should be seen in flat calm weather at spring low tide. If any small artifacts remain amongst the wreckage on the reef, I should be very much surprised. At any rate, we didn't find any.

Losing our hold, we allowed the racing current to speed us along towards the boat. On the way, I noticed two broken iron water or fuel tanks. I managed to pick up a bent and eroded length of copper tubing and a broken red brick. I neglected to mention, but on one lump of wreckage on the reef a bit of the wooden decking remained. It was some hardwood, probably oak. I took a sample.

After replacing the broken prop spring with a spare, we motored N by W with a following sea along the line of reefs to a low coral sand atoll called Frazer Island, where we beached and ate lunch among great flocks of terns. A reconnaissance of the barren islet turned up a few bottles, bits of wooden flotsam, fish and whale bones, a crumbling unopened food tin and lumps of coal. A hundred metres south of the island lies an overturned iron-girder light tower and 40 metres west of it the remains of an iron steamer which Edgar says is the whaler 'Fin'.

A heavy boiler and condenser motor pinioned the small hull against the sandy bottom. On the lee side some of the lower hull remains intact. The strong current and high chop hampered our efforts, but we managed to take some measurements

Returning to the launching place against the wind and sea we got very wet indeed. The Seagull spluttered occasionally in protest, but kept running.

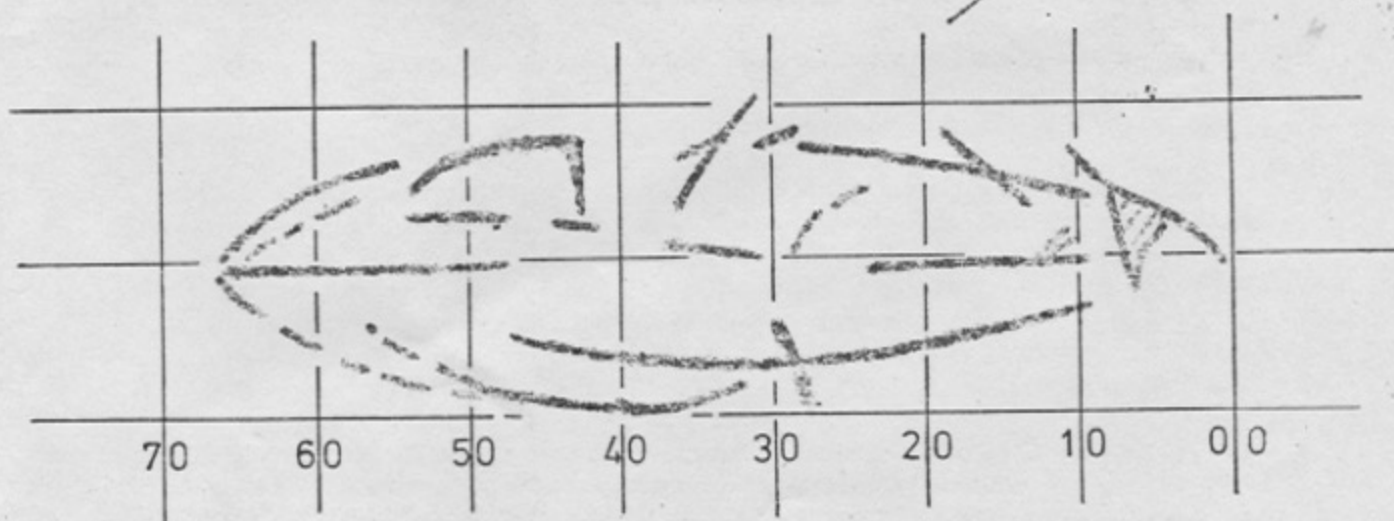
We reloaded the boat and equipment in Betsy, and returned exhausted to camp, where Raina had dinner ready.



BAT 326

3½ Hours Boat running  
29 Miles Vehicle running

Scott Sledge  
1974



FROM AIR PHOTO No. 5098 COAST RUN Q 101 1975.

SCALE 1: 500

Iron Wreck - Jerviose Bay .... by Don Edwards

"THE LADY ELIZABETH"

On the 24th July, 1878, the "Lady Elizabeth" struck a reef off Dyer Island on the South Eastern extremity of Rottneest Island.

Bound for Shanghai she carried a cargo of approximately 600 tonnes of sandalwood at the time of disaster.

The M.A.A.W.A. was formed in 1974 and some of its first tasks were to clean the wrecksite of weed so that the subsequent survey and photographic mosaic could be completed using the knowledge and experience of the staff from the W.A. Maritime Museum.

The "Lady Elizabeth" is approximately 60 metres in length and is lying with her bows in 7 metres of water and her stern on the reef in 2 metres. She struck stern first onto the reef after dragging her anchors and it is this section that is totally devastated and through the eyes of the novice the wrecksite resembles little of her former splendour.

During the years that the vessel has lain on the ocean floor, the constant battering from the seas, as well as corrosion and electrolysis have resulted in the iron frames and wooden planking corroding, giving a visual picture of iron plate and beams protruding in every direction possible. Muntz metal sheathing can still be seen within the wrecksite along with the odd brass bolt, the latter becoming fewer as the years pass and the visits of sports divers increase.

Once the wrecksite has been cleaned of a vast amount of kelp, a more detailed survey was conducted. Personnel from the W.A. Maritime Museum moved in giving a practical lesson in setting up the survey the time taken to this stage was five months. From March of 1975 through till November of the same year the work on the wrecksite continued but on a reduced level, due mainly to the colder weather. The project at this stage had advanced to a point where about half of the required photos had been taken to complete a photo mosaic. The matching up of the photos had started and problems were being experienced.

It was found that because no scale had been strictly adhered to during the processing of the films, matching up of the photos was a harder task than it appeared from the onset. The photos were fitted together and it was not until September of 1977 that the drawings were completed. The mosaic was subsequently used in the First Southern Hemisphere Conference on Maritime Archaeology to display what was possible by persons who were not recognised as marine archaeologists but, who given the opportunity, could produce the goods.

It was at this point that a decision to rephotograph the wrecksite making sure it was covered in total, was made. With several years of knowledge and experience gained on other projects as well as modern sophisticated photographic equipment and the use of the museum's workboat, "Henrietta", the association set to once again and within a few weekend dives the wrecksite had been completely photographed. This time a square grid was used.

Firstly as a guide to aid photography and secondly it provided a constant scale when processing the hundreds of photographs.

THE DISCOVERY AND PRELIMINARY MAPPING OF THE JAMES MATTHEWS

It was on a chilly overcast morning the 22nd July 1973 that a small party of seven divers from the Under-water Explorers Club assembled at the small beach on the north side of Woodman's Point. A brisk north-westerly was blowing and raising a nasty chop in the water but we decided that we would carry on with our planned swim-line search to look for an abandoned vessel (the Helen) that the Harbour Master reported leaving on the beach at Woodman's in March 1890. Each diver was about 10 ft from the next and most of the time were out of sight of each other as visibility was down to about 5 ft.

The end man Jon Carpenter was to swim along the edge of the bank and we all kept our dressing on him by sighting along the line. Those of us with  $\frac{1}{2}$  filled tanks were in the shallows 5 - 10ft, those with full tanks in deeper water.

I was in the shallowest water and ran out of air first. I tried to carry on the search from the surface but the visibility was so poor that I couldn't see the bottom so I came in. Then Ken C. ran out of air and came in and reported that just as he ran out of air he had seen a large timber mass on the bottom and that it was definitely wreckage. Things looked hopeful.

The next diver to come in had a round granite ballast stone in his hands and reported lots of wooden wreckage and piles of grey sheets that were soft, as they scratched easily, but that he could not identify them and ran out of air before he could prize one loose. A few moments later two others emerged holding among other bits and pieces, slates. This decided the identification, we had indeed found a wreck but the wrong one. The Helen is still lost, but we had found the James Matthews instead.

As we were now all out of air, lungs were left on the beach and

Firstly white nylon lines were strung the full length of the wrecksite two metres apart. The grid was then placed over the line and photographed from the surface, the grid was then moved forward along the line and the process repeated.

Once the photographs had been taken they were then processed into black and white prints by association members using the facilities of the W.A. Museum. During the processing the square grid in each of the photos was reduced or enlarged as it was necessary to maintain a constant scale with the previous photograph. By following this the job of assembling prints was made as easy as possible.

Each print was numbered per the negative as it was processed so that it could be assembled in the same order as it had been photographed. Once the prints had been glued down to a large sheet, a tracing was made of all the objects and visible structure so as to eliminate the dark areas lacking detail found on the mosaic.

From this tracing it was then possible to re-photograph the wrecksite as a detailed drawing for use in publications.

#### LADY ELIZABETH

1878

Map ref 31

Left Fremantle bound for Shanghai on 24th July 1878 carrying 600 tonnes of sandalwood. Owing to heavy weather she turned back and struck a reef near Dyer Island on 30th July 1878. One life lost.

The wreck lies in 7 m of water and one mast is lying in the sand at right angles to the main section of the hulk.

Shipwrecks vi

Steve Hill, 1978.

## Govt tightens controls on wreck relics

From TONY WARTON

CANBERRA: The Federal Government has made a retrospective declaration protecting anything taken from the many historic wrecks off the WA coast.

The blanket declaration covers items salvaged from more than 40 ships—Dutch, British and some unidentified—now placed off-limits to divers under Federal law.

People who have already taken relics from any of the wrecks have 30 days to notify the museum.

If they fail to do so they become liable for fines up to \$5000 or imprisonment for up to five years.

In announcing the extension of the protection to relics as well as wrecks last night the Minister for Administrative Services, Senator

Withers, said that it included items still in the sea—or already recovered.

He has also delegated to the WA Museum the power to control wrecks and relics.

The action restores to the museum powers it lost at the beginning of this month when the High Court invalidated State legislation controlling historic shipwrecks.

Soon after that decision Senator Withers put a new Federal law into force in WA waters to ensure that the wrecks were not plundered or damaged while not covered by any legislation.

He said last night that the museum had an important role in the pro-

tection, preservation and display of historic wrecks and relics.

The delegation of the powers granted to him under the Commonwealth law would provide a sound legal basis for this.

It was an interim measure pending conclusion of a formal agreement between the Federal and WA Governments on the details of future administration of the Federal law.

Negotiations on this agreement have already started.

Senator Withers's delegation of powers gives the museum the right to:

- Grant permits for exploration and recovery

of historic shipwrecks and relics from them.

- Discover from people in WA the location of wrecks and relics.

- Give directions for the preservation or display of relics.

Legal restrictions mean that relics already taken from wrecks off WA that are now outside the State are not covered by the declaration.

Anyone in WA who has a relic or comes into possession of one has to notify the museum within 30 days, describing the relic and saying where it is.

"This requirement will ensure that historic items are properly preserved and can be available for research purposes," Senator Withers said.

"Details of the relics will be entered in a register which will be available for inspection by any interested person."

we all swam to the spot and looked around the site. She seemed to be lying on her starboard side and heading approx. North/South. The slates were still lying in neat rows as they would have been when packed into the ship in London so long ago. Most of the ship is lying under sand and sea grass and it looked as if there was a very good chance that she would be well preserved. Several slates, bits of wood and copper spikes were taken off as evidence. No trace of ceramics or glass was found. Several photos were taken with surprisingly good results despite the poor conditions. Transits were then taken.

After she had been reported to W.A. Museum they asked us if we would make a plan of the site to be used as a basis for future excavation. The rest of the winter and spring until November was spent doing this.

The site was on level ground with no surge or swell but in poor visibility it was decided to map her using triangulation. A series of posts were hammered well into the sand about 10 m outside the apparent wreck site and about 30 m apart all round the site, labelled A through K. A-H on the East side I-K on the west. On the west side we also layed in fixed iron beams that were protruding from the sand. All these fixed points were well labelled and fixed onto the other and plotted on to the chart before any measurements were made on the wreck herself. Thus we could triangulate any spot on the wreck from a series of known fixed spots and keep the length short, never more than 50 m (the length of our tape) and usually around 20-25 m. We also took soundings with a 1 m steel rod through the sand along the axis of the wreck. We hit rock on the south end which we thought was the rocky outcrop she stranded on in the account of her wrecking. How wrong we were was to be proved in the later excavation. In fact she lay bows on to the shore on her starboard side. The rocks we felt under the sand turned out to be river worn ballast stones.

A total of 12 dives were needed to complete the plan with an average of 3 divers working on each dive. 14 divers in all took part in the mapping but only 6 were regulars. This is a very cold and boring part of marine archaeology and really sorted out those that were interested and those who thought they were.

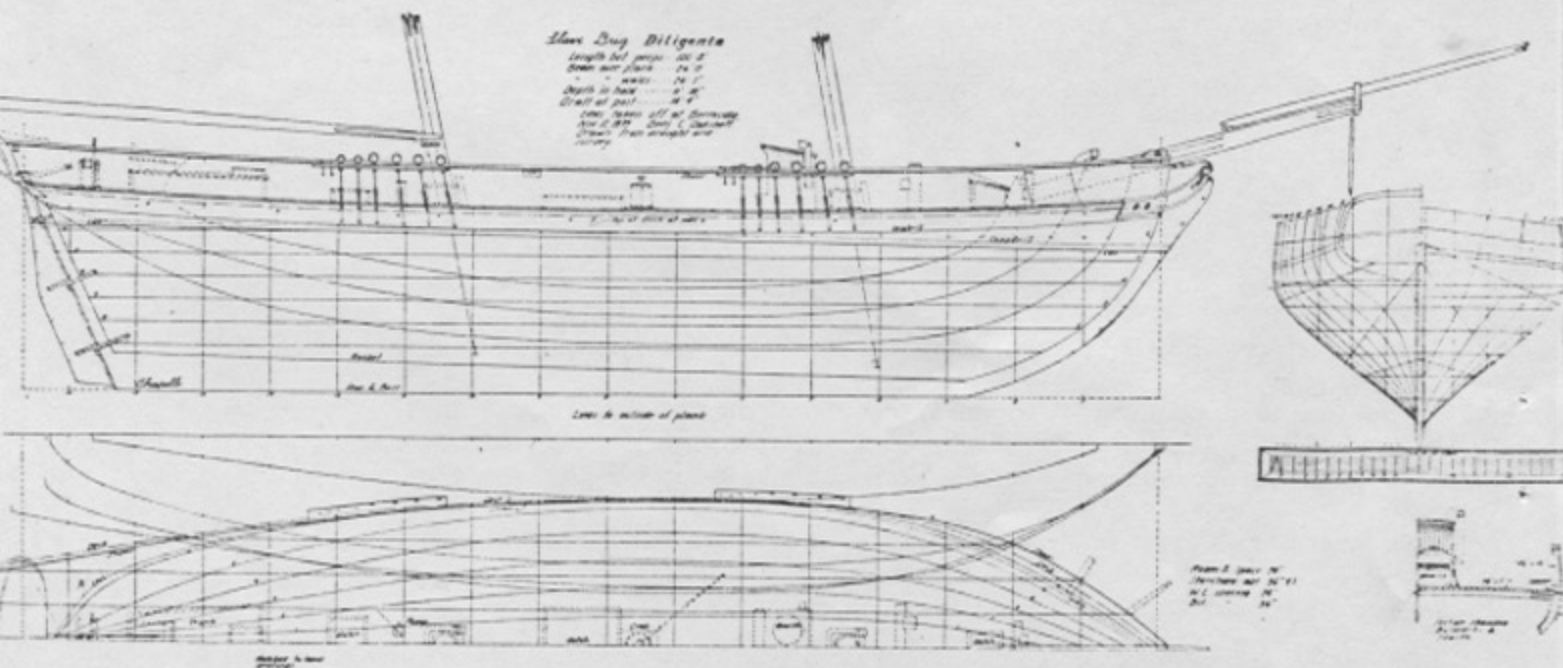
MIKE POLLARD 1978

### Background of the Wreck

The James Matthews was a snow brig of 107 tons and 25 m in length. It appears to have been French built and was employed in the slave trade as the Don Francisco when captured by the British Navy in 1837. After condemnation as a slaver the vessel was re-registered and entered into general trading in the North Atlantic before embarking on a voyage to Fremantle in 1841. A day after arriving at Owen's Anchorage the James Matthews was blown ashore and wrecked at Woodman's Point. The wreck was discovered in 1973 and Museum staff carried out excavation work during the summers of 73/74 and 74/75, raising the upper levels of the slate mound and exposing sections of the hull for drawing. The details of that work have been published in The International Journal of Nautical Archaeology (1976), Vol.5 No. 2.

by Graeme Henderson (Curator, Maritime Archeology)

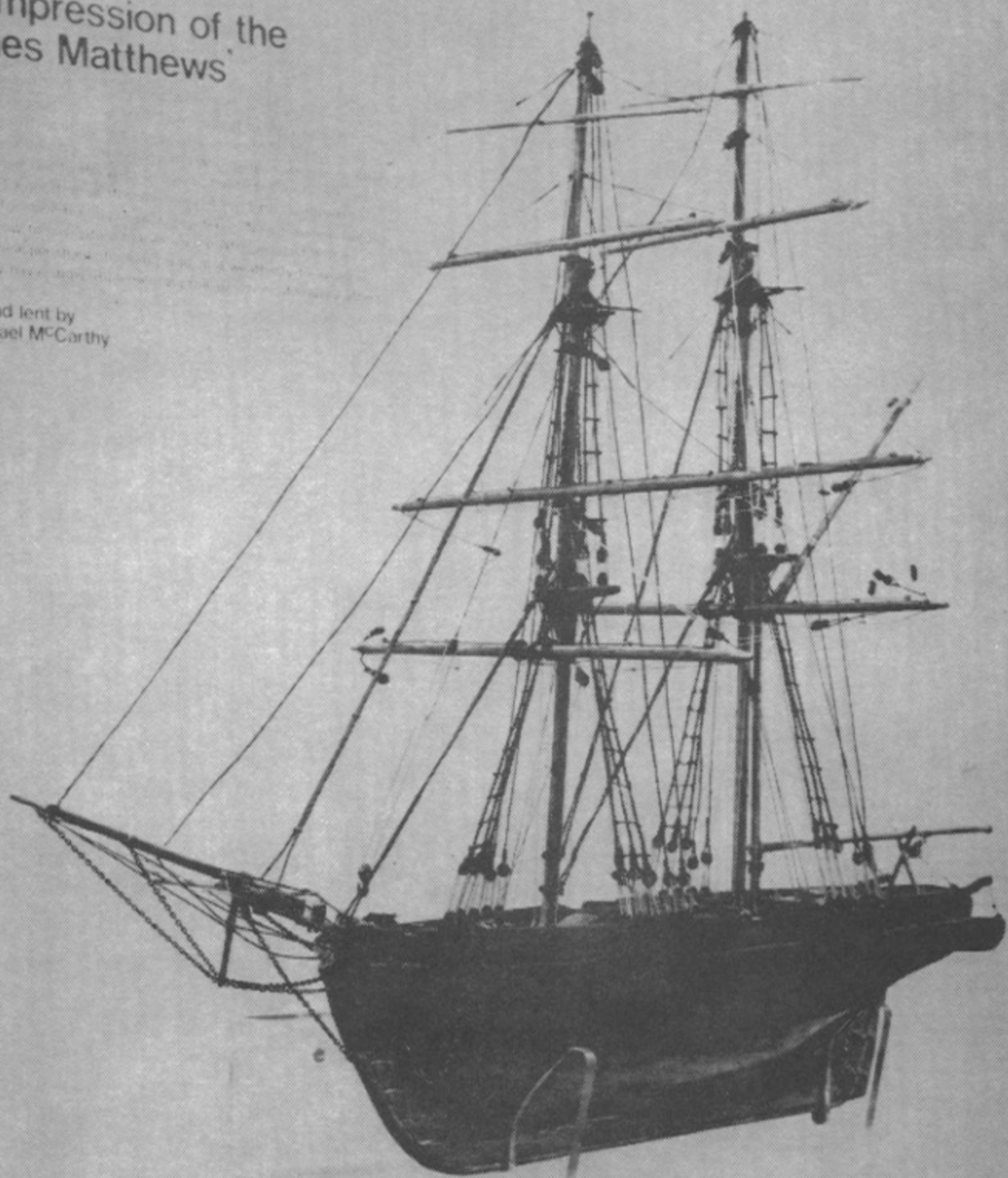
### Lines of a Slaver Brig



An impression of the  
'James Matthews'

The 'James Matthews' is a three-masted  
sloop-rigged schooner built in 1875  
at the shipyard of Messrs. J. & W. G. & Co.  
of Glasgow. She was built for the  
purpose of carrying coal to the  
Islands of the West Indies and  
other ports in the West Indies and  
the Gulf of Mexico.

1875  
Made and lent by  
Mr Michael McCarthy





The Careening Bay (Day Dawn) Project

By Lindsay Hill

In early February 1976 the M.A.A.W.A. was approached by the Museum and asked to consider the excavation of the remains of a wooden craft approximately 34 metres long in Careening Bay. It had been uncovered by a Suction Dredge that was deepening the area for the new Stirling Naval Base.

After discussing the matter with the Committee it was agreed that we would attempt to uncover the basic shape and if possible identify the Hull I was elected Project leader.

On the 21st March 1976 George Green, Alf Taw Peter Locke, Conrad Groen and myself accompanied by Scott Sledge from the Maritime Section of the W.A. Museum made a Preliminary inspection of the Site to work out how and what we would do.

Metal tube frames (see diagram) had been made to chart the contours of the side of the hull, one side of the hull being exposed by the dredging operations, but on inspection of the site it was decided that it would be too dangerous to work under the side whilst the hull was still full of sand.

A heavy Windlass approximately 3.5 metres long had been recorded as being located on the bow of the site when the Museum had made its first inspection was found to now be situated in the centre of the site, having been moved by the dredging contractors when they dragged a heavy steel anchor cable over the site.

This would have to be moved as it was in the centre of the area where we intended to sink some test holes.

On the 4th of April we returned to the site with 60 CPM compressor, 6" suction pipe, 5 44 gallon drums and more Association members and friends.

Some members were despatched to raise the Windlass and remove it from the site, which in theory is very easy to do, but in practice is quite difficult as they soon found out. One drum was observed to leap completely out of the water after having been filled with air and then broken free of its lashings, another problem was that the drums had been used for storing epoxy Resin and one of the members put his demand valve under the lung of a drum to fill it with air and on returning it to his mouth to breath found that the valve was covered in Resin, which he said in no uncertain manner tasted awful.

The problems were overcome and the windlass was moved off the site to the original location. Whilst that was going on the other group had set the compressor up on the shore and had run an air line out to the site which is only approximately 40 metres out and the first attempt was made at dredging the sand from within its Hull. The principal of being able to have a 100 mm dia flexible hose going up to the surface and connected to a 100mm solid PVC waste pipe, and by injecting air into the bottom of the pipe, the bubbles rising would force the water in front of them hence causing a strong suction action.

Our initial method was to place an open ended 20mm dia dir line up the big pipe to give us lift, but this proved to be too innefficient so a special nozzle was made (see dia) which was fixed to the bottom of the hose of the air line connected to this. We found that using the

nozzle principal we could now in fact use dredges from the same compressor without loss of efficiency. Plenty of laughs and embarrassment occurred when the hose became blocked and the air would belch back out of the bottom of the pipe and looked like a large Earth worm with indigestion. The dredging was carried out by lots of members over the next 11 months with on some weekends Bill Marshal, Mike McCarthy, Tony Rechner, Russel Miners and other people taking the gear down on a Saturday, work all day Saturday, sleep the night on the beach and have the gear set up for us on Sunday to carry on. In this manner we were able to get a lot of work done over a comparatively short period. Bill and Mike befriended some of the Old locals on the Island and were able to find some very interesting information. As we were now moving into the winter months the quality of the different types of wet suits were soon becoming evident. One person in particular, George Green, had a three piece suit, a jacket and two separate legs, as his reproduction equipment was suffering he decided to invest in a new moray suit. We were not always lonely members of the Male Gender working, as we were often assisted by Lyne Hall and Raina Robinson and some other girls and this was no mean feat as far as I was concerned as quite often it was impossible to see your hand in front of your face due to the amount of silt, dirt and charcoal in the water. We were later to discover that the hull had been burnt down to the water line & we believe deliberately scuttled.

Whilst the dredging was in progress samples of the ships timbers were sent away to be analysed. The results that came back were for example: Ulmus S.P. Possibly European Elm, or American Elm, Quercus, Possibly European or American Oak. This did not help us very much so our dredging was to continue in the hope that we would find a main Deck Beam with the Ships Official number (every ship manufactured is supposed to have its own registration number). As a considerable amount of spoil had now been removed from within the Hull it was considered safe to work under the site and to take the outer contours with the equipment previously mentioned. The intention was to compare these contours with those of known ship designs. An interesting phenomena came to light in the fact that two metal frames had been made to take the contours at the beginning of the project and when it was decided that it was unsafe to work under the site we would leave the frames on the ocean floor. Apparently one frame must have been close enough to the hull, which is clad in Muntz Metal, a copper/tin/zinc compound for electrolysis set up and when an attempt to move the frame was made it all fell to pieces, giving the same impression as that of a snake that had shed its skin. All the metal had been transposed onto the ships hull and just the rusty outer surface remained.

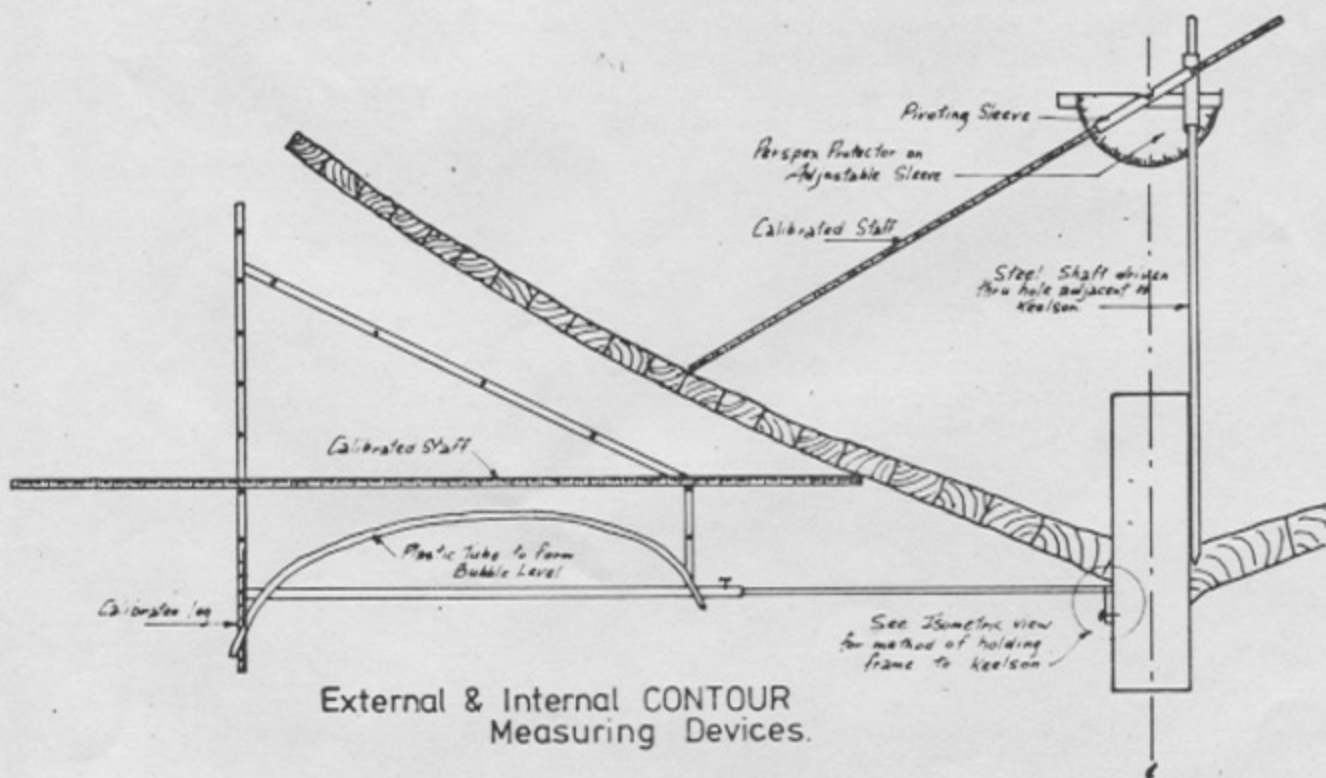
Our first breakthrough on the recognition of the ship came when George Green and I were operating one of the smaller models of the air lifts we were moving silt from around some timber on the bottom of the site when we both at once saw burnt into a loose piece of timber the letter D which when we cleaned it up turned out to be Day Dawn, so it was a pair of very excited Divers who came ashore that day. This information was revealed at the next General meeting and other members then set out to trace the name. As there had been a Gold Town of that name just out of Cue in Western Australian in the late 1800's and it was suggested that perhaps these planks were part of a consignment of timber for that place, but this was discarded as not being practical. The next avenue was to trace any ship with the name Day Dawn. There had in fact been a ship of that name plying around our Coasts and in fact had been wrecked at Quindalup with a full load of timber which was destined for Adelaide. On tracing this ship back it was found to have been originally been built as an American whaler the Thomas Nye which was built in Fairhaven Massachusetts U.S.A. and launched in June 1851. Our next discovery came when it was decided to raise a capstan for conservation that had been discovered on

the site and when the concretion had been removed from it the name - DAVIS and the Town Boston were found cast onto the Base plate. As Boston Massachusetts is not far from Fairhaven it would appear to be too much of a coincidence for them not to be from the same ship. As for the ship having been wrecked at Quindalup, it is recorded as having been sold for £140 for Insurance and as this was a lot money to be paid for a wreck in those times it is believed that in fact she may have been towed to Careening Bay where she may have been used as a Store Hulk and when she had outlived her useful life there she had been run ashore and burnt. There were two steel masts found slightly north of the site and the mast had evidence on them of where they had been cut down and additional strengthening as would be necessary for a ship of this nature. With these factors plus others that have come to life we feel reasonably confident that we have correctly named our ship. It has been a very interesting project to work on and made all the more so by the willing help given by the association members and by the Museum and its staff.

Lindsay Hill from the  
field notes 1976-77

The association owes a great deal to Lindsay's efforts on the Day Dawn Project - without his drive the field work would not have been so successfully completed.

Editors Note.



## DRAWINGS ASSOCIATED WITH THE DAY DAWN PROJECT

Ron Stevens

The report on the investigation of the wreck of the "Day Dawn" required three separate groups of drawings viz:- artifacts recovered from the wreck, plans and contours of what remains of the vessel and maps to show the area covered by the report. Ideally this would be best handled by three specialist draughtsmen so if the results of our group are somewhat as you would expect from a few enthusiastic amateurs.

The production of any technical type of drawing is a relatively straight forward process provided enough data is available in order to plot the required points and lines. In the case of recovered artifacts there is no problem in this respect as the object can be looked at from any direction, measured and remeasured as often as is necessary. On the other hand a complex object such as a part of a vessel, built up into compound curves, is a very different proposition even under ideal conditions, but when the remains are on the ocean floor largely buried in sand and distorted by time and stress, the problem of finding the required data is difficult indeed.

The team of divers lead by Lindsay Hill working on the measuring of the wreck soon realised the magnitude of the problem and in true archaeological fashion set about developing their own ingenious devices for measuring up the relative position of timbers in relation to the keel. Because of the difficulty of measuring distances and angles, and recording these under water, the original set of figures showed some discrepancies. Under most circumstances to check and correct such figures would have been a simple matter, but in this case it required another expedition to the wreck and many more man-hours under water. Without a doubt the hardest part of producing the drawings for this project was the tabulating of information on the wreck itself.

As one who has always had an interest in maps and charts I probably derived the most fun from drawing the maps for the report, this being my first serious attempt to produce a map. In this case to measure, plot positions and draw the maps from this data was out of the question so I did what I suspect is common practice in many publications. I found maps of the required areas, copied these to a suitable scale and added enough place names to make the area easily recognisable. The result of this first effort hardly warrants my claiming the title of cartographer as yet.

Ron's excellent drawings on the Day Dawn Project show the value to the Association of the non diving draughtsmen, surveyors and historians.

Editors Note.

DAY DAWN DRAWINGS

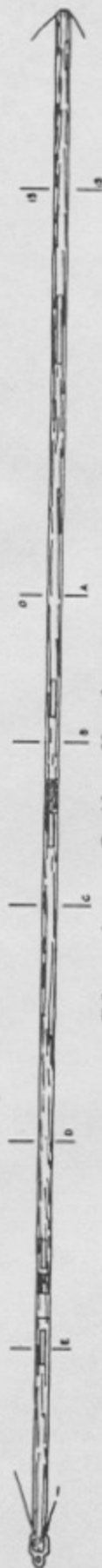
by Ron Stevens



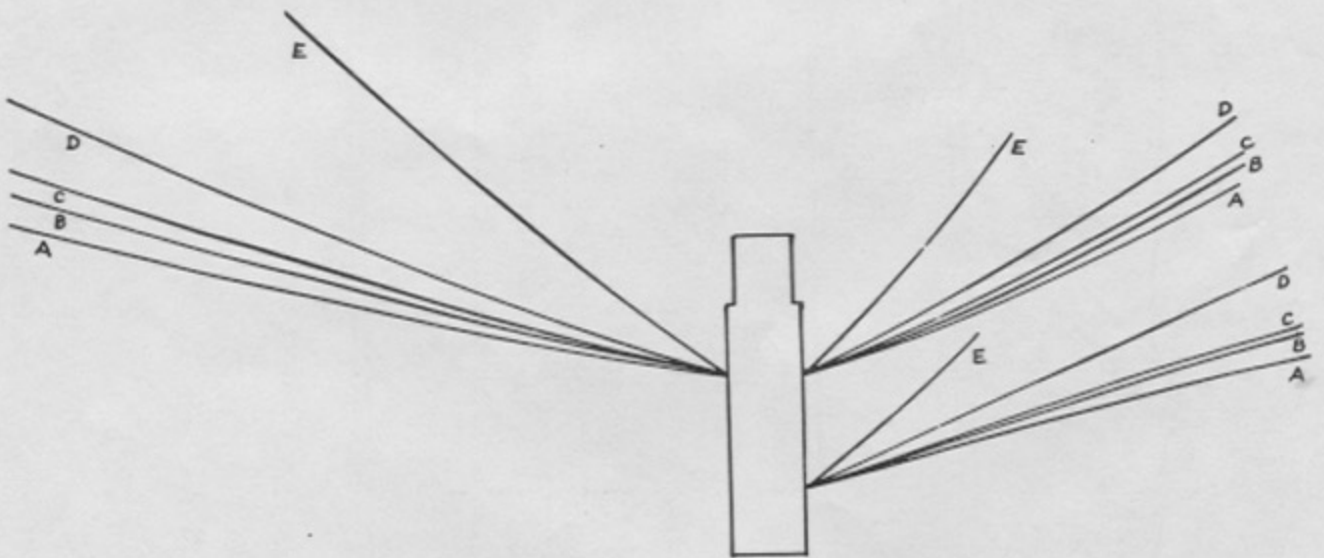
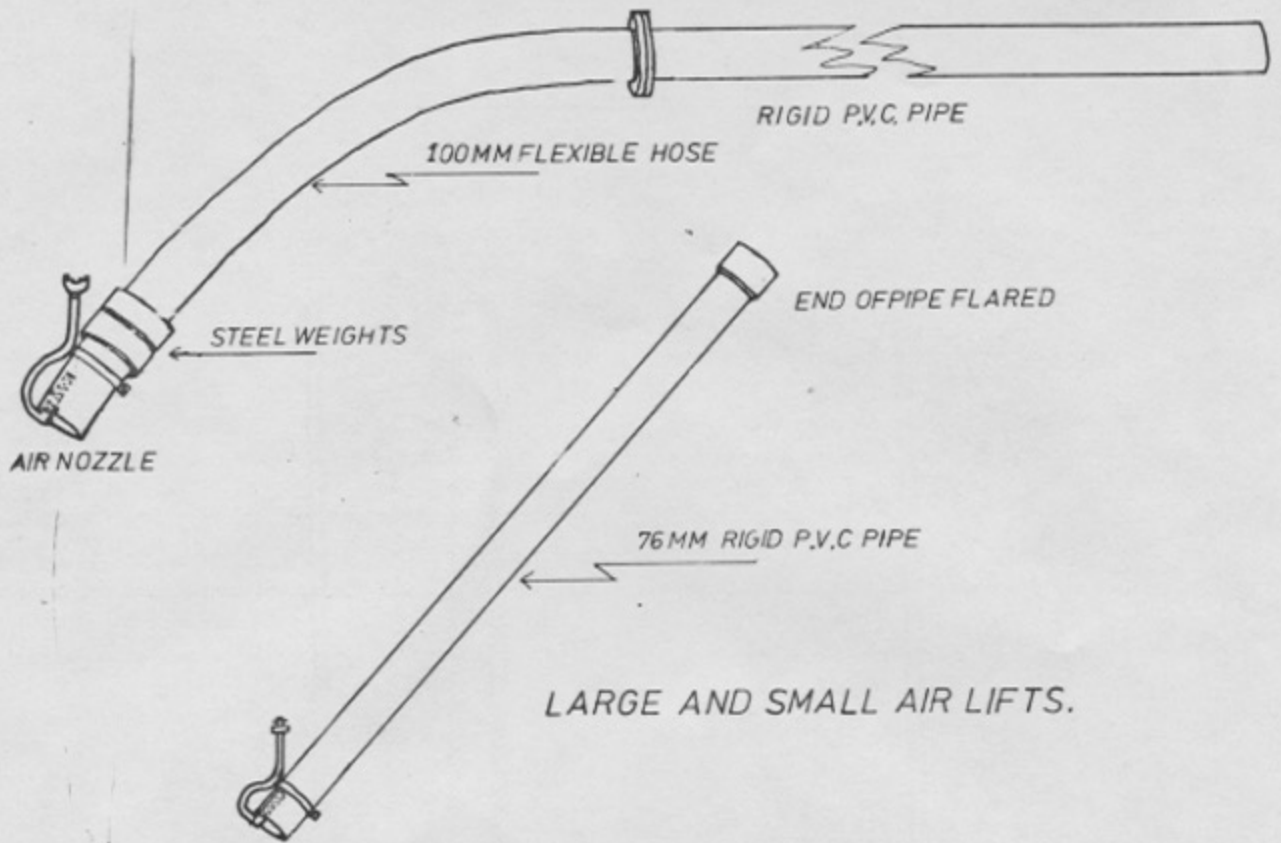
Plan view of the 'Day Dawn'



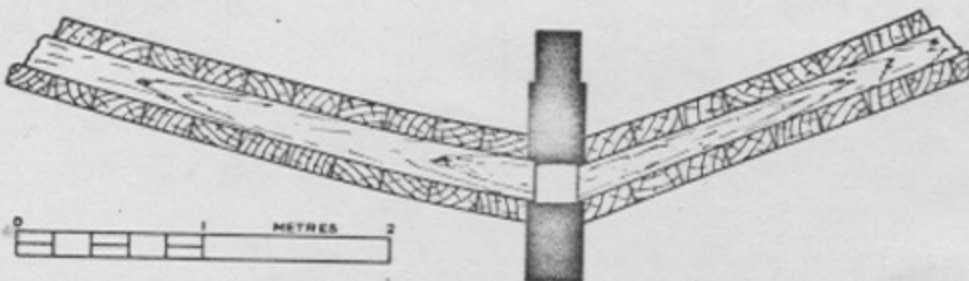
Elevation of the Keelson

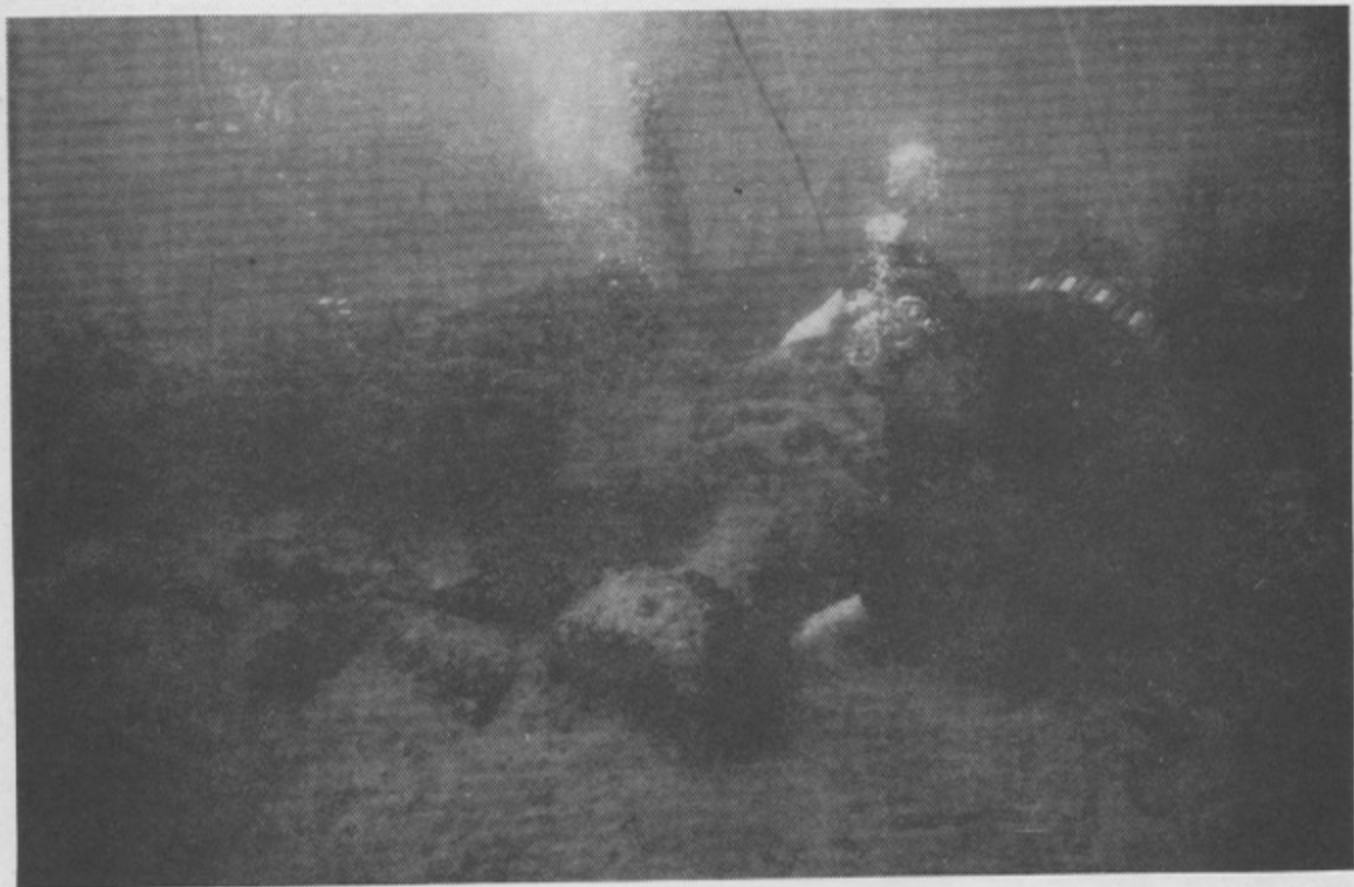


Planview of the Keelson



Contours of the 'Day Dawn'





The Capstan and the Iron Tank on the Day Dawn site.



CONSERVATION OF 'DAY DAWN' CAPSTAN

By George Green

Introduction

The capstan was raised from the sea on 4th January 1977, by members of the Maritime Archaeology Association of W.A. and taken to the Department of Material Conservation and Restoration of the W.A. Museum in Fremantle. During transit the capstan was kept wet with canvas bags soaked in water.

Removal of Concretion

Concretion was removed by hammer and chisel and also a compressed air driven chisel. It was not possible to remove all of the concretion at this time particularly that from inside the capstan. This would be removed later following the first electrolysis treatment. During concretion removal the capstan was kept wet with a continuous flow of water to reduce the possibility of deterioration.

Electrolysis

The capstan was placed on timber supports in a 1600 l steel tank containing a 2% solution of caustic soda (sodium hydroxide) as electrolyte. The tank was used as the anode, being wired to the +ve side of a rectifier/transformer and the capstan made the cathode (-ve). Electrolysis commenced at a cell voltage of 2 v and 2 amps. Samples of electrolyte were taken every two weeks and analysed for chloride ion content. When the level reached 625 p.p.m. it was considered that the chloride content in solution had reached equilibrium, i.e. the chloride content was the same in solution as in the capstan, making it difficult for further chloride removal.

The electrolyte was drained on 12th June 1977 and the capstan raised for inspection. It appeared that two large cracks had occurred in the top section of the capstan but upon closer inspection they contained some concretion indicating that they were probably there originally but obscured by concretion. At this stage the majority of the remaining concretion was removed, all that was left was a few areas inside the capstan.

Once again the capstan was placed on timber supports in the tank containing a fresh 2% caustic soda solution and electrolysis recommenced. Samples of electrolyte are to be analysed for chloride every two weeks.

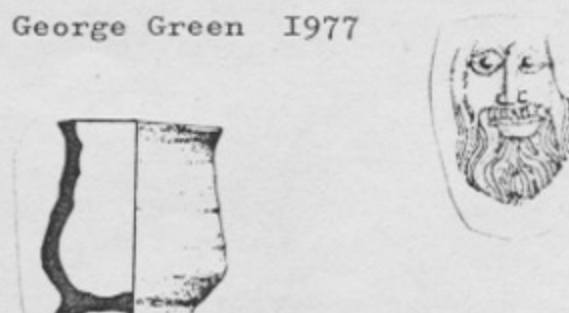
Future plans

Once conservation is complete the Capstan is assured a place in the Fremantle Maritime Museum, possibly in a section specifically on the Day Dawn and associated material.

George Green 1977



BAT 2234



BAT 2320



A RECONSTRUCTION OF THE HISTORY OF THE SAILING  
SHIP 'DATO'

by Tony Rechner

The two masted, square rigged, wooden brigantine Dato was built in 1879 and after a variety of mis-adventures off the West Australian coast, was lost at her moorings in Careening Bay on the Eastern side of Garden Island. The history of the loss of the Dato is reconstructed below mainly as a result of research done by Mike Pollard.

DATO SPECIFICATIONS

498 tons  
length : 133.2 ft.  
beam : 31.7 ft.  
depth : 16.8 ft.  
flag : Norwegian  
built : Ekenas Finland, 1879  
owners : Actieselshaber - registered Laurvia

The Dato sailed from Newcastle N.S.W. with a cargo of 600 tons of coal for the Fremantle Gas works.

Arrived Fremantle 6th. January, 1893.

Sailed for Quindalup to load with jarrah for London.

The following are the newspaper records of her subsequent history.

28.1.1893 "The Norwegian brig Dato in ballast from Fremantle arrived off Quindalup on Saturday" (I 4.2.1893)

BUNBURY HERALD

1.3.1893 "During yesterday we experienced the heaviest gale for many years. Norwegian brig Dato which had only just finished loading with jarrah and was ready to sail for London came ashore where she now lies with her mainmast gone and full of water. It is feared that she will become a total wreck."

I 24.3.1893 "The Captain of the stranded brig Dato has secretly been fined 3 for a breach of the harbour regulations in neglecting to send down a top gallant yard when ordered to do so on the approach of bad weather."

BUNBURY HERALD

22.3.1893 "Unloading the stranded Dato."  
29.3.1893 "Mr. Cross visited the brig Dato with the Captain for purposes of inspection - condemned her as a total wreck!"

5.4.1893 "Messrs. W. & J. Bovell will sell a quantity of salvage from the wrecked brig Dato. I hear the hull will shortly be sold in Fremantle."

W.A.

27.3.1893 "The hull of the brig Dato is to be sold by auction as she now lies. The sale will be held at the South Jetty Fremantle on 10.4.93 by Messrs. Lionel Samson & Sons."

BUNBURY HERALD

26.4.1893 "Charles Yelverton has brought the hull of the stranded brig Dato."

BUNBURY HERALD7.2.1894

"The Dato has been floated and moved to the buoy off Quindalup. She is making but little water."

BUNBURY HERALD14.2.1894

"Mr. Yelverton hopes to dispose of the Dato as a hulk."

I 8.2.1895

"Brig Dato which was recently driven ashore at Quindalup was towed to Fremantle on Thursday week by the tug Dolphin."

The newspaper article of February 8th. 1895, is the last article found. The subsequent history of the Dato is partially related in her Majesty's letter book of 1895 and the following are the relevant extracts.

LETTER IN H.M. LETTER BOOK 19.1.1895

.... To Premiers Department

"I think it would be a help to the Government if Messrs. W.D. Moore fitted up the Brig Dato as a hulk for explosives as a shipment of 640 cases of dynamite is coming in via Mariner from Melbourne and Laughing Wave is full."

LETTER 404 2.2.1895 H.M. LETTER BOOK

.... To Under Treasurer

"When will May and Woodmans be finished. Dato will be damaged below water line, she could sink. She has only one mast and can't be low down. OK for Moore to purchase her but not the Government."

LETTER 412 7.2.1895 H.M. LETTER BOOK

.... To D. Moore and Co.

.... re. D. Moore and Co. asking to use Dato.

"Now they don't want her but want Government to keep it for them. Asks the Government to take Dato."

And so the Dato struggled on taking water, unused and tethered not only to her moorings in Careening Bay but even more effectively by Government red-tape.

With no further published reference on the history of the Dato we can only assume during one of the all too frequent westerly blows that she sank at her moorings. We do know the anchor of the Dato can be viewed today at Rockingham Park just south of Perth and it is from the people who retrieved this anchor that we have a very reliable description of where the boat now lies.

It was not until Saturday November 22nd. 1976 that members of the Maritime Archaeological Association of W.A. made their first organised expedition to the location of the Dato wreck. She lies in Careening Bay on the Eastern side of Garden Island just south of the naval facilities H.M.A.S. Stirling. Considerable private diving had been done on the wreck prior to the organised expedition and the location was well known by local

fishermen to be frequented by schnapper. Local marks were followed to determine the approximate location of the wreck but final location was facilitated by the use of an echo sounder. The Dato inverted as she sank at her moorings and now lies upside down in some 45 feet of water. When viewed on an echo sounder record there is some 15 feet of relief above the bottom constituting the Dato's hull and a clear indication of the wreck is obtained by cruising across the keel at a speed of 4 to 5 knots.

The first dive of the Association found the wreck and although the water was murky a preliminary investigation demonstrated the high quality of preservation of the hull and led to discussions of possibly raising the boat for future display. While this is considered impractical the wreck really has stayed in a fine state of preservation, with only a portion of it buried in the mud of Careening Bay. The wreck supports numerous forms of marine including schnapper, eel, crayfish and a large and well respected groper believed to live towards the bow of the boat.

The length and breadth measurements and the presence of muntz metal (an alloy of copper and zinc) tend to verify that the wreck is the Dato. Muntz metal was not universally used till after it was patented = 1832 (in fastenings) and 1846 (as sheathing). Further survey work by the Association demonstrated that the muntz metal bars were restricted to one locality on the wreck and it is felt that perhaps the muntz metal was used for repair work and that possibly the ship was built before 1846 which would exclude her from being the Dato (built 1879).

The mystery will remain and until the Association manages to obtain access to the inside of the wreck there is no hard and fast evidence to prove that the wreck is the Dato. However, we in the association feel quite confident on the basis of the reports of the people who raised the anchor from the Dato and from the reports of local historians in the Rockingham area that the name we have attached to the Careening Bay wreck is in fact correct and the ship lying inverted in 45' of water on the eastern side of Garden Island is truly the Dato.

Tony Rechner  
1976

Prohibition  
of certain  
action  
in relation to  
historic  
shipwrecks  
and relics.

13. (1) Except in accordance with a permit, a person shall not—
- (a) damage or destroy a historic shipwreck or a historic relic;
  - (b) interfere with a historic shipwreck or a historic relic;
  - (c) dispose of a historic shipwreck or a historic relic; or
  - (d) remove a historic shipwreck or a historic relic from Australia, 30 from Australian waters or from waters above the continental shelf of Australia.

(2) A reference in sub-section (1) to the removal of a historic shipwreck or a historic relic from Australian waters or from waters above the continental shelf of Australia includes a reference to the removal of a 35 historic shipwreck or a historic relic from the sea-bed, or from the sub-soil of the sea-bed, beneath those waters or from a reef in those waters.

THE 1976 EXPEDITION TO THE "ZEEWIJK", SOUTHERN ABROLHOS GROUPBy: Peel Howden

In 1976 some of the members of the Association were given the opportunity of joining the expedition led by Catharine Ingelman-Sundberg, Assistant Curator of Marine Archaeology to the site of the "Zeewijk" on Half Moon Reef, Southern Abrolhos Islands. I was one of the people able to go for ten days.

Mike Fane, another member of the Association, suggested I should accompany him to the Abrolhos from Geraldton in his aluminium power boat. We launched the boat in the very early morning, loaded up and waited for the dawn. We followed uneventfully in the wake of the Southern Lady, the supply ship and arrived about noon at Post Office Island. We then proceeded to steer for Sandy Island and Gun Island via the Outer Passage. We arrived at Gun Island on a flat calm sea. The next day it began to blow and rain heavily. The wind increased to 50 - 60 knots and our green army mess tent began to behave like a wild thing. The guy ropes creaked and strained and all hands were mustered to weight it down and prevent the tent sailing away.

The mountainous seas thundered on the reef and our tents were soon sodden and our food supply was rapidly depleted. I remember eating a great number of tinned puddings. The situation was becoming serious, as we had no hope of reaching our supply base at Post Office Island in the heavy seas. Mike took out the dory, but after spending half a day spearfishing failed to find any of those promised Baldchin or any other fish for the table. Being confined to our mess tent, we passed the time trying to devise traps to catch the mice foraging with gay abandon over our remaining provisions. My tent by this time was clearly past redemption and I was forced to sleep in the mess tent, the mice took a fancy to and kept me awake most of the night running over my sleeping bag and even over my face. The weather finally improved, fresh food was brought back from Post Office Island and we were able to begin work.

The objectives of the 1976 Expedition were divided into four main areas:

1. Hydrographic Survey

The aim of this survey was to plot the "Zeewijk's" main site and to plot material concentrations on the inside reef using theodolite and sextant. Our surveyor was on loan from the Lands Department, and I know he never had such an assignment before, particularly when he had to rescue his theodolite from the surge, but he took it all in good part.

2. Underwater Survey

This was to record and survey the wreck site and the extent and pattern of wreck material washed over the reef. The heavy seas precluded any diving on the outside reef during my stay. Pat Baker and the Museum staff managed to reach the main wreck site where the principal concentration of cannon are located.

I took part in the swim search part in the calmer waters of the inside reef where wreck material was spread over about 3 milometres. The search used various star markers and buoys behind the main wreck site where there were concentrations of glass from bottles and containers, a small heap of cannon balls, iron concentrations, probably from barrels. Further apart near a large niggerhead was part of the timber of the "Zeewijk", half buried in sand. All important finds were recorded on the spot and the areas "tied in" to star markers and beyond to the main wreck site. Catharine was in charge of the search survey and she was very thorough. The underwater survey was a continuous project that commenced in 1976 the year of my visit and concluded in 1978.

### 3. Land Survey

The land survey was under control of our registered surveyor. My role was to hold the markers when a sighting was taken, we thus moved progressively around the Island surveying the main topographical features. The survey was again tied in with the main wreck site and the star markers on the inside reef and as such was the first complete survey of Gun Island.

### 4. Land Excavations

The objective was to dig test holes 1 x 1 metre at 10m intervals at the western part of the island, in order to find and locate the "Zeewijk" camp sites. The digging was hard work as it consisted of digging 1m squares to 1m deep and sieving the material carefully for any artifacts. As expected many holes were dug down to guano layer without result though sometimes an indignant and dazed mutton bird would be flushed. Some of the 70 or more holes dug did reveal finds including innumerable pieces of clay pipes, iron from barrels and an occasional button. Every piece was bagged and recorded by Myra Stanbury who catalogued her daily collection in the mess tent every night.

Mike Fane had to leave a few days before me and had an exciting solo trip back to Geraldton running before huge swells vainly trying to follow the Southern Lady.

I must record that an excellent spirit of friendliness and co-operation exists in the Association and this was especially noticeable on those Abrolhos Expeditions which I have participated in and thoroughly enjoyed.

Kept in the Company's ship Zeewyk commanded by Jan Steyns, master, carrying 36 guns and a crew of 208, drawing aft 19 1/4 barrels and fore 17 1/2; together with the Company's ship Barbersteyn commanded by Joris Vermouw, master, as Commodore.

May God grant us a prosperous voyage, anno 1726

Adriaen van der Graeff

2nd mate

THE HISTORY OF LONG JETTY

by MARK CLIFF

Initially a deep sea jetty was proposed as a means to increase Fremantle's harbour facilities, in preference to the cutting of a deep water channel through the bar at the entrance to the Swan River.

Construction was commenced on the first stage early in 1872 and the 1400 foot section which extended in a S-W direction from Anglesea Point, was completed in December 1873. This jetty allowed the berthing of vessels in water up to 10 feet deep.

Proving inadequate to cope with the increasing size and number of vessels using the port, the jetty was later extended in a westerly direction by 1000 feet (in 1887) and 450 feet, reaching a total length of 2,830 feet.

The Long Jetty as it became known during the gold rush days of the 1890's, could only be satisfactorily used as a berthing and unloading jetty during fair to moderate weather. Vessels up to 12 feet draught could be accommodated, all larger vessels were forced to discharge their cargoes into lighters in Gage Roads. During winter gales all vessels would weather the storms in Gage Roads, Owen's Anchorage, or Careening Bay. Again the provision of an adequate harbour became vital, a large number of schemes were proposed and in 1892 it was finally decided to open the mouth of the Swan and to build two protective moles. In May 1897 the first steamer docked in the new inner harbour.

The Long Jetty was little used after the opening of the river harbour, being closed to traffic and it was used only as a promenade until its demolition in 1921. A large number of vessels both sail and steam made use of the jetty during the early years of Fremantle's development and provided the first reasonable, though makeshift, berthing facilities during the 1870-80's.

The Jetty's demolition in 1921 has resulted in the isolation of many artifacts of the 1873-1920 time period from "contamination by present day articles. Of special interest are the hand blown bottles in use during that time, as they were not superseded by the modern moulded bottles before the removal of the jetty.

The W.A. Maritime Archaeology Association conducted a survey of the Long jetty in an attempt to catalogue the many types of bottles and crockery found on the site.

EDITORS NOTE

The site is not a gazetted site and as such is open to all collectors, in a way similar to country rubbish dumps.

The Association is confident that should it or the Museum wish it would be allowed access to enough collections to allow a representative sample of glass and ceramics to be photographed and drawn. Until then the jetty serves well to keep souvenir hunters and collectors off the more valuable sites.

BATAVIA EXPEDITION 1976By: Bill Marshall

Conducted from Tuesday 14th September to Wednesday 8th December 1976 at Beacon Island. Catarina Ingleman-Sundberg, Assistant Curator of Maritime Archaeology was temporarily in charge and Mike McCarthy, Wally Marshall and Bill Marshall of the Maritime Archaeology Association of Western Australia were there at the invitation of the Museum to work on the wreck. Mike and I had a few problems getting there but finally managed to make it on 8th October 1976 leaving Perth by MacRobertson Millar Airlines for Geraldton. Marilyn Edwards was on the way up at the same time and we filled in the time tying knots in Marilyn's scarf so that the next time Hugh told her to throw a clove hitch over a bollard she would be able to (we hope). Mike McCarthy chartered a sea plane for the trip from Geraldton to Beacon Island and by the time we left it was grossly overloaded with three lots of diving gear, groceries and charts sent by Jeremy Green for Catarina.

Our first evening there was celebrated with an excellent dinner cooked by Technical Assistant Bob Richards, ably assisted by Rod van der Merwe in charge of ceramic conservation and Stijn assisted his girlfriend Lous Zuiderban helping with research.

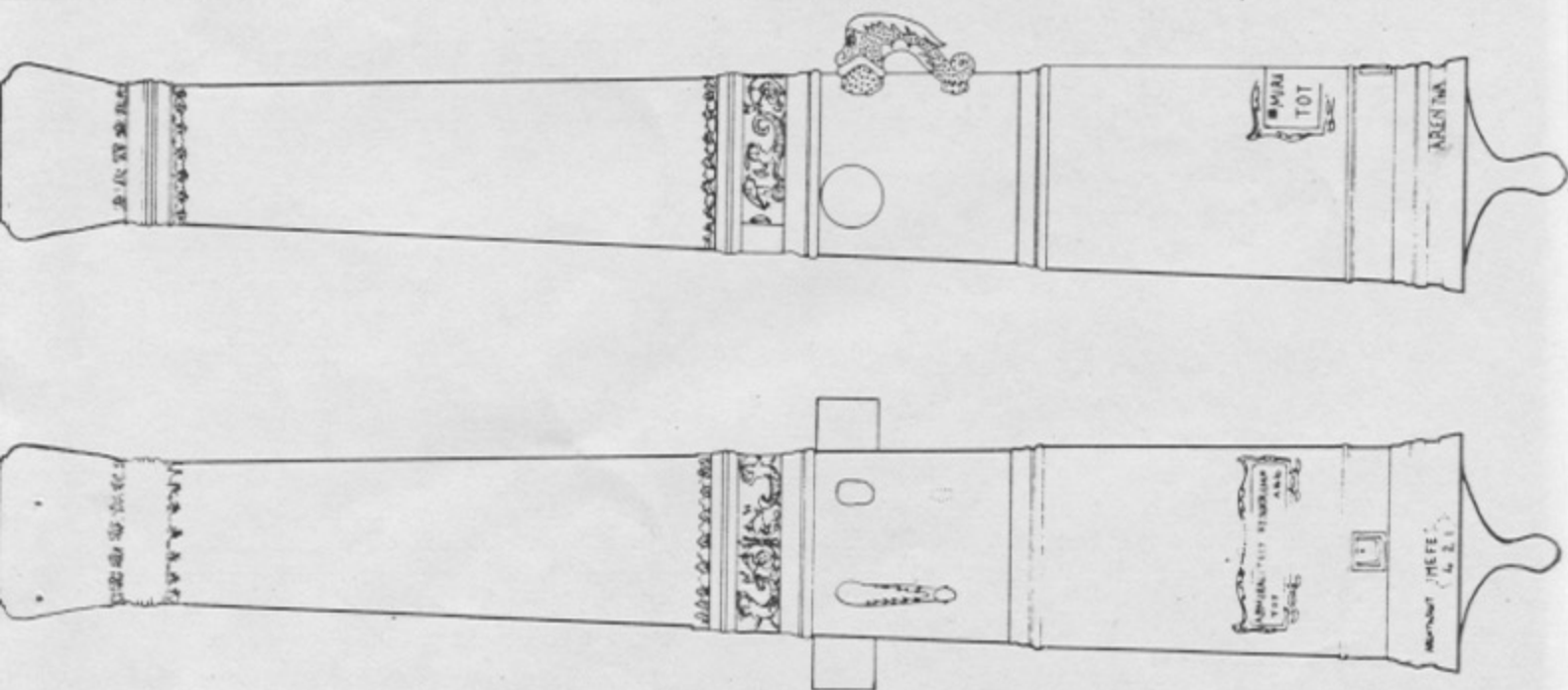
On our first working day there was a heavy swell over the wreck and it was not possible to dive on the mainsite so Mike, Wally Marshall, Bob Richards and I did a search pattern on manta boards, (if you can call an 8 inch X 1 inch board about 2 feet long with 2 holes drilled in it a manta board). It took Bob Richards nearly 10 minutes to make it but it went up and down just the same, Mike made the find of the day with a large jug neck with bearded faces on a frieze. Today was Jeremy Green's wedding day and we toasted the newly marrieds with a bottle of bubbly, the 3 dozen that Jeremy had sent being left at Geraldton because of lack of space on the charter plane. Sunday October 10th was the day that Mike and I were to be Mum for the day. This position gives you the honour of being in charge of the kitchen and chemical toilet for the day. I tested the prop wash made by Bob, consisting of a BP drum with a reducing cone inside, a length of 4 inch flexible pipe and the drum bolted to the outboard with the motor running at a fast idle. This proved a most effective means of turning over a large amount of rubble.

Jeremy's donation of three cartons of alcoholic cider and champagne had arrived and two fishermen and their crews were living on the island and fishing in the off season were invited along to help with Jeremy's wedding celebration. A fancy dress, 3 course dinner was arranged and the cray fishermen arrived dressed for the occasion with bow ties made out of kitchen sponges, suits made of cray bags and arms full of cartons. All present had to present an item and join in song and all had sore throats next day through singing so much accompanied by Catarina on the guitar and Bob-a-job on the lager phone.

Tuesday 12th October, 1976: Today was the first time the weather look alright for diving on the mainsite. With Bob Richards and I on the hookah our task was to raise about 1 ton of coral encrusted cannon balls and I hoped to get a good look at the main site. I managed a few minutes looking around before Bob started filling the air bag from the hookah mouth piece so it was not long before I ran out of air so I wrapped my legs around a cannon and sat just below the surface and had a good look from there. The amount of work done was amazing considering there was so many days when it was impossible to dive. We managed  $\frac{1}{2}$  an hour before the swell got too bad to stay on the site. After lunch we went to the inside of the reef to continue with the rope line search. Up until this time I had made no significant finds until the last run down the rope I picked up the base of a Westerwald jug and I believe, the largest piece next to Mike's Bellarmine jug neck, that had been found for some time.

Wednesday 13th October, 1976: We were due to leave Beacon in the afternoon. We continued the search inside the reef. The Batavia reef anchor is laying in shallow water in line with the main site. This was buoyed up and a search pattern set up from that point. Not too much was found there as the wreckage seems to fan out over the shallows from the main site. Mike managed to put in 4 hours in the water and only just had time to get changed before boarding the plane for home.

In the 5 days we were there the M.A.A.W.A. managed to put in 29 hours actual working time in the water and by doing this we have given the Museum staff time to do the recording and research necessary. Also the artifacts brought up have given them many weeks work back at Fremantle. ( Bill Marshall 1978)



Bore:151mm.

0

1 METRE

BATAVIA BRONZE CANNON, ROTTERDAM ADMIRALTY ( J. Green )



## THE MOMBASA EXPEDITION

Conrad Groen

For some years a shipwreck of great historic interest has been known to exist in Mombasa Harbour on the coast of Kenya, East Africa. In the early 1960s a few pieces of pottery and porcelain were raised and given to the museum at Fort Jesus.

The Portuguese Vasco da Gama first came to Mombasa in 1498, but his relations with the townspeople deteriorated rapidly. After just one week, the Portuguese thought it prudent to sail on to friendly Malindi where they established their first East African base. However, Mombasa's natural harbour soon attracted foreign attention and a Turkish expedition built a fort there in 1589. Fearing for the security of their route back to Portugal, the Portuguese attacked and took Mombasa in 1593, and began at once to build a large fort to guard the harbour entrance. The Portuguese regarded themselves as the representatives of Christendom rather than of Portugal, and for this reason they sailed under the flag of the Order of Christ. Jesus was therefore an obvious name for the new fort.

Its angular form dictated by the rules of military defence and an Italian architect from Goa, the Fort now lies tranquilly in the sun. But it was not always so. Fort Jesus has suffered a history of murder, siege, starvation, bombardment and treachery that makes our modern world of hijacking and thuggery seem quite tame.

In 1696 the Fort was besieged by the Omani Arabs who bombarded the Fort but made only one unsuccessful attempt to take it by storm. The Arabs were aware of the possibility of relief and the batteries set up around the Fort were intended also to hinder the entrance of ships which might land supplies and reinforcements. The siege lasted for 33 months and it was only through plague and privation that the Fort finally fell.

During the long siege the mixed garrison of Portuguese, Swahili and African defenders sent to Goa for assistance on several occasions. Their requests were finally answered and a squadron under General Luis de Melo de Lampais was sent to relieve the Fortress. The significant fact is that after a series of misadventures, one of the relieving ships, the 42 gun frigate Santo Antonio de Tanna, sank very close inshore below the seaward Fortress walls. Historical accounts place this event in 1697. It is understood that the sinking was not a sudden affair and that some salvage of stores and material was carried out by the Portuguese before she was abandoned.

In 1970 the curator of the Fort Jesus museum, Dr. James Kirkman, with the assistance of the finders of the wreck, initiated a small excavation to try to establish the identity of the wreck. The work was brought to an abrupt halt when the boat carrying the air compressor was capsized. However, the results obtained suggested that the hull remains might be those of the Santo Antonio de Tanna.

In 1976 Hamo Sasson, a subsequent Curator of the Fort Jesus Museum, arranged for Dr. D. Frey and Robin C. Piercy to assess the site for further study. They confirmed that the site was of considerable interest to the International Institute of Nautical Archaeology. The Institute was invited to undertake the direction of the project by the National Museum of Kenya who in turn invited Jeremy Green, Curator of the Fremantle Maritime Museum, to bring a team to participate in the 1978 season excavation. Two members of the Maritime Archaeology Association of Western Australia, George Green and Conrad Groen accompanied the Museum group.

The entire team thus consisted of four members of the Institute of Nautical Archaeology, Texas, U.S.A., eleven people from Western Australia, four members of the British Joint Services and Wendy Turner, Senior Conservation Officer from the National Museum of Wales, Cardiff.

We were all housed in Fahmy Hinawy's spacious house overlooking Mombasa Harbour. The house is within 100 m of our diving platform, a 27 m ammunition lighter. It was close enough to the shore for connection to mains electricity, water and phone. The open hold of the lighter was decked over and two companion ways to the lower deck were installed. The large upper deck was completely shaded. At the bow a 160 cfm low pressure compressor was mounted providing air for the four airlifts as well as for four divers on surface demand. Two small compressors for filling tanks were also located in this area. A 2 x 3 m office was provided at the stern allowing for all excavation records to be compiled and kept there. Provisions were made for a draftsman to keep an ongoing plan of the excavation up to date. Around the outside of the office there was ample space for material recovered to be sorted, registered and receive conservation first-aid before being sent to shore.

To cope with diver orientation in bad visibility and to facilitate recording of material a metal grid of 2 m squares was laid over areas to be excavated. This system, however, was little help to the author who had difficulty in even finding the well marked wreck site on several occasions. Much to the dismay of the dive master I had to surface to orientate myself and then follow the various hoses from the lighter to the bottom.

The wreck itself is 40 m from the shore and lies diagonally across a 30 degree slope from 13 m at the shallowest to 16 m at the deepest point. About 0.25m above the keelson and over a layer of ballast lay a rough light wood floor. Some of the most interesting finds have come from this area strongly indicating the presence of a bos'n's store. Two circular wooden bowl compasses were found under a large coil of rope. Lying nearby was an octagonal lamp. Other items from the area include wooden bowls, a wooden plate, two small wooden single sheave blocks, barrels, porcelain, buttons, a sailmaker's palm, a dough paddle, and several wooden ink wells.

To expose the ship's structure in the centre it was first necessary to remove over 50 m<sup>3</sup> of ballast, which was overlaid with a layer of crushed barrels and hardwood logs. The barrels which may have contained water for the ship's company, lay along the axis of the hull and sloped where the first stern partition began. Other finds included a brass measure, a broze breech block or chamber, a swivel gun, a glass onion bottle, Portuguese glazed bowls, olive jars, and a two-handled cooking pot in coarse earthenware. The author found a bright gold coloured coin, unfortunately it was a Kenyan brass shilling dated 1952.

Because of the depth most of us only made one dive per day. Most of the excavation was operated on a shift basis. The divers were divided into two teams: Team A would dive in the morning and team B would dive in the afternoon. The following day Team B took the morning shift, allowing more time for divers to assist with photography, conservation and drawing, as well as seeing a bit of the ancient city of Mombasa.

As could be realised all was not work. George and I and another fellow rented a four wheel drive vehicle and set off to see some of Kenya's wildlife. We were not disappointed. The country is much like parts of Western Australia, the plant species being different but outwardly resembling our common bush of the outback. That is where the similarities end. Instead of emus there are ostriches; in lieu of kangaroos there are zebras, wild dogs, hippos, and vast herds of elephants. Unfortunately there is still a great deal of poaching in the national parks as evidenced by our finding a dead elephant, his legs cut off and his tusks

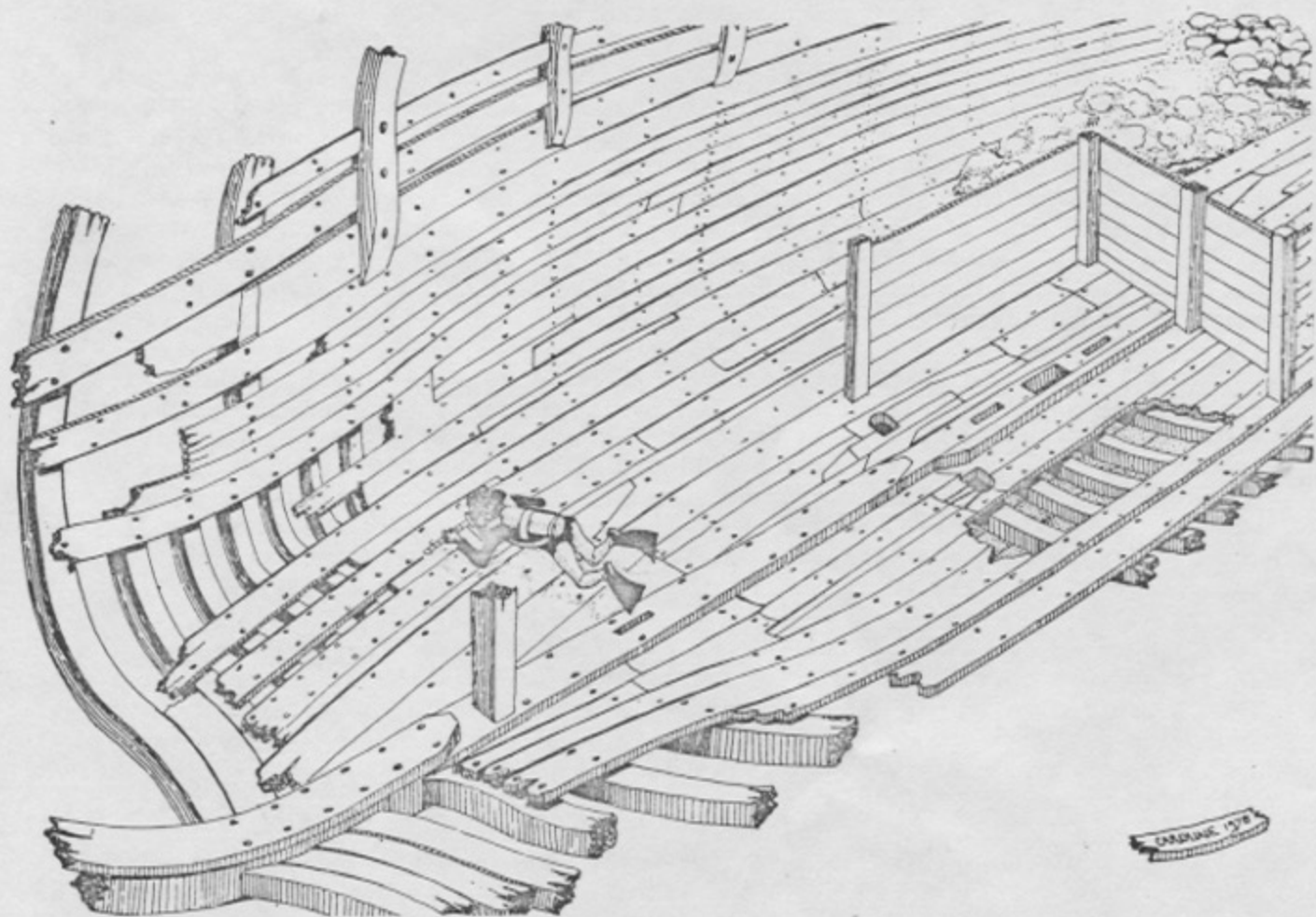
sawn away for the souvenir trade. This practice should have ceased, while we were there the late president Iomo Kenyetta banned the sale of all animal products.

We had a very exciting and enjoyable time and would very much like to return, I am certain George will never forget the new Florida Club and the friends he made there.

I would like to thank Robin Piercy, leader of the excavation, for his hospitality in Mombasa and also for the details in this article which came from his Preliminary Report 1977, the International Journal of Nautical Archaeology and Underwater Exploration (1977) 6.4: 331-347.

CONRAD GROEN 1978.

This Expedition was the Associations First Involvement in an International Project. (Editors Note).



"The Ledge Point Land Archaeological Dig"

by Raina Robinson

The members of the Maritime Archaeological Association were asked by Warren Robinson from the Fremantle Branch of the W.A. Museum to help with a land Archaeological dig in the hope of finding any signs or remains of the 68 vanished survivors from the illfated dutch shipwreck Vergulde Draeck, more popularly known as the "Gilt Dragon".

The Vergulde Draeck of the Amsterdam Chamber of the Verenigde Oost-Indische Compagnie (VOC) was totally wrecked on the Western Australian coast on 28th April, 1656 when bound from Texel to Batavia (modern Djakarta) in the East Indies.

Her wreck, lying close to an offshore reef about 12 km south of Ledge Point was not discovered until April 1963 by a group of skindivers. The "Gilt Dragon" was under the command of Pieter Albertsz when she struck the reef violently, so that she was 'immediately burst open and sunk down' on the reef, with only her stern projecting above water. Many of those aboard must have been trapped in their sleeping quarters below and drowned before they could reach the decks.

Most accounts of the wreck state that 118 persons perished when the "Gilt Dragon" went down but this figure is arrived at by deducting the known number of survivors, seventy five, from the figure of 193 crew aboard when she left Texel. Whereas if Jan van Riebeeck's journal is correct in reporting that two men were lost overboard during the voyage to the Cape of Good Hope and taking in shocking shipboard conditions which prevailed at the time, it maybe safely conjectured that a few deaths occurred on the run to W.A. and even if there had been but little sickness aboard it is probable that another two or three men died. Therefore, the death roll in the wreck was probably between 110 and 115.

The seventy five survivors included the captain, the unnamed understeersman and a few women. Most if not all reached land in two of the ships boats, one of which was severely damaged, but there was no time to save anything from the wreck. The only articles recovered were the few casks of provisions, kegs or water and pieces of wreckage which drifted ashore.

The understeersman, with a crew of six sailors, carried the news of the wreck to Batavia (Djakarta) in one of the boats, arriving there on 7th June after boating about for forty days after the "Gilt Dragon" had been wrecked.

The Batavian authorities acted promptly in dispatching assistance. The quick-sailing flyboat "Witte Valk" picked-up the yacht "Goede Hoop" in the Straits of Sunda and the two vessels sailed in company for the Southland to search for the wreck and the survivors on 8th June 1656.

The weather on the West Australian coast was bad, with strong northeasterly winds, boisterous seas and a high surf along the shoreline. These conditions made an approach to the coast hazardous and greatly hampered the search, eventually compelling the two vessels to put off from the coast and return to Batavia.

The "Goede Hoop" lost a boat and eleven men. When a landing had been effected on the coast, three men wandered too far into the bush and eight others had been sent in search of them. All eleven failed to return and as their boat was found dashed to pieces on the shore, it was presumed all had

perished. Parted in a fierce storm on 18th July, the two vessels returned independently to Batavia, the "Witte Valk" arriving on 14th September and the "Goede Hoop" a month later. Their reports were conflicting, as while the "Witte Valk" apparently saw some men or some signs of the wreck, the "Goede Hoop", which had been at the supposed site of the wreck, had noticed nothing. The next search was made by the flyboat "Vinck", bound from the Cape to Batavia. She arrived off the W.A. coast on 8th June, 1657, but although she coasted along the shoreline the winter weather prevented her from making any landings and she saw nothing, arriving at Batavia on the 27th.

Although the authorities at Batavia believed the survivors must have perished or been killed by the Aborigines, they dispatched the galliots "Wackende Boey" and "Emellort" on January 1st 1658 to make a further search. They parted company on the way but discovered planks, a piece of mast, a taffrail, fragments of barrels and other objects scattered along the coast. The "Wackende Boey" also found what appeared to be the castaways' original camp, with broken chests, pails and kegs strewn about. Because of the absence of water it had, of course long since been abandoned. Both the "Wackende Boey" and the "Emellort" saw many fires and fired signal guns, but without locating survivors from the "Gilt Dragon".

The search parties put ashore by the "Wackende Boey" were commanded by the uppersteersman, Abraham Leeman. He had his crew of thirteen men, when they returned to their ship on 22nd March because a storm seemed imminent, were ordered ashore again by their Captain. The storm blew up in the evening and the ship was forced to stand off the coast. Six days later, the weather having moderated, the ship returned and when a fire was sighted that night the galliot fired a cannon. This was apparently answered at once by the lighting of a second fire ashore, but as the "Wackende Boey" had lost its schuyt and the party ashore having its boat, there was no way a landing could be made. Next morning there was no sign of men on the beach and the wind was rising. The commander prematurely decided his men must have perished and their boat been smashed, and he therefore sailed away.

The fires which had been seen had in fact been lit by Leeman and his men, and they must have watched with dismay their ship disappearing. However, Leeman was evidently an inspiring leader. He had the boat repaired with sealskins, collected some fresh seal meat and such water as could be found, and set out to sail to Batavia. Three of the men died of thirst enroute, but on 28th April the eleven survivors reached the South side of Java. Seven men swam ashore in search and failed to return to the boat which next day was wrecked in attempting to land through a heavy surf. The four occupants reached the shore and eventually, walking across the Island, arrived at Batavia in October in a weak and exhausted state. Leeman, who may have been English, his name being recorded in some Dutch documents as Abraham Leeman van Santwits, a common Dutch transcription for Sandwich in Kent, was one of the four. The other seven men were never heard of again and their fate remains unknown. After the return of the two galliots, the search for the survivors of the Gilt Dragon was given up as it was considered beyond all doubt that they must have perished.

The well site we were to excavate had primarily been reported by Anthropologists from the W.A. Museum as an old native well 1 km North of Ledge Point. The owner of the property which the well site was on Bill de-Burgh challenged their statement because he felt that the Aborigines wouldn't dig that deep for water as 1 km away there was water on the flats.

The project co-ordinator Warren Robinson had a number of willing helpers to clear away the surrounding bush and spinifex which was done by burning off. We set up a datum peg in the centre of the well which had water in it. We dug an area 5m x 5m marked by one centre peg and four corner pegs. A depth of 1.8m at the centre peg was dug and after reaching we moved outward

digging a ledge down to 1.2m. the team working at the 1.2m level checked the soil by raking while another team worked to 1.8m on the eastern half of the area. The soil was loaded into a trailer which was then towed up the incline to a sorting area where it was put through a sieve. Approximately 30 tonnes of sand on the first day was moved which was a real team effort.

We dug a test hole 1.5m away from the original hole to check the difference in water quality. The water in the centre hole was putrid and the water in the test hole was drinkable.

At a depth of 1m we discovered a wooden handled pocket knife which Bill De-Burgh said he had lost some forty years ago. Also in that same area small fragments of bone, probably of a bird and a vertebrae of a small wallaby or bush rat. During the four days spent at the dig we unearthed an almost complete skeleton of a bird which appeared to have been butchered, along with rabbit bones, a piece of heavily encrusted metal which was analysed as 19th century, a piece of Oregon timber, two pieces of leather and a metal object shaped like a U bolt.

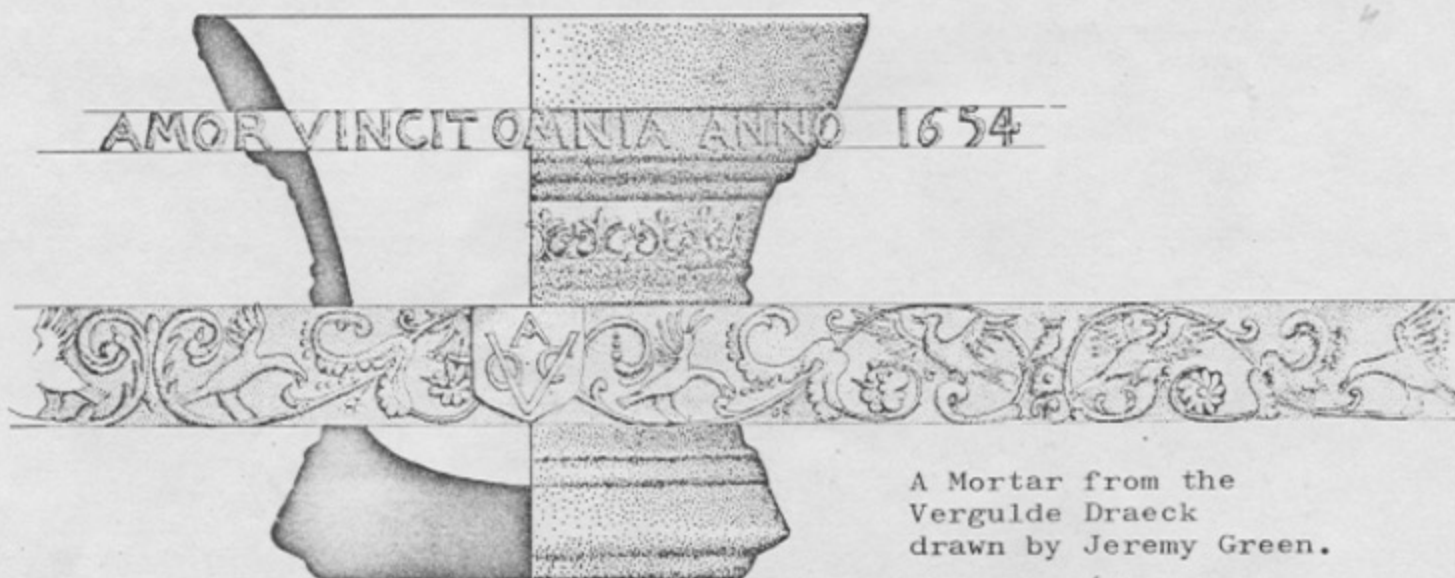
The method used for sifting the soil consisted of some wire mesh stretched across a trailer. We shoveled sand into this primary sieve then through hand sieves and a smaller fine mesh sieve. We also raked the sand which was thrown above the bank.

In all, 35 tonnes of soil was man-handled two to three times. The surrounding area of the site was then searched with very sensitive metal detectors and found various metal objects of no real significance.

Everyone who participated certainly enjoyed the dig and we all learnt something from the exercise.

The four days spent excavating the well site over a period of two weekends and a weekend with the metal detectors in July 1977 uncovered no evidence to suggest that the castaways from the "Gilt Dragon" had used the well for their survival.

RAINA ROBINSON, 1978.



A Mortar from the Vergulde Draeck  
drawn by Jeremy Green.

74Gt

## THE WRECK OF STONES

Bill Marshall &amp; Russel Miners

Local divers in the early/mid-sixties came across a large stone-covered wreck site 125' x 34' x 4'6" which, in the absence of any positive identification they named the "wreck of stones". In January 1978 members of the Maritime Archaeology Association of W.A. began diving on the site to survey and possibly identify the ship.

It was found that the site was the wreck of a wooden ship, at least 47 metres in length, approx. 10 metres in width and carrying in excess of 200 tons of granite ballast. Several small pieces of coal were found amongst the stones. Although this survey also failed to positively identify this ship, the available evidence suggests that it was the wreck of the Brazilian ship "Redemptora".

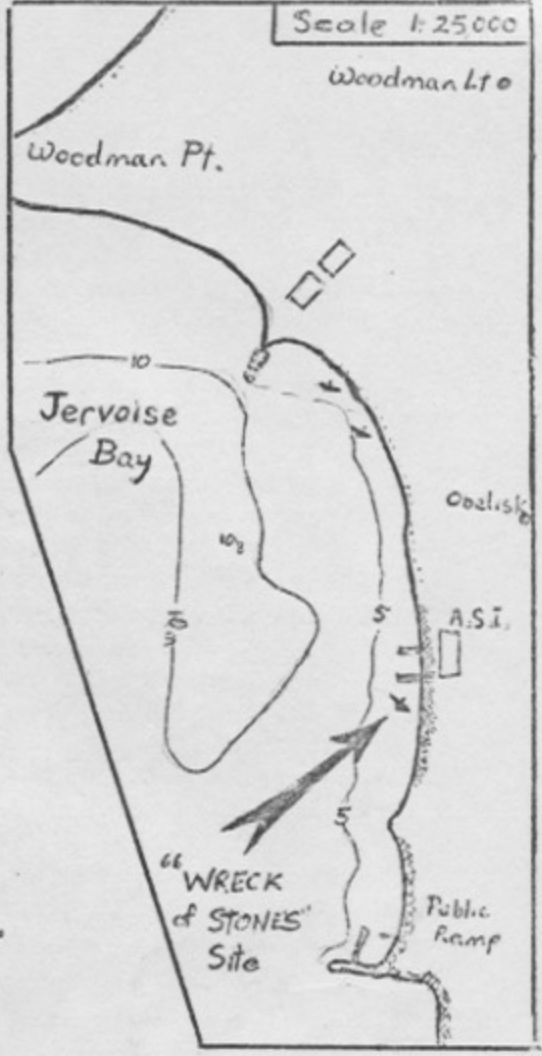
The Redemptora left Rio de Janiero on 10th August 1888 bound for Adelaide with a cargo of 233 tons of sugar and 200 tons of coffee. She was a fully rigged ship weighing 1235 tons and a crew of 23. While rounding the Horn she was caught in a gale lasting 4 days and the Captain Francisco Cassavechia took the unusual method of ensuring the safety of the ship and crew by chopping off the top of the main topmast, the upper topyard, the main top gallant mast, and the fore top gallant mast. Despite this the hull was severely strained and the crew were kept at the pumps 24 hours a day. The ship was towed into Fremantle Anchorage on the 24/10/1888 and subsequently sold to a Mr. Lilly for £315 and the cargo sold by Mr. W. Sampson. The hull was then used as a coal hulk in Careening Bay from the 1/12/1888. After this there was no more known till skin divers reported a wreck covered with stones in Jervoise Bay.

Russell Miners and I took over the survey of this wreck in March 1978 and, ably assisted by other members of M.A.A.W.A., completed the measurements of the wreck as can be seen by the drawings. It would appear that the wreck lay on its port side till the weight of the ballast flattened the hull out. It has not been proven that this is definitely the Redemptora but as the following facts will show, we can be fairly safe in assuming that it is the Redemptora.

The first 2 days spent on this wreck we had plenty of divers and these searched around the wreck and checked for any more sections. This search revealed a quantity of muntz metal laying just below the sand and lclose to the wreck but no more wreckage.

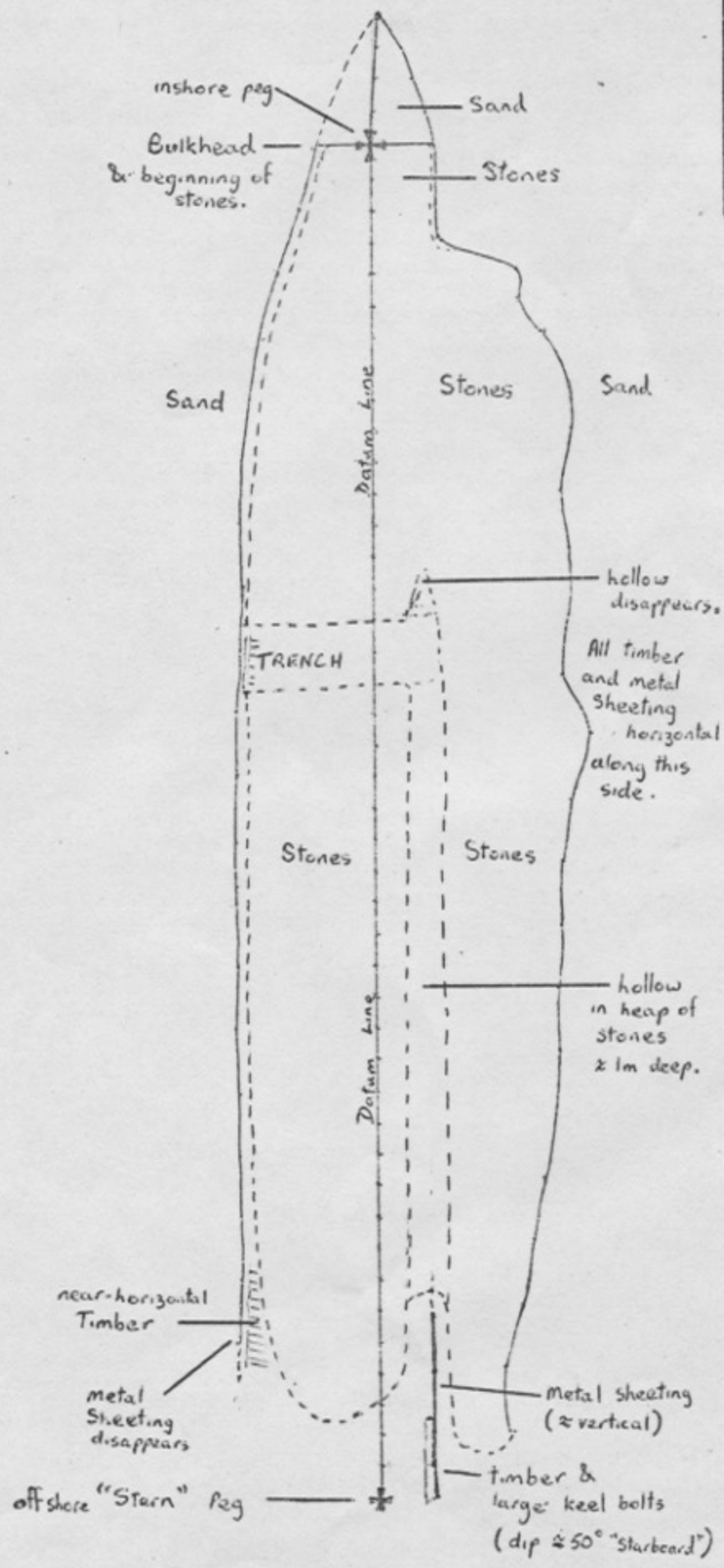
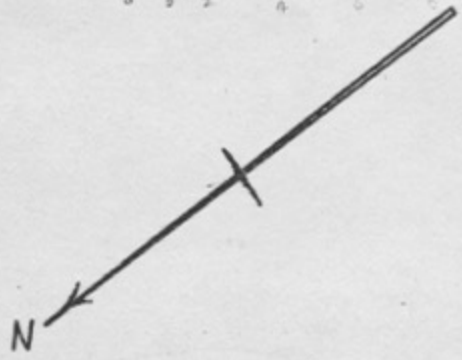
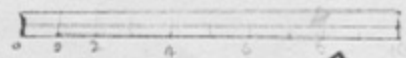
A small airlift was used to uncover the ends of the site. A star picket was then driven in each end of these points and a cord line drawn tight between them providing support for a tape. This method was chosen as a tape could not be pulled tight enough to keep it straight in the strong surge.

In mapping the site the distance from the datum line was measured using a shorter tape. One end was held by a diver who placed it over the point to be plotted and a second diver at the datum line held in tight and at right angles to the line. A third diver recorded the measurements. Poor visibility on the site made it necessary to place a diver midway along the short tape to relay information between the divers and ensure the tape was clear of obstructions. 3 hours was spent on the port side and 3 on the starboard side. At the same time other members shifted ballast stones along a 2 metre wide trench to uncover the hull. This was done about mid-ships and at right angles to the keel. This showed that the far side timbers



"WRECK of STONES" Site

Scale 1:200





are lying nearly flat and that their ends are burnt as though the ship had been burnt to the waterline. The datum line was very nearly over the keel line and by the angle of the keel bolts exposed it would appear that the ship had settled on the bottom and then lay on her port side. The hull datum line on 133 degrees from N which is very close to right angles with the prevailing winds from the SW.

The keel bolts are upright from the bow to amidships. They then gradually lean to port reaching an angle of 40 degrees from vertical at the stern.

The muntz metal along the starboard side is nearly upright while on the port side the muntz metal is nearly flat.

The fact that no artifacts or any other material has been found indicates that it was most probably burnt to the waterline after being completely stripped.

In the summary of shipwrecks in the Fremantle Port Authority Magazine spring copy of 1974 vol. 5 no. 4 written by Dennis Robinson Association Secretary, there is no evidence of a wreck anywhere near the tonnage size of the Redemptora which was the largest wooden ship to enter the harbour for many years, and no other ship of that size has been recorded as missing in the Cockburn Sound area.

Further evidence is being sought and letters have been sent seeking the ship's measurements to places as far afield as Portugal. As yet these have been unsuccessful and further dives will be necessary to help in positive identification.

W. MARSHALL  
R. MINERS, 1978.

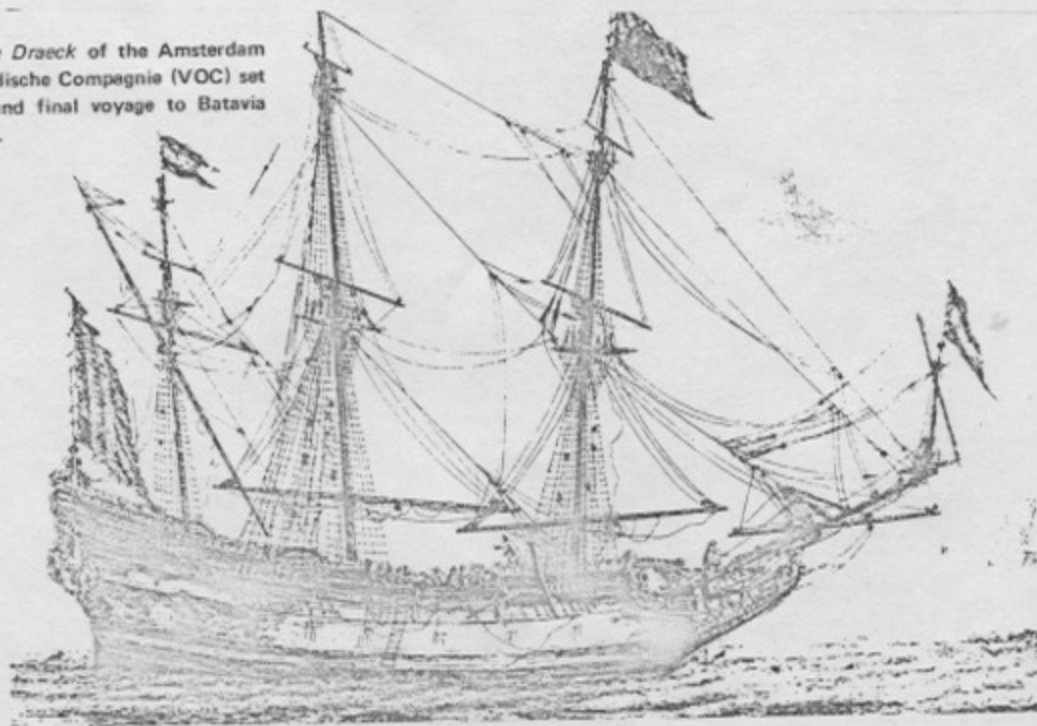
On 4 October 1655 the *Vergulde Draeck* of the Amsterdam Chamber of the Verenigde Oost-Indische Compagnie (VOC) set sail from Texel, on her second and final voyage to Batavia (modern Djakarta) in the East Indies.

Her master was Pieter Albertsz and she had a crew of about 193 men, indicating a medium size East Indiaman (she was occasionally referred to in contemporary texts as a yacht).

It is recorded that she carried a cargo of trade goods worth 106,400 fl. together with eight chests of silver coin worth 78,600 fl.

After stopping briefly at the Cape of Good Hope, she sailed east following the route to the East Indies established by Henrik Brouwer in 1611. This course followed the Roaring Forties east towards the Southland, and then north to Batavia.

On 28 April 1656, the *Vergulde Draeck* struck a reef close to the Southland at the beginning of the first day watch. Seventy-five survivors including the Master and Understeersman reached shore, and all that could be saved from the ship were a few provisions.



A Dutch East Indiaman, similar to the *Vergulde Draeck*. From an illustration in 1671 by Reinier Nooms.

An excerpt from "*Vergulde Draeck*" by Jeremy Green. Contained in "YOUR MUSEUM" published by the Trustees of the Western Australian Museum.



JERVOISE BAY AREA SEARCH

Drew Bathgate

Jervoise Bay became significant when Thomas Peel landed colonists there at a place called Clarence. Peel had an arrangement with the British Government that if he landed colonists by November 1st 1829 he would receive 1,000,000 acres of land on which to settle his colonists. Unfortunately due to many reasons his arrival was delayed until the 14th December 1829 and he had to forfeit his claim for the land.

He had 3 ships to transport his passengers to Australia. One was the Gilmore, a 500 ton brig, a big ship for those days and was the 1st to arrive at Jervoise Bay. His other 2 ships arrived later, the Hooghly dumped its passengers on the beaches of Clarence in mid summer to join the other people waiting for Peel to settle them. The 3rd was the Rockingham which arrived in mid winter and became involved in a severe gale. She put out 2 anchors but the capstans broke and the anchors dragged. The Rockingham ran aground on a sand bank, the exact spot is not known. Cannon were dropped overboard to lighten her and she floated free but was driven ashore and wrecked. The town built near this spot took her name Rockingham and developed into a major timber port.

The people at Clarence were left to fend for themselves. A drift away from the desolate area developed but a lot of people died before they could leave.

Years passed and as Rockingham was prospering as a timber port, Jervoise Bay was sometimes used as a layover bay for the ships. A small amunitions jetty was built\* to off load explosives for minign. This was later abandoned due to the setting up of a large reserve specifically for this purpose and Jervoise Bay again moved into the background but was not forgotten.

It was then common practice to use old ships as cargo hulks. These hulks were used to ferry out cargo, coal and passengers to awaiting ships that were too big to enter Cockburn Sound. These hulks were usually leaky and as they became uneconomical they were sold to salvage companies where they were stripped of all useful objects and disposed of.

An area had to be found to dump them and three places were most commonly used. One was west of Rottneest where the hulks had to be towed and scuttled. The other two places were Careening Bay and Jervoise Bay. Because of the large number of hulks used it was impossible to keep track of all of them more so as the names of the hulks often conflict with each other due to nicknames, mispronunciation or the complete lack of use of the original name.

With the arms race prior to World War 1 it was proposed to build a naval base in Jervoise Bay. A survey company named Cooke Mathews Fitzmaurice and Wilson, planned out the base but the only thing ever to be built was a small groyne.

After that failed Jervoise Bay was used by a small ship building yard and by pleasure craft. Plans are now in the air to build a large international ship building, repair and cleaning harbour.

ALACRITY                      115282                      1931                      Map ref 10

Formerly known as the JEAN BART the 353 ton twin screw, iron steamer was built in France in 1893. She was used to tow barges to the Henderson Naval Base under construction in Cockburn Sound. Later she was sold for scrap metal, but before her new owner could commence stripping, a gale blew her ashore near the ABEMAMA wreck. The 44 m hulk now lies rusting on the beach in Jervoise Bay.

It was suggested too, that a search of Jervoise Bay area be carried out because of a proposed plan to build a ship building yard in this vicinity.

The Metropolitan Regional Town Planning Authority also thought a search of this area was desirable and a formal request was made from them via the Fremantle Museum calling for volunteers from the Maritime Archaeological Association of Western Australia to do this.

A meeting was held at the Flying Angel Club and the area to be searched and methods to be used were proposed at subsequent meetings new ideas were discussed, a list of interested members was drawn up, a formal request to search the Jervoise Bay area was sent to the Fremantle Port Authority as this area is under the jurisdiction. A proposal to widen the aspects of the search was made by V. Green (Flora & Fauna) in conjunction with the Cockburn Sound Study Group and it was decided against this suggestion as it would not be practical for Maritime Archaeological Association of Western Australia to carry out this part of the programme in the time available and it was agreed that we search for wrecks only.

Many problems had to be overcome with this project.

The search area covers a vast expanse of sea floor and with only six months in which to complete the project it was clearly impossible to cover the whole area in this time. The problem was which area to search. It was decided, that as all known wrecks were close to shore, it was most likely that any other uncharted wrecks would be in the same vicinity so the search area was to extend 250 metres out from the beach.

As the visibility in the bay is very poor the use of rope for a controlled search pattern was not practical as it could not be kept sufficiently taught and straight to transmit messages along it. To overcome this problem 12' lengths of conduit were used. The fact that the area is a bay it naturally has a build up of silt and sediment which would completely cover small objects so it was decided that each diver carries a knife with which to dig into the bottom to detect any obscured objects.

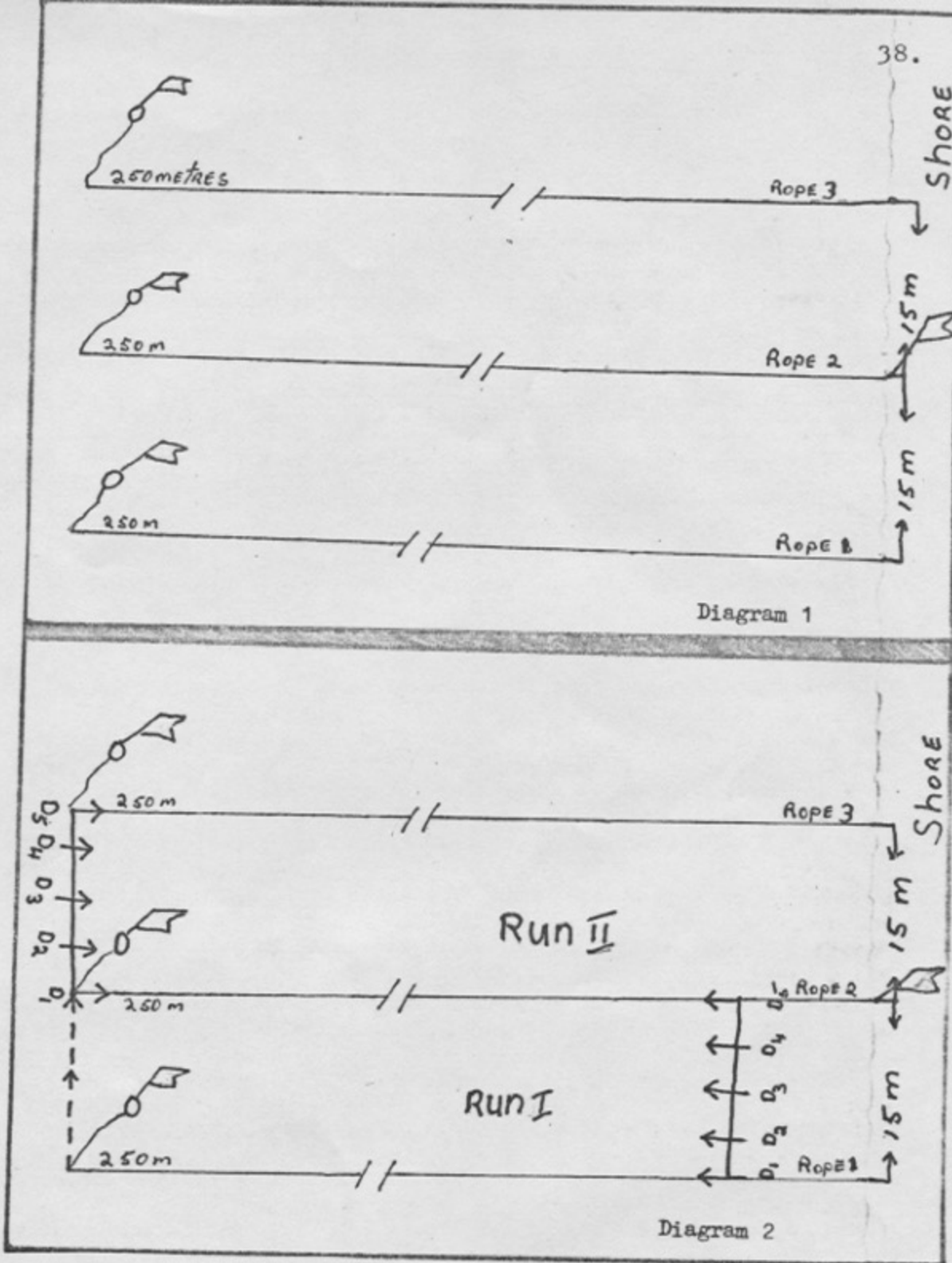
The association purchased 3 x 300 metre x 3 mm chord and lead weights were attached to the chord at 10 metre intervals and the rope extended 250 metres. Some inch conduit was obtained and floats and anchors were loaned by members (see diagram of search).

Letters were sent to 28 interested groups on the 30/8/78. The first dive was held on the 2nd and 3rd of September at the Cockburn sound power boat launching ramp. Five divers and eight surface crew attended and an area of 7500msq. was searched (a no. 4 boat anchor was recovered).

Unfortunately the second dive had to be cancelled due to rough seas. The dive on the 17th and 18th of September was held at the Jervoise Bay Yacht Club grounds and a search pattern was done on both days, a total of 15 divers and shore party members turned up. As a result an area of 16,000 msq. was searched. Nothing was found but a lot was gained in experience and understanding of the search method.

K X1 (Submarine) 1958 Map ref 10  
Dutch submarine with a displacement of 815 tons submerged, 611 tons surfaced and a length of 66.4 m, built in Rotterdam 1924. Based at Fremantle as a defensive sub during World War II and later stripped of serviceable parts

GEMMA 091856 1893 Map ref 11  
Formerly known as the H. BEENKE, the 318 ton wooden brig was built in Germany in 1868. She came into Fremantle on 10th January 1886 with a cargo of coal from Fleetwood, England, and was retained here for use as a hulk. On 27th September 1886, after having loaded a cargo of grain from the MARY BLAIR, she went aground near the South Jetty.  
Repaired and refloated, the GEMMA served as a cargo hulk until 15th August 1893 when she was towed to Jervoise Bay and beached.



- Diagram 1:
- 1, Anchor rope to the beach and run rope one out to the end of the reel.
  - 2, Secure the end of rope one with an anchor and attach a buoy with a "A" flag (divers flag).
  - 3, Repeat procedure to lay the two remaining ropes.
  - 4, Place a divers flat on the beach to warn boaters of the area you are using.

- Diagram 2:
- 1, Depending on the number of divers swimming the width of the two side ropes differ e.g. 5 divers - 15 metres - 6 divers - 19 metres.
  - 2, Join the conduit together and space divers out according to the visibility.
  - 3, Divers 1 and 5 swim along rope 1 and 2 respectively, the divers swim out to the end of the rope and surface. The whole line of divers swim across so that diver 1 and diver 5 have changed places on rope 2 and diver has gone to rope 3. The divers submerge and swim to shore.

## THE EXPERIENCES OF LYN HALL &amp; ROSIE HARPER

By Lyn

The 1978 expedition to Gun Island was a thrill and experience of a life time. I mean there are not too many people in Australia who can claim to have even been on a discovery expedition let alone a deserted island, 45 mls west of the mainland, and, this wife, mother and everyday house-wife was wildly excited at the prospect of playing 'mother' to 15 people for 2 weeks.

Before any trip gets underway, theres weeks, months of planning and preparation and a lot of thought went into the construction of a list of non-perishables and general stores to be ordered, packed and sealed from the salt water and 'mice' (which I was told inhabited the Island in large numbers). Powdered milk, tins of everything you can think of, pot and pans, gas primuses, detergent and herbs and spices, it was all there. Good old Rosy (who works for the Fremantle Maritime Museum) she had done it last year and in true style was instrumental in getting it all together again.

Feeling very inadequate and selfconciuous (through my lack of experience and knowledge in the field of Maritime Archaeology) I was soon to learn from our expedition leader, Catharine Ingelman-Sundberg, (Catta to her friends) that I had a part to play. Cog in the wheel you might say, if the quality of the food was down, so was the moral and well-being of the 'troops'. Well, having got rid of that hang-up, all I had to worry about, was being afraid of the dark and scared of mice! No one ever knew how I prayed for the courage to get through those weeks.

Before the show got underway I too packed a few 'props' for the purpose of the exercise. A dinner gong, candle and candelabra, a lace table-cloth, 4 chiefs hats, a little white waitress apron, even a black

negligee set, expecting to get a big raspberry. I'll tell you now, the morning it was worn, it didn't even get a comment. I mean how upsetting for a girl! I also took an old brunch coat, hair net and curlers, fluffy slippers and fag! but after the black negligee effort they didn't come out of the case.

Having never seen the Abrolhos before, it was an adventure of sorts. Those tiny little coral islands, most no bigger than our back yard, and the put-together houses of the cray fishermen seemingly ready to collapse like a pack of cards with one decent puff. No back garden for these people, flowers or trees, just the crystal clear waters of the Indian Ocean and the treasure it holds, treasure and secrets of which we were coming to discover more of - we hoped.

After a supreme effort by all, and with the help of the cray-men, we unloaded boat after boat, box after crate of equipment and carried it down the "Highway" (a dirt track) to the other side of the Island where camp was made. A credit to the leaders and organisers who had done it before. I'd say it took two days or so before we were all functioning properly. I was thrilled to find tables and tressle seats and a work bench table already constructed. This furniture had been built with skill and initiative from old timbers on the Island bearing in mind that apart from the Zeewijk survivors the Guano diggers had mined the Island from ... to ... , not that there was much evidence of visible trace of anyone ever having been there, the Island is protected by the Department of Fisheries and Fauna and isn't defaced in any way.

The Mess tent, its adjoining annex and the Office tent were the hub of our little community, especially at meal times. The 'boys' created the Gun Island Country Club, (a couple of seats and sign to say so) for the happy hour prior to the evening meal. This turned out to be the 'in' place - there wasn't anywhere else to go - even specialised in hair cuts (two in my short stay).

After getting the priorities right, first the Mess tent, then the Country Club, next on the construction agenda was our ablution block. I say ablution block, but a rather crude, but solid toilet arrangement was it! You had to experience it to believe it, you also had to be quick to get to and from it without too much attention.

Anyway we girls weren't one for cutting a pack lunch and setting off in the dark.

Our showering and shampooing were done in that beautiful Indian Ocean I spoke of, so long as you shooed away the rays and 'bities' before you entered. We also had to make it quick in dropping the old "drawers" for fear of a male making his presence felt by popping his head then shoulders over the hill as he approached along Highway No. 1.

Another hazard on the Island was the ever present Mutton bird hole/nest. You had to be careful to stay on the well trodden ground or it would just give way. One such experience was when I decided to take some cut watermelon up to the 'troops' doing some land archaeology. I set off carrying my large board of melon and my camera, picking my way carefully over the hill behind camp and heading in the direction of the workers. The shock of my life when one false move put a foot down a Mutton Bird nest. What a predicament, trying to keep the water melon from falling, sand out of the camera, and height deep in oooo I didn't know what. In true female style I screamed for help and in true gallant style Mark came galloping over the hill to rescue me and my thong which was somewhere down there. As though he had a mine detector, Mark led the rest of the way and I delivered the morning tea.

The main form of transport on the Island was one's feet. Apart from that there was a wheel-barrow and the motor boat engine trolley. I was fortunate enough to book in at David and Martins Gun Island Tours, which for a small fee (extra sweets that night) took me on a tour in the

honourable wheel-barrow. Unfortunately, a combination of running out of Highway (the dirt track I've mentioned) and out of beer from the can; ran me fresh out of tour, all great fun though.

There was a serious side to my stay at Gun Island, that was primarily to care, prepare and to serve the food. We made things a little more homely by using some brightly colored shelving paper for place mats and then covered the whole table with a layer of plastic. An old Coke can filled with fresh sea water for a vase, the Island could supply a couple of species to decorate. Nothing like fresh flowers to brighten up the room.

Owing to the lack of refrigeration, our supply of fresh meat and vegetables was very limited and our meals were planned well in advance and supplemented with tinned rations.

There was also the problem of having once cooked the food (on the tops of three primus stoves) to keep it hot was impossible. However, there was always a hot breakfast (cereals preceding), lunch varied from sandwiches - plain or toasted - to smorg. salads etc. and we always managed 2 courses for tea.

There was never a dull evening for that first two weeks. We celebrated two birthdays (with parties) for which there was much preparing to do. Decorating the tent, ballons and streamers, the making of party hats - complete with names - A "Happy Birthday banner for the wall and of course a Birthday tea with traditional cake and candles. I've yet to see 6 year olds having more fun.

We had company for tea on evening when Maurie Glazier and some locals (cray people) came to visit. We tried to make tea as special as we could, we even wrote out Menues. With Catta on mouth-organ and guitar and Maurie on his accordian, we had a singalong to end all singalongs and all woke the next morn with hoarse voices.



A wonderful surprise for me, when on Holy Easter Sunday morning, a 2ft Easter-Bunny awaited me. All carefully folded and made from stiff paper.

I in turn unsealed one of our food drums and loaded up with little chocolate Easter-bunnies, proceeded to tent knock everyone with a "here comes Peter-cotton-tail".

There was a nice kind of family spirit on that little Island so far away from the world, No cars, busses, trucks, T.V. or hassel of our busy life.

Each one working hard, doing his bit and helping out when asked to. A lot of happy memories of a lot of nice people.

LYN HALL, 1978.

" At dawn on 9th June, 1727, the V.O.C. ship of the Chamber of Zeeland, Zeewijk, struck the northern end of Half Moon Reef on the Houtman Abrolhos, which is situated about 64km. from the mainland.

Soon after the disaster, the Zeewijk crew managed to get to a nearby island, known today as Gun Island. Here the survivors found freshwater and from the wreckage of the ship and mangrove trees on nearby islands, they managed to construct a vessel which they sailed to Batavia in the Indies. This vessel took 8 months to build, was called the Sloëpie and she carried 82 of the original crew of 208 to safety."

(An excerpt from "The V.O.C. Ship Zeewijk Lost in 1727" A preliminary report by Catharina Ingelman-Sundberg. Then Assistant Curator, now at the Malmo Museum Sweden.)

Some Notes on Hulks and Coal Hulks about Fremantle and Cockburn Sound Areas

by Richard McKenna

As our society moves on towards the coming of the next century, a passing glance backwards over the many years of man's progress, will no doubt place before our minds the past eras of our ancestors' achievements. One most important era has been described as "Man's Greatest and Glorious Age of Sail". I have talked with a number of old men who served time before the mast for many years, and then moved on into the steamship, and although all agree the most beautiful sight is to see a "Fullrigger" hull down and proceeding on its lawful way. However life on board them, in the main, was hard and sometimes cruel with long hours of work, sometimes in wet conditions and often with substandard foods. The Age of Sail spanned many centuries of time, and towards the end of the Era we have seen the once Ocean Flyer or lowly sailing tramp, spend out its last years as a hulk to service its rival, the steamship, which began a few in number to the many thousands on the sea lanes of today. Those few wind driven ships that are about today have been specially built and maintained to become sail training ships under various governments or Merchant Navy Flags.

Now before the days of the disappearance of the wind ships, hulks were common throughout the known world, old hulls came into being at the end of their sea going days to be used as storeships, etc., where warehouse storage was lacking, or overcrowded ashore. These hulls were used to store timber, general cargo, in earlier times many fluids in casks were kept in this way, and later fluids like cases of canned lighting kerosenes, oils, etc., were stored in these old hulls and during the latter part of the 1800s Fremantle had some of these types of hulks. With the coming of the steamship onto our coasts so came into being the coal hulks to store the much wanted 'Black Gold' within their rusty framework and to be towed to whichever ship was in need of replenishment, so that it may steam onwards to continue the circle of trade. In earlier days, hulks were kept in selected anchorages, like those at Careening Bay, opposite the port of Rockingham. Others were kept at Owen's Anchorage, now the Robb Jetty area, and from these two places,

when required, would be taken by a towing vessel to be placed alongside ships at Rockingham, to offload stored timber for export; whilst others at Owen's Anchorage would be taken up into Gage Roads to be placed alongside ships at anchor there, or alongside ships at the Old Long Jetty, to offload from incoming ships packages of lighting kerosenes, oils, etc., and later coals for the steamships. About the mid-1890s when the Inner Fremantle Harbour was opened for usage and by 1900s hulks were also moved into the inner harbour and were allotted a separate laying up area. At first only a few small coal hulks were needed at Fremantle, but as the port gradually became the hub of W.A. shipping, and the southern port of Albany began to decline after the First World War (1914-18) so the numbers of coal hulks grew and some even came up to Fremantle from Albany to continue to serve their owners.

At first most hulks were owned here by private local traders or Master Mariners who had come ashore after some years at sea, still some ships became hulks here after being wrecked on our shores, there to be declared a 'Total Constructive Loss', sold as 'Lay', successfully salvaged off the beach, made reasonably seaworthy enough to be brought to our Fremantle area and once here converted into a hulk. For example, the 3-masted wooden barque "ANNIE LISLE" of 347 tons, had been built in Quebec, Canada, in 1865 and had found her way trading into our local waters, when during the night of the 20th of May 1887, whilst at anchor in Gage Roads, she was struck in collision with the W.A. Steam Navigation Co.'s steamship "AUSTRALIND". The little barque suffered much damage and was duly written off, all salvageable gear, etc., along with her hull, being offered at auction at Fremantle, sold, and her hull becoming a hulk in these waters, and when her old hull had finished its useful days it is thought that she was put ashore in the old 'Ship's Grave Yard' then before 1910, was at Jervoise Bay, in that area where recently the huge Oil Drilling Rig, the "OCEAN ENDEAVOUR" was built, just south of Woodman's Point. Some many years earlier we had another wooden hulled vessel trading onto our coasts from South Australian waters under the name of "DAY DAWN", which was built in the U.S.A. as the American Whaler,

"THOMAS NYE" in 1851. On that fateful voyage, she came to Quindalup to load timber in July 1876, and during a severe gale there broke away from the jetty to be driven ashore and become total loss. Later sold 'As Lies', salvaged and brought up to Fremantle to be converted into a timber hulk, and believed used at Careening Bay for the Port of Rockingham. During dredging operations for the new Naval Base H.M.A.S. "STIRLING" at Careening Bay, Garden Island, during 1976, timbers of a wooden hulk were uncovered, and subsequent exploration by members of the Maritime Archaeology Association of W.A. has revealed that these timbers once belonged to this proud ship. The locally owned brig of 170 tons the "ELIZA BLANCHE", built in 1861 at Sunderland, England was a small but very handy size hull to end her days here as a hulk, to which she was converted during 1887 - she later met with a mishap in South Bay and had to be salvaged to remove her out of the way and her remains may also lie in the Ship's Grave Yard at Jervoise Bay.

The 120 foot "GEMMA" built of Wood, brig rigged in 1868 for German owners as the "H. BEENKE", eventually passed into the ownership of Charles Bethell & Co. of London, was loaded with a cargo of coal and sailed out to Fremantle, and here to be stripped down into a general purpose and coal hulk for usage about Gage Roads and Cockburn Sound. The old hulk ended her days when she was towed to the Jervoise Bay 'Ship's Grave Yard' during August 1893.

Perhaps the ship with the proudest Australian Historical importance to become a hulk here was the "OMEQ" ... which too ended as a timber hulk and then left her remains close to the Port of Fremantle. The iron hulled barque rigged ship was built in 1858 as a Steamship at Newcastle, in the U.K., made her maiden voyage out to Melbourne, Victoria, with cable laying gear fitted to her hull. On arrival there she was set about the task of laying the 200 odd miles of submarine cable from her holds onto the ocean floor between Melbourne and Tasmania. Then commenced trading carrying cargo and passengers between Eastern States ports, later she was to continue this same work from Australia across the Tasman Sea to New Zealand. Next she was taken in charter to convey for the South Australian Government coils of telephone

wire, poles, horses, and general stores, etc. for the telephone expedition to Darwin, then a part of South Australia (this was to build from the northern sector the 'Overland Telegraph' to link Australia with England via Singapore). Her first voyage commenced leaving Adelaide on the 17/9/1870, she then was used to make several more voyages carrying equipment northwards, and according to a plaque later placed at the mouth of the Roper River, N.T. which commemorates that the "OMEQ" having steamed 100 miles up that river with gear and supplies for the telegraph during February 1872. Afterwards back into the New Zealand trade and to make her last voyage as a 'Steamer' in 1879, to be sold in 1880 to Howard Smith Ltd. at Melbourne and there was converted into a 'Jackass Rigged Barque' sailing ship. In September 1881 she came into the news, when she collided and demolished the Swan Spit Lighthouse structure in Port Phillip Bay, Melbourne. She then seems to have settled down to steady sailing in Australian and Trans-Pacific waters. In 1893 at Sydney, N.S.W., she was in collision with the Italian steamer "FIASO" and very nearly sunk. Repaired and back into trading to Java/Australia, and later to Durban, South Africa. In July 1895 she sailed into Hamelin Bay, W.A. to load railway sleepers, caught in bad weather alongside the jetty, she broke moorings, drifted to take bottom in the area between jetty and shore. Sold, salvaged, and brought up to Fremantle for use as a timber hulk out of Owen's Anchorage. About the turn of the century she was caught in another severe storm and blown ashore to end her days with a badly broken back, on the beach, alongside where Anchorage Butchers now stands at Coogee.

Fire at sea is perhaps the mariners greatest fear and to shore watchers at Fremantle during the evening of the 6th of February 1891, a sight of a burning sailing ship out in Gage Roads was a spectacular happening to the onlookers from shore, a fear of awesome being to the crew on the ship, then busily about trying to extinguish the flames. The ship was the "THORNLIBANK" of the Andrew Weir & Co. of Glasgow, Scotland, which had been built in 1886 by Russell & Co. of that port as a three-masted baque. She was completely gutted, declared a 'Total Loss' and offered for sale at auction at Fremantle, being purchased by

J. Bateman & Co., who used her as a general purpose hulk to store lighting kerosenes and oils, both in those times being brought into the colony in 4 gallon tins in cases of twos, also the ship stored some limited quantity of steaming coals probably for sale to the W.A. Steam Nav. Co. as the hulk "GEMMA" was shortly afterwards disposed of. About 1913-14 the hulk "THORNLIEBANK" was sold to McIllwraith & McEacharn Ltd. of Melbourne but remained based at Fremantle. Eventually outliving her useful life the old hulk was sold, stripped of all useful gear, and was towed out to the Ships' Graveyard, which had been proclaimed in an area some 20 miles west of Rottnest I., about 1910. The "THORNLIEBANK" was scuttled with placed charges in this area on the 18/4/1928.

Mention is made of the growing importance of Fremantle as the coming port of W.A. with the opening of the Inner Harbour, Australian coastal and overseas steamers began calling in greater numbers and so the demand for coal rapidly grew. The first company to foresee this growth had only just begun its long history, when it looked westwards and bought out the local firm of James Lilly and his Melbourne partners in 1883, acquiring several small steamers and the hulk "ELLEN" at Albany, and later believed to come up to Fremantle to end her days. This entry into our local waters was the Adelaide Steamship Co. of Adelaide, South Australia. With the discovery of gold in W.A. the race for miners and ships into our ports began in the 1890s, Fremantle getting much of this calling, other Companies soon began sending in their ships and to place coal hulks here to service them. Those to place hulks here were; McIllwraith & McEacharn Ltd., the Australian United Steam Navigation Co. Ltd., the Melbourne Steamship Co. Ltd., along with the mentioned Adelaide S.S. Co. Ltd., and not to forget our local Fremantle firm of Robert J. Lynn who were equal shareholders with Interstate Steamships Pty. Ltd. in the 'Fremantle Coal Co. Ltd.', R.J. Lynn eventually acquiring all interests in the Company.

The Adelaide S.S. Co. with Mr. J. Lilly as state manager began to organise coal requirements on the W.A. coast as soon as possible after acquiring Mr. Lilly's interests here. The vessel "HARRISON" which had been U.S.A.-owned and had loaded timber out of Bunbury, W.A. came into Fremantle in a badly leaking

condition, eventually to be condemned and converted into a hulk in 1877 and then acquired by the Adelaide S.S. Co. about 1883, to ultimately go to the ship's graveyard in Jervoise Bay about 1892 or so. About the mid-1880s the "SEA RIPPLE" a former 3-masted Barquentine, built of wood in 1863 at Sunderland, U.K., and owned then here by her Master, Mr. John Pringle and J. & W. Bateman before being acquired by the Adelaide Steamship Co. prior to 1886, for further use as a hulk, I find her first mentioned as a hulk in 1886 as being towed from Champion Bay (now Geraldton) to Fremantle by the Adelaide Co. steamer "ALBANY". The "SILVER STREAM" appears to have been here about this time but only for a very short period as she is later reported at Adelaide as in collision with a bridge during 1892. The "KEBROYD", built in 1866 and hulked in 1889 was a rather jinxed hulk for soon after coming here she was blown ashore in a storm and it was over a year before she was pulled off, then soon afterwards was blown ashore again to remain ashore for quite a period before being successfully got off. In the period ashore the Adelaide Co. hired the Albany hulk "ST. LAWRENCE" to work here in "KEBROYD" place at 50 pounds per month hire rate. "HERSCHEL" (sometimes spelt with a double "L" but incorrect) was built in 1857 of iron hull and spread her sails as a 'Fullrigged' ship before becoming hulked for the Adelaide S.S. Co. finally to end her hulking days about 1908. The "CONFERENCE" hulked by Adelaide S.S. Co. first at Albany about 1895, then came onto Fremantle before going to the graveyard about 1904. Not all old hulk hulls were of former sailing ships, the "EGMONT", built in 1864 as a steamer and later owned by the Australasian Steam Navigation Co, later the hulk was to become the first vessel to be sunk in the new ship's graveyard, some 20 miles or so west off Rottnest Island in 1910. 1888 saw the Adelaide S.S. Co. bid at auction in Fremantle for the condemned vessel "REDEMPTORA", of Brazilian ownership, that had earlier arrived at Fremantle badly dismasted and in leaky condition. Converted into a hulk she later came into the news in 1892 when she had just completed taking coals from a collier at Careening Bay, Garden Island, when she sprung a leak and was cut loose and allowed to drift ashore, to be later raised, and to continue hulk duties. Just when she was disposed of I do not know, but her remains are now

thought to be those of the 'Wreck of Stones' at the Jervoise Bay area, where these stones are described to resemble the shape of a ship's hull and further investigation by the M.A.A. of W.A. members has shown that ship's timbers burnt uppermost now lay beneath the stones, which is thought to have been ballast stones placed there whilst in permanent usage as a hulk. Whilst these hulks were tallying up the years the Adelaide S.S. Co. acquired the "TAMERLANE", built in 1861 of iron and of some 795 tons to be hulked here about 1896. This ship came into the news in September of 1918, when she was in collision with the Melbourne Steamship Co. passengership, "DIMBOOLA", commonly referred to as 'The Damm Roller' by all who travelled on and knew her, because of her poor sea keeping qualities. Experts brought here said the "TAMERLANE" would have to be dismantled or blown apart to be removed from the harbour, but Messrs. J. Ball & Sons said they could raise the sunken hull and were eventually given the job. The salvagers set about building a Cofferdam about the deck of the sunken hulk and continued this to above water level. This structure was some 170 feet long, 18 feet in height and weighed some 120 tons. It had to be assembled under water, and to withstand outside water pressures when the hull was pumped, after being made water tight, the structure had to be criss-crossed with many strengthening beams. The work was finally completed and the ship was successfully brought to the surface, and was hailed as a local achievement in engineering. The ship was to continue as a hulk for some more years before being towed out to the ship's graveyard beyond Rottneest Id in September 1926. The "SESA", another hulk for the Adelaide Co. came in here about 1904 or so. She had been built in 1869 as the "MALLOWDALE", a barque of some 1334 tons. Her bones now lay deep in 'Davy Jones' Locker', west of Rottneest Id where she was put in June 1928. The Adelaide S.S. Co brought the "MARANDA". built in 1867 as the "LORD CANNING", a fullrigger, to be towed to Fremantle by their vessel the "LAMMEROO" from Adelaide in 1915, and after quite a useful life was towed to the ships' graveyard by the tug "UCO" west of Rottneest about 1933. Another Adelaide S.S. Co. hulk was the "MERION", built in 1880 as the "COUNTY OF MERIONETH" to be hulked at Sydney,



N.S.W. in 1911. Later she was to be towed to Fremantle about 1919 to replace the sunken "TAMERLANE". She served well here till towed back to Adelaide by the cargo ship "ARKABA" about 1927. Perhaps the last and best known to us older folks of the hulks was the Adelaide S.S. Co. hulk "BANKFIELDS", built in 1876 as the "JAMES BEAZLEY" and became a hulk at Adelaide in 1911, before being towed to Fremantle for further duties in 1918. She was the longest serving hulk at Fremantle to my knowledge, and was towed out to the ships' graveyard west of Rottnest Id on the 7/6/1950 where she was sent to the bottom.

Now we pass on to the shipping concern of: McIllwraith & McEacharn Pty. Ltd., of Melbourne, Victoria. Just when they came onto the scene as coal hulk owners at Fremantle I am not sure, but their hulk the "TOCOPILLA" came here sometime about or prior to 1907. The little 3 masted iron hulled British built barque was to come off the builder's ways in 1865, for U.K. owners to trade from England to the west coast of South America, and took her name from a port of that region. During the 1890s she passes to the Danish flag and changes her name to "RIBE", and later to be inspected for purchase by McI. & McE. about mid-1906. The ship was then bought and sailed out to Fremantle to be cut down into a coal hulk for service here. Her life came to a close with her old hull being towed out beyond the western horizon off Rottnest Id and there sunk during February 1924. Another of this company's early hulks was the small 644 ton former 3-masted barque, "KNOWSLEY" which was built in 1864, later to pass into German ownership and to be renamed "EUTERPE", still later to pass into Danish owners and to acquire a new name, as the "ANNA MARIA SCHWALBE", and apparently she came to Fremantle area just prior to W.W.I. for she is first registered here in 1913 (June). I am of the opinion this hulk came to Fremantle from Albany, W.A., where she was apparently used there as a hulk, probably by the same owners, and perhaps using her former Danish name. I have found a number of references to a "MARIA SCHWAB" hulk at that port in newspaper articles and interviews, perhaps brought about by name corruption to something shorter, however if the both be the one and the same, then she went to the ships' graveyard west of Rottnest Id about 1923. Next to enter this company's fleet of hulks was the "CONCORDIA" which had been built

in 1890 by J. Lange of Vegesack, Germany. Her owners used her on the Europe-Australia run and then in the early 1900s she passed into Norwegian owners without change of name and was used in world wide tramp trades. She made a number of voyages out to W.A. and loaded back to Europe with copper ore out of Balla Balla, north west of W.A. It was there too that she met her fate - for during the same cyclone that was to claim the Adelaide S.S. Co.'s steamer "KOOMBANA", two sailing ships, the "CROWN OF ENGLAND" and the "CONCORDIA" and some barges were driven ashore by the savage winds during the night of the 21st/22nd of March 1912. The "CROWN OF ENGLAND" was a complete loss and left her remains there for all times. The "CONCORDIA" was ashore on a sandy bottom and was to be successfully got off into deep water and later was to be towed down to Fremantle by the Swan River Shipping Company's new tug "WYOLA" which was on her delivery voyage from her builders in the U.K. to her home port, both tug and tow, the "CONCORDIA" arrived safely at Fremantle on the 5/10/1912. Many years later the hulk ended her sea days west of Rottnest Id on the 20/4/1948.

Just after the "KNOWSLEY" came here in about 1913, another ship came in under sails to be cut down into a hulk for McI. & McE. Ltd., she was the "COUNTY OF CAITHNESS", built in 1876 by Barclay Curle & Co. of Glasgow, as an iron hulled fullrigger of some 1715 tons gross. Later she was acquired by Norwegian owners and her rig reduced to that of a barque and renamed "SOFIE". The ship was lying at Monte Video in 1914 when inspected and purchased for use as a hulk by the Company's representative and then sailed to Fremantle and likewise cut down into a hulk. She too ended her days in Davy Jones' Locker west of Rottnest Id about 1930.

Perhaps the most well known and sometimes referred as the glamour ship to become a hulk at Fremantle was the "SAMUEL PLIMSOLL". This iron hulled fullrigger was built in 1873 by W. Hood and Co. at Aberdeen, and was some 1491 ton gross, for owners George Thompson & Co. of the same port. The shipping line was more popularly known as the Aberdeen Star Line and was well known in the England to Australia migrant and cargo services, and loading wool for the return voyage, which often became a race to get the first clip to the London market.

The vessel was named after Mr. Samuel Plimsoll, a politician of the U.K. House of Commons. The Gentleman was the Instigator for ship's Safety at Sea and the introduction into the English Parliament (& Law), of ships safety regulations and the "LOAD LINE", which is displayed on both sides of allships to this day and is known as the "Plimsoll Line". The "Samuel Plimsoll" as a ship was a consistant pace maker throughout most of her career & sea going life in the Australian and New Zealand Trades, when both out bound and homewards, she proved her worth. Two examples, of many, as on her way out in 1876 over 8 days run she averaged the distance of 2502 miles, whilst homeward in 1895 from Melbourne in a 13 day run she covered some 4020 miles. I have read several authors accounts of her life, and I'm sorry to say, all report that this ship as having a remarkable trouble free life before becoming a coal hulk at Fremantle.

I am of the opinion that she gave her owners more than their share of worries although she was a consistant sailor for them. Out of Plymouth for Australia with a cargo and Migrants, on the 6/8/1875 she collided and sank the Italian Barque "Enrica", and then suffered damage to herself and had to put back to effect repairs and land survivors. Some years later whilst passing through the tropics, bound for Melbourne she was struck by a sudden squall and lost her Fore top mast and main topgallant mast. A Yankee ship nearby offered to take the passengers onto Melbourne for the stricken "Samuel Plimsoll" to be somewhat late on arrival at that port, when he was told that the said ship had arrived at Melbourne some 2 or 3 days before he had arrived and that Capt. Boaden was in fact in the same building. During 1898 when outward from Melbourne for Sydney and the U.K., the ship was struck by a sudden squall off the coast and suffered a snapped jibboom and lost her fore top mast etc. and later made Sydney in a sorry state. A year later, whilst in London docks, she caught fire and had to be sunk alongside to save the ship. Raised, refitted.. and then sold to Shaw, Savill and Co., and placed on that Company's England to New Zealand service, a service in which she only had another three years of sea bourne life for her new owners. In September 1902 when nearing the N.Z. coast she ran into the full fury of a howling Southerly gale, and within minutes her hull was a floating shambles., yards and sails had come down and masts had gone overboard and the ship was drifting, attempts were being made at Jury rigging when she was found and towed into Gisbourne Roads and afterwards towed to Port Chalmers to discharge her cargo, on completion of which she was towed across the Tasman sea to Sydney and there offered "As Lies, as is".

Purchased in 1902 by J. & A. Brown, shipowners and coal merchants of Newcastle and Sydney, the "Samuel Plimsoll" was converted into a coal hulk, then towed to Albany by the S.S. "Duckenfield" of Brown's fleet of Colliers, to arrive at Albany in May 1902. After her arrival at Albany her hull was filled with coal from the "Duckenfield's" holds and Brown's then commenced for the first occasion to ply for trade as ship bunkerer's and suppliers at that southern W.A. Port.

I find the "Samuel Plimsoll" first recorded at Fremantle in 1915, still owned by J. & A. Brown and the register shows she was acquired and registered at that Port (Fremantle), by McMillwraith and McEacharn Ltd. in January 1922. The hulk came into thenews on the 18/6/1945 when bunkering the S.S. "Kooringa" in Fremantle harbour during bad weather, she was struck in collision by the British India Steam Navigation Co. vessel, "Dalgoma"...

In the effort to get her up the harbour towards the small craft pens near the old wooden railway bridge, the hulk, "SAMUEL PLIMSOLL" sank on a near even keel with about 400 tons of coal in her holds, when out some distance off 'H' shed, Victoria Quay. Tenders were later called for her removal either 'As a Whole' or 'Piecemeal'. The latter method was used, with the bow and stern sections being lifted up in a single section, each to be placed on the old barge "ROCKINGHAM", by the 80 ton floating crane "PELICAN". The old barge was used for the salvage operation and a small crane was placed on her to assist for the smaller pieces to be raised. When enough pieces were raised the barge would be towed out of the harbour and the wreckage was dumped on the wreck site of the "LYGNERN" at the Beagle Rocks, just south of the South Mole at the harbour entrance. So ended the life of a ship, others claim to have lived a remarkable trouble free life, but if we look at the story of her life, one must say she gave her owners their full share of worries.

The Melbourne S.S. Co. Ltd. had two hulks here at Fremantle. The first vessel as a hulk I find was the "LALLA", which was built in 1874 by J. O'Brien of Macan, in Nova Scotia, for a Mr. T.E. Kenny of Halifax in the same land. The ship was a three-masted barque of 1070 tons gross and to later be sold to Norwegian owners during the 1890s and finally came to Fremantle about 1906 to be hulked. Her first owner here was Mr. Geo. F. Gallop, then passed on to several others being: Mr. Geo. Francis, Mr. Reginald St Chad Young, who (both) later formed "The Collie Prop. Coalfields of W.A. Ltd.", and transferred ownership to that concern, then passed on to Mr. Zebina Lane, and was acquired by the Melbourne S.S. Co. Ltd. in 1912. Eventually to end her days to be sunk west of Rottnest Id by gunfire from H.M.A.S. "BRISBANE" on the 18/8/1917. With the dispatch of the "LALLA" the Melbourne S.S. Co. Ltd. replaced her with a hulk brought up from Albany called "MARY MOORE", but more affectionately called the "MAGGIE MOORE". She was built in 1868 by A. Stephen & Sons of Glasgow with a composite hull of iron frames and wooden planking, and of some 585 tons, for owner Mr. J. Norsman of Maryport, Cumberland, U.K. He used the ship in the trades out of U.K. to India. Later the ship was to pass to Australian ownership and make some coastal voyagings and then to pass into the ownership of the Melbourne

S.S. Co. and be cut down into a coal hulk and stationed at Albany, W.A. I have record of her at that port during 1916-18 and then she came up to Fremantle for a few years when in 1923 she was towed out of the harbour behind the new Melbourne S.S. Co.'s tug "TOORONGA", bound on her delivery voyage from the U.K. to Melbourne, Victoria, where both tug and hulk arrived on the 27/1/1923, and so eventually the old timer was to finish her days miles away from our waters.

Another small owner of hulks was The Fremantle Coal Company, run and owned by Mr. R.J. Lynn of Fremantle. They had two hulks here in partnership with Scott Fell & Co. (Interstate S.S. Co. Ltd.) but apparently only a business arrangement, as the Fremantle Coal Co. became the sole owners several months after each hulk came into service as such. The first acquired being the "CLEVEDON" built in 1873 of iron by Potter & Hodgkinson of Liverpool, U.K. for the Liverpool Shipping Co. as a 1860 ton gross three-mast fullrigger named the "CHRYSOMENE". Early 1900s passed into German hands to be renamed: "ELFRIEDA" and on the outbreak of W.W.I. (1914), she was taken over as a prize of war by the Royal Navy to be managed by J. Hardie & Co. on behalf of the War Shipping Administration section of the Board of Trade. After the war passed into the ownership of Scott Fell & Co. of Sydney, N.S.W. This firm used her in the grain trades between Australia/Europe and on her last grain carrying voyage departed from Adelaide on the 8/6/1921 and arrived for orders at Falmouth, England, on the 11/10/1921, after which she discharged and then turned up under sail at Fremantle and here was converted into a hulk during 1922. Her Capt. for the last 4 or 5 years of her sailing days brought her to Fremantle on her last voyage, was Capt. Kavanagh, later to be well known as a master in the State Shipping Service. The old hulk was sunk off Rottnest Id about October 1930. The second ship acquired by Mr. R.J. Lynn was the nicknamed "KIRKSHIRE", but her proper name rather lengthy being the "KIRKCUDBRIGHTSHIRE" which was built in 1884 by Russell & Co. of Port Glasgow, as an iron fullrigger of 1582 tons gross and was to serve her owners, Thomas Law & Co. well till sold for hulking in 1922. The "KIRKCUDBRIGHTSHIRE" was loaded with a cargo of bunker coals, and sailed out under her own power to Fremantle, where she was cut down into a hulk. In 1933 she was sold to

Mr. E.J. Hall for one pound to be scrapped. She was stripped of all salvageable gear and then towed out of the harbour by the S.S. "EMERALD" of Swan River tourist ferry fame, to the west of Rottnest Id on the 4/4/1934 and sunk into the ships' graveyard.

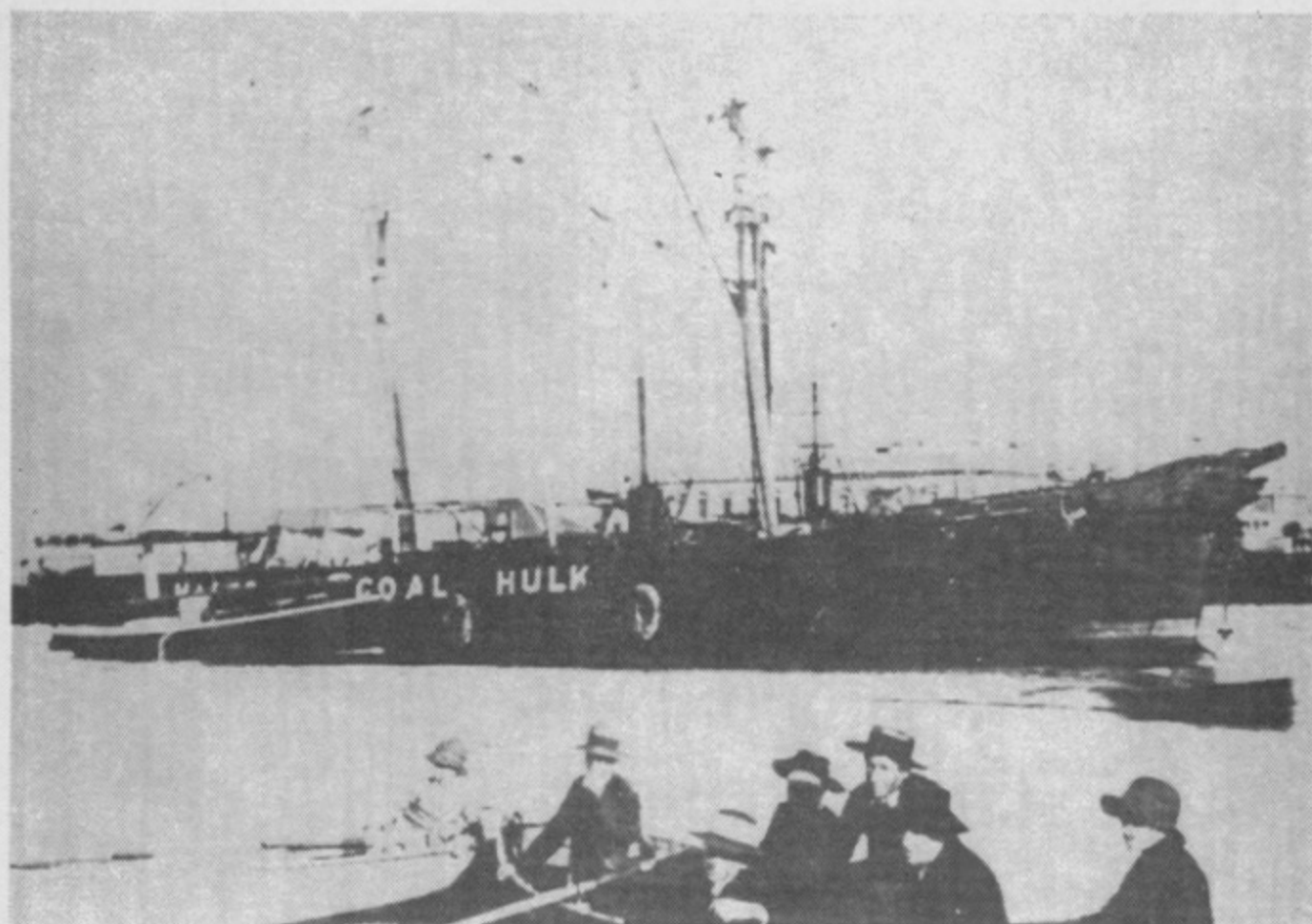
Another small hulk to stay with us for a short while was the 1869 year of building iron hulled 1258 ton fullrigger called the "LOCH NESS". She was built for William Aitken & James Lilburn famous line of sailing ships known as the "Loch" line, and strangely as it may seem, this leading and well known sailing ship concern never went into steamship owning or operating, and its name passed onto history. Later in its life the vessel was cut down in rig to that of a barque. She, along with a sister ship, the "LOCH TAY", were both sold to Adelaide interests in 1908, soon afterwards sold again to an Australian concern being the subsidiary of the North German Lloyd line of steamers out in this country. With the outbreak of W.W.I. (1914) the hulk was taken over as an internment of property, rather than a full prize of war. She was used, I believe, by the R.A.N. and brought to Fremantle to serve navy needs. Just when this service finished I do not know, nor whether she served as a hulk or to which owner she plied after W.W.I., and would be interesting to find out. However the record book shows she was taken out to a position west of Rottnest Is during August 1926, and there sunk by gunfire from H.M.A.S. "MELBOURNE".

So has the list of hulks that I have come across in newspapers, researches of registry documents, information from interviews, etc. been very briefly run through in these notes, I would like to thank the many who have given me assistance, and for any vessel I may have left out, or for any further information on the hulks mentioned I would greatly appreciate receiving, even though I have a very large file on these ships, researches are never ever completed, no matter how much one may think so and before finishing off this article I feel I must touch upon the life of the hulk itself. The man whose job it was to look after the hulk whilst in service in our port area.

The "Hull Keeper's" duties were often long hours, like those of many jobs on shore in the many walks of life in those by gone years. Very early rising, often long before daylight in cold wintry months, was the excepted ritual to

ready the hulk for its duties before it was to be taken alongside another ship for coaling work. One of the keeper's first jobs was to light up and raise steam in the small 'Donkey Boiler' housed on deck, then he would have to get out and check the hulk's coaling gear, which consisted of ropes, chains, shovels, cane coaling baskets, etc. Steam winches would have to be checked out, tried or tested with live steam and oiled up etc., ready for when the Bunkermen came on board to commence bunkering operations. Coal would be shovelled into large cane baskets in the hold of the hulk; then to be lifted by ropes through the steam driven winches and polleys to a position high above the deck of the hulk, the stumped masts of the hulk had a gaff type boom positioned high up on the mast to allow the coal laden basket to be lifted above the deck of the ship being bunkered, so it could be swung outboard to allow the basket to be lowered to a small trolley on rails, which were placed over the coaling ship's bunker hatch. The basket would then be pushed over the hatch and then tipped to empty its contents, other ships the coal basket would be lowered directly into the bunker hatch and its contents tipped out. When a coal hulk was fully laden down it would sit barely with its deck some 3 to 4 feet out of the water. A large merchant ship wanting coal bunkers in loaded condition would be about 4 to 10 feet out of the water, but in ballast condition could be some 20 to 25 feet out of the water, so hence the gaff boom high up on the stumped mast of the hulk, likewise some vessels bringing coal into Fremantle for these hulks too were fitted with these gaff booms high up on their masts to offload coals into the hulks, as the colliers would be low in the water and the hulk towering above the colliers' decks. When the hulk was returned to the lay up area, the hulk keeper would be required to place away all gear, shut down or bank the donkey boiler fire, check winches, etc., check mooring ropes, and if time available to carry out repairs to coaling gear. Mostly when a hulk went alongside a ship to be coaled the job was carried on till bunkering was completed and often several shifts being curtailed.

Now outwardly hulks here would appear to be dirty and rusting away as often



A Coal Hulk (Parsons)

Divers at work on the Lady Elizabeth





described in press reports, where as in the main this may be true from alongside but most hulks here carried a Hulk Keeper, living on board, he was often a married man, and he and his wife and family would live in the quarters on the poop deck which often was well fitted out as the ship's Captain's or owner's quarters and cabins when she sailed the high seas. I am interested in this side of the Hulk Keepers life and very little seems to have been recorded, so over the years I have gathered the names of some of these keepers and herewith is a list of some of them.

Mr. Fred Holman, keeper on the "MARY MOORE" at sometime during her stay.

Mr. Robert Harkess was a keeper on board the "BANKFIELDS" for many year, married, he and his wife brought up a family of four children on the hulk. Mrs. Harkess would often have to row the hulk's small dinghy to go ashore to do her shopping, even whilst the hulk was working in Fremantle Harbour. The same was required to take the children ashore to get to school.

Mr. Tom Smith, was a keeper on board the "TOCOPILLA".

Mr. Bert Gray, hulk keeper on the "CONCORDIA".

Mr. Joe Hitchfield was firstly on the "THORNLIEBANK" as keeper, then moved over to the "SAMUEL PLIMSOLL".

Mr. Adam Baker, keeper on the "COUNTY OF CAITHNESS".

Very little has been recorded of this side of the hulk's life on board and if any such records be found I feel obliged to request that these be brought out of dusting, or if locked within a person's mind, then these thoughts be placed on paper for all times. Likewise photos of individual hulks are very scarce and should these be come across, or even being kept for keepsake reasons, may be request that they be made available on loan for copying for historical records.

So after the passing of a great many years we have seen partly recorded some aspects of the age of the Coal and General Hulks about Fremantle and Cockburn Sound, now an ERA OF HISTORY.

RICHARD McKENNA I978

(This is one of the first and certainly the most detailed treatise on W.A. Coal Hulks published to date).

Editors Note.

## "WRECK HUNTING"

Graham Anderton

Unless a person comes upon a wreck by mistake some preliminary research is needed. Information regarding Western Australian shipwrecks can be obtained from the State Library in Perth. Graeme Henderson (Curator of Marine Archaeology) has laboriously gone through old newspapers and listed wrecks on a card that can be obtained from the librarian. Each shipwreck listed on this card has references to Colonial Newspapers housed in the library. To obtain clues as to where a ship has been wrecked the researcher needs to examine these newspapers that have been stored on microfilm.

Having obtained the references, the researcher then reads through all the relevant information regarding the shipwreck. Relevant information like landmarks, draft, tonnage, ballast, direction etc. should be noted. These points will provide necessary clues when attempting to locate the wreck.

After gathering this material the researcher begins the hard work of trying to locate the wreck. There are several methods of searching for a wreck using compass techniques, search lines or at random. Other more expensive equipment like metal detectors etc. or less costly gear like sledges can also be helpful.

As one of my major interests has been in spearfishing I have tended to use the random technique. Spearfishing has enabled me to "kill two birds with one stone". That is, while maintaining interest in what could have become quite boring I have been able to do some fishing and look for a wreck at the same time.

My main area of interest has been between the Southern End of Garden Island to Mandurah, situated to the south of Fremantle. Here no less than seventeen ships have been wrecked dating from 1834 to 1905. Some of these boats still remain undiscovered. Specific shipwreck finds that I have been involved in include the Star 1880 (two-masted top sail schooner) Belle of Bunbury 1886 (two-masted top sail schooner) and the Chalmers 1874 (three-masted sailing barque).

With clues from the Colonial newspapers we commenced looking for ballast (stones or bricks) old timbers (i.e. with borers or wood worm), brass or gun metal, iron, pottery, bottles etc. Iron can be misleading at times as it tends to age rapidly so that it is difficult to distinguish between what is ten years or 100 years old.

With the Star (70 tons). The wreck was approximately 1 1/8 miles south of the Sister Rocks, at the Northern end of the Murray reefs. We also knew that it was travelling in a North-westerly direction. With these clues we began to concentrate our search in this area. It was not long (1st day of search) that some of our diving club members (members of the Living Water Skindiving Club) found pieces of old timbers with brass spikes protruding. The following day with members of the Museum staff we located the main wreck site which was distinguishable by the ballast stones (granite), timbers of iron pieces. Here we also found fragments of crockery and a few wine bottles.

The Chalmers a 606 ton vessel was said to be 1/2 mile south of the Sister Rocks. This ship had actually come on the inside of the main reef line and was wrecked while they were trying to make their way back out to the open sea. For approximately three years "on-&-off" I've searched

unsuccessfully for this wreck. Then on one day we swam closer towards a reef that was approximately 100 yards further in, and we found a section of brass sheeting and then an old timber under a ledge. A bit further on we found the main wreck site. Once again, distinguishable by the ballast, ribs and keel etc. This vessel was several times larger than the schooner. Thus it was interesting comparing the different amounts of ballast and the sizes of the keel, ribs and rudder gudgeons.

With the Belle of Bunbury (90 tons) the research gave misleading information that the boat had been wrecked near the Murray reefs, while other reports indicated the vessel had gone down near Penguin Island. Fortunately a couple of our club members had heard of reports of other divers diving on an old wreck in Tug Passage (near Penguin Island). Several of our members found the wreck and were actually able to see it from the surface. Most of the keel and ribs were covered by sand and sea-grass. A lot of artifacts have been looted over the years though we located a rather nice anchor some 6 feet long.

Having found the wreck the next thing to do is to report the find to the Museum. Making sure we take good bearings and leaving a buoy or marker on the site. As much as possible the museum involved divers who found the wreck in surveys and excavation work.

In conclusion "wreck hunting" can be divided into a number of stages. First the research, followed by the hard work of searching, looking for visible signs of the wreck. (eg. brass or gun metal, old timbers, ballast, anchors, iron, bottles, crockery and china fragments). Finally the diver should take bearings and report the find to the Museum. I hope the above material will help the wreck seeker....."good hunting".

GRAHAM ANDERTON

(Graham is a long standing member of both the M.A.A.W.A. and Living Waters Spearfishing Club, and as such has successfully combined two diverse and seemingly incompatible activities. Editors Note.)

**BELLE OF BUNBURY** 075298      1886      Map ref 18  
42 ton, wooden schooner built in Bunbury W.A. in 1877 by J.D. Gibbs.

In 1879 she collided into the Bunbury Jetty. Later, in December 1886, she was wrecked on the Murray Reefs near Penguin Island where she struck and sailed 83 m before sinking in 6 m of water.

**CHALMERS**      1874      Map ref 18  
Totally wrecked on the Murray Reef 800 m south of The Sisters rock on the night of 19/20th March 1874 while carrying a load of sugar. The 594 ton wooden ship was built in Sunderland U.K. in 1851.

A ship may have several different names during its lifetime and this usually occurs with change of ownership. As a means of identification all British Registered ships carry an Official Number issued by the Board of Trade. On timber ships the number is burned in the main beam of the deck forward of the bridge. Steel ships have the number welded on the deck beam at the main hold forward of the bridge. The Official Number is never re-issued to another ship, although quite often there are many ships of the same name.

ON FINDING A WRECKby Scott "Slippery" Sledge

During my work as the Assistant Curator in charge of Wreck Inspection at the Western Australian Museum, I have found that most people are interested in history and want to do the right thing when they discover something which may be significant. In the case of a shipwreck this generally means bringing it to the notice of those who are interested and qualified to study it properly. I am often asked what should a person who finds a wreck do.

First of all; if you are lucky enough to find a wreck, what you should not do is decide for yourself that the wreck isn't of any historic significance, e.g. "It isn't very old", scavenge what you want from the remains and then forget about it.

It is important for a person who finds a shipwreck to remember that every wreck is a time capsule and maybe of great value to his or her local State, national and even the world's heritage, and should not be disturbed without proper care being taken to preserve the information which can be usefully "read" by professional and amateur maritime archaeologists.

Try to notice as much information about the site as possible to help the archaeologists locate and identify the wreck. Does the wreckage dry or partly dry at low tides? How far is the wreck from shore? What is the best approach and is there sage anchorage nearby? Does the hull appear to be wood, iron or of composite construction? Are there any fastening bolts evident? If so, are they iron, brass or copper? Is the hull outline discernible? What are the approximate dimensions? Are there any boilers, winches or other machinery? If there are any glass or ceramic materials what do they look like? Are there any other artifacts, such as cannons, anchors, cargo items or navigation instruments?

The archaeologist will want to know as much about the conditions as possible. What is the depth of water? Type of bottom? Visibility? Does the wreck become periodically covered with sand? (Such a site is usually characterized by very light marine growth and most of the wooden material will be relatively free of worm damage). If the wreck does cover with sand, what season or weather exposes it? Is the site much affected by currents, surf or bottom surge?

There is always a great temptation to pick up artifacts from the wreck. In principle this is very bad, and should be discouraged. In practice, often the bottles and bolts, etc., if taken to the archaeologist when reporting the wreck, can be useful clues in establishing the nature, period and possible identity of the wreck early. But this is never as informative as the items would be if investigated in their relationship to the rest of the wreckage. For instance if on a late 19th. century wooden wreck, a timber which can be identified as the keelson is found to have fastening bolts of 14/16 inch diameter, it is an indication that the size of the vessel was between 150 and 200 tons register. However, if the bolts are broken away from the timber by an over-eager wreck finder, all that can be learned is that the vessel had such bolts. It is difficult to make any hard and fast rule on it, because there are

sometimes good reasons for removing sample artifacts, e.g. if the wreck is so remote or something about its situation makes it unlikely that an archaeologist will be able to investigate it quickly; or, if there is reason to fear that the items may be stolen or destroyed if left. In any case, if you must pick up an artifact make careful note and a sketch of it's location and situation, so that important archaeological data will not be lost.

If your find is not very close to a prominent landmark, it may be difficult or impossible to re-locate at a later date. Whenever possible you should place a good marker on the location before you leave - even if you plan to return in a few hours. A buoy anchored to the bottom by a stout line is usually the best. If the situation is such that you fear a buoy would attract a harmful curiosity, the buoy can be placed a certain estimable distance away from the wreck in any given direction, preferably in line with an easily distinguishable landmark on the shore e.g. 100 metres SW, in line with the tip of Entrance Point, Garden Island. It is best to avoid attaching the float mooring line to items on the seabed which are covered with marine encrustations, as the line is likely to chafe on the sharp edges of shellfish and barnacles. This is only one of the many ways your marker buoy can disappear, so don't rely on it entirely. It is wise to get accurate bearings on the most clearly visible landmarks available. It is best to choose features which show on charts and are unlikely to move. A flock of sheep on a hill, for instance, is not a good landmark. Most boats are equipped with a magnetic compass, and this can be used, although a hand-held compass is normally easier to use and more accurate. There are a number of inexpensive sturdy plastic sextants on the market and I would advise anyone who does much boating or diving to invest in one. You may not find a shipwreck every day, but the instrument will come in handy to re-locate good diving and fishing spots as well. Many people who have never used a sextant believe that it is a complicated instrument. It is not. It is simply a mechanical device which measures the angle between two distant points, as a protractor does for near points. I've taught people to use a sextant in less than five minutes. No skill is required. Anyone who can see can take sextant angles. The big advantage of sextant bearings is that they do not suffer the variables which limit the accuracy of a compass. If, in spite of this advice, you find a fabulous wreck, and have neither compass or sextant with you, choose some clearly-visible-in-all-weather landmarks for visual transits, e.g. West Rock off Carnac Island in line with middle of conspicuous sand beach north end of Gardne Island. A set of such transits - as long as you remember them - will probably get you back to the spot. It is unlikely, however, that anyone else can successfully use your transits unless you make an accurate sketch or photograph them.

Now! Take all this information, and report your find to the Honourable Minister for the Department of Home Affairs in Canberra. In Western Australia the report should be made to the Director of the W.A. Museum, who has been delegated to act for the Federal Minister. I should point out the Historic Shipwrecks Act 1976 - where it has been proclaimed - requires you to notify the Minister "as soon as practicable" of your wreck, and also he is empowered to reward you if you are the first to give a sufficiently detailed report.

Happy hunting!

(Scott is an Assistant Curator at the museum and is the Inspector of wrecks. ed.)

MY ACTIVITIES WITH M.A.A.W.A. BY WALLY MARSHALL

As an explanation of my role within the association it is advised that prior to my retirement in 1973 I held an executive appointment with many pressures and responsibilities. As a result I sustained hypertension and made a resolution that on retirement I would lead an active life without accepting appointments or responsibilities. In brief I would be an "Indian" not a "Chief".

I joined the M.A.A.W.A. in April/May 1975 as a result of a conversation with Mike Pollard and since then I have been a member of various expeditions assisting the W.A. Museum. These are:-

a. BATAVIA

- |      |               |                 |
|------|---------------|-----------------|
| (i)  | May/June 1975 | approx. 7 weeks |
| (ii) | November 1976 | approx. 4 weeks |

b. ZEEWIJK

- |       |                |                 |
|-------|----------------|-----------------|
| (i)   | April/May 1976 | approx. 5 weeks |
| (ii)  | April/May 1977 | approx. 5 weeks |
| (iii) | April/May 1978 | approx. 3 weeks |

c. COASTAL ROUTE - Guilderton - Geraldton - January 1978 - approx. 2 weeks

d. JAMES MATTHEWS - several diving days

Prior to the M.A.A.W.A. being formed I was a member of expeditions assisting the W.A. Museum as follows:

- a. ZEEWIJK - 1972 - Mike Pollard was also a member
- b. BATAVIA - 1973 - Mike Pollard was also a member

On the ZEEWIJK 1976 expedition I accepted certain logistics responsibilities but on all others I was a member and undertook any task which came within my capabilities.

Certain memories remain from these expeditions, a few are:-

- a. In the BATAVIA 1975 expedition when Jerry Russell was working on a large lump of concretion on the wreck site from which he was obtaining coins. He called it FORT KNOX. Unfortunately he and all other M.A.A.W.A.'s

members had to leave, I remained. The next day Jeremy Green raised the lump and on BEACON island it turned out to be a treasure trove containing some hundreds of coins and an astrolabe in perfect condition. A telegram was then despatched to Jerry. His later remarks are UNPRINTABLE.

b. Also in the same expedition when I spent many hours, literally days in processing these coins through all cleaning processes, identification and registration. From memory the total weight of the cleaned coins amounted to 44 kilograms.

c. In the BATAVIA November 1976 expedition the frustration I felt through not being able to dive on the main wreck site because of the sea conditions. Admittedly much work was completed on the reef and the inner waters.

d. On all the ZEEWIJK expeditions the problem of mice and the difficulty of hammering tent pegs into the ground. Other aspects were:-

- (i) The numerous holes I was allocated to dig and finally to fill in;
- (ii) The problem of safe anchorages for our small boats and recovery of them when swamped and reconditioning of the outboard motors;
- (iii) The exhilaration of swimming (or pulling yourself) across the reef to the main wreck site area.

e. For record purposes on the ZEEWIJK 1972 expedition both the late JIM STEWART and myself sighted numerous cannon which appeared to have been jettisoned and the top cannon was approx. 14 feet from the surface. We were free swimming and the location of the cannon was such that it was impossible to make an accurate count. These have never been re-located and as I am now the only survivor I wish to leave this written record although I have mentioned this verbally to other members.

I have thoroughly enjoyed the comradeship of fellow members and all staff of the W.A. Museum with whom I have had contacts and hope this association can continue for some time to come. Due to the fact I spend almost every week end at GUILDERTON (the MOORE RIVER) my activities are restricted to major expeditions. However, should any Project Leader require assistance during week days I am available to assist.

(Wally's sentiments echo the feelings of M.A.A.W.A. members many of whom would give anything to be as involved in projects as Wally is.)

Editors Note.

### The 'Day Dawn' Site

An intricate marine manoeuvre has resulted in the preservation of a wooden-hulled wreck discovered by a dredge working in Caroening Bay, Garden Island.

Earlier this year a dredge began working in the bay in preparation for berthing for the Naval Support Facility at Garden Island.

The Commonwealth Department of Construction contacted the Museum when the wreck was uncovered and a joint plan to save the vessel was planned.

Under the supervision of a Museum maritime archaeologist, Mr Scott Sledge, the Department of Construction ordered its dredge to prepare a deep trench on the seaward side of the wreck.

Gently, the old sailing ship slid into the trench where it will remain safely out of the way until it can be researched and identified.

Mr Sledge said, 'The hull was nearly upright, buried in sand about 100 m offshore. She was

intact below the waterline and the timbers appear to be in a remarkably good state of preservation.

'The timbers are fastened with copper bolts and spikes, sheathed with yellow metal over tarred felt'.

Mr Sledge said that the presence of copper fastening bolts indicated that the vessel may have been built much earlier than 1850.

Although the historical significance of the wreck is at this time impossible to assess, it is a well-preserved large wooden hull of stout construction likely to be of value for educational and historical purposes.

Mr Sledge said that the decision to move the wreck into the trench meant that it would soon be covered by sand and thus remain in the same conditions in which it had survived for so long.

A decision on its ultimate future could then be made without haste.

The relocation of the Day Dawn wrecksite below the new harbour datum is a unique attempt to preserve an endangered wreck. The process is described in detail in the I.J.N.A. and will appear also in the association's report.

editors note.



By Mark Cliff

All glass, ceramic and stone material brought up from the sea floor, should be kept wet and placed in fresh water as soon as possible. If they are to be stored for a while then a fungicide should be added to the water, and the water in the storage container should be changed regularly.

(1) Ceramics - there are basically 3 types of ceramics arranged by their degree of firing;

- (i) earthenware
- (ii) stoneware
- (iii) porcelain (almost glass)

Low fired ceramics tend to dissolve when immersed in water for long periods, this makes earthenware easily scratched or broken.

Removal of Concretions. Two methods generally used;

- (i) Mechanical
- (ii) Chemical

(i) Do not allow the concretion to dry out, as they will solidify, dental picks, fingernails or any other tool which can be used to scrape away the marine growths without damaging the artefact.

(ii) Using a 2% solution of HCl-place the item in the acid, or apply by swabbing in the case of localised calcareous growths, watch for the bubbling action to stop, remove the item from the acid brush it down and repeat. Keep the artefact in the solution for as shorter time as possible.

Desalination. Place the article, after initial cleaning into tap water and leave for a few weeks changing the water regularly, then change to deionised or distilled water, again changing the water often. It is recommended that desalination (removal of salt) be continued for two months to ensure the complete removal of salt. Incomplete desalination may result in the glaze lifting or bubbling months after the article is put on display.

Stain Removal. (i) Iron Sulphide, black stains, can be removed by bleaching in Hydrogen peroxide 25 volumes (concentration) with 1 drop of stron ammonia. Leave the item in this solution for as short a time as is required to remove the stain, for localised stains place a cotton bud soaked in the solution over the stained area.

NEVER USE A HOUSEHOLD BLEACH ON CERAMICS.

After bleaching thoroughly rinse in deionised water.

(ii) Rust stains may be treated with 5-10% aqueous oxalic acid by immersion or swabbing. Clay bodies eg; earthenware Majolica ware if it has a high iron content should never be immersed in oxalic acid as they will dissolve.

Immersion for 10-15 minutes is generally sufficient to remove the stains. Fres- oxalic acid is needed once the solution becomes yellow-green in colour.

(iii) Organic food stains may be treated by applying a silicate poultice. Acetone, methylated spirits (not denatured), and methylene chloride are useful agents for stain removal.

- Adhesives (i) UHU glue-poly vinyl acetate, reversible in acetone.
- (ii) Tarzans Grip - nitrocellulose adhesive reversible in acetone. Do not allow this glue to get wet as it turns opaque and becomes almost insoluble in acetone.
- (iii) Araldehyde - reversible in Eposolve 299 (dissolves epoxy resins).

(2) Glass - should be treated in the same way as ceramics don't allow to dry out - remove concretion and desalinate.

If the surface of the glass is powdery or appears to be flaking off, the surface can be consolidated in a 10% solution of poly vinyl acetate in water (Aquadhere is a 50% solution of P.V.A.). The surface is coated with the solution either by dipping or by brushing on. This process can leave a streaky appearance. I have been told that a coat of parafin oil will make a scratched and scored surface look shiny and so improve the appearance of the object. (A common technique used by bottle collectors. Editors Note).

(3) Stone - including ballast bricks, building blocks, etc., should be mechanically cleaned and desalinated, before any further treatment is carried out they must be analysed to determine the type of rock. If a rock was calcareous in nature the HCl would have a disastrous effect on it's restoration.

Desalination is not important as in ceramics because of the porous nature of many stone materials, as such ballast bricks may survive perfectly well without desalination although a few of the museums thousands of bricks have completely disintegrated for no apparent reason.

Slate tiles are only required to be washed and cleaned and don't appear to be affected by salt crystallization.

#### STORAGE AND CONSERVATION OF METALS

Deterioration occurs in metals when they are removed from their stable marine environment by (a) Oxidation  
and (b) Dehydration

On site conservation involves keeping the object in a bucket of water or wrapped in wet bags or plastic to reduce the contact air and the dry atmosphere. Preliminary cleaning can be carried out.

Iron - rapidly deteriorates in a moist environment, iron artefacts can be stored in; (a) 2% caustic soda (NaOH) (iron objects do not corrode in alkaline solution) or wrapped in bags soaked in caustic.

(b) a dry environment, small iron objects will not corrode if kept dry in a container with silica gel.

To conserve iron the salt and moisture must be removed. Salt can be removed by (a) Electrolysis - an electric current is applied in a tank of NaOH (2%). The salt is removed by this assisted washing process.

Electrolysis takes about six months when used on a cast-iron cannon ball, the object is then dewatered (dried) using a dewatering fluid (Castrol), then the object is dipped in wax.

(b) High temperature - dry salt will volatilise at 1000°C.

Copper and Alloys - should be stored in (a) tap water must be kept completely wet.

(b) a dry environment.

The alloys of copper are brass (copper and zinc) and bronze (copper and tin). When kept in moist or humid conditions a corrosion process known as bronze disease occurs, in which the chlorides from the salt water combine with the copper forming copper chlorides. These are then hydrolysed forming Hydrochloric acid more copper chlorides, this process continues until you are left with a small pile of copper chloride (green) powder.

To conserve copper and its alloys it must first be cleaned. This is usually done mechanically or by using citric acid. Salt is then removed to prevent bronze disease by (a) Electrolysis

(b) 10% Citric Acid + 2% Thiourea

(c) Mechanically

Methods a and b take the object back to the original metal i.e.; no bronze disease, method c may still get the disease, so it must be impregnated with an inhibitor, benzene triazol and industrial meths as a 3% solution.

A coat of Incolac lacquer to prevent future corrosion or tarnishing is then applied.

When cleaning copper do not leave in citric acid for too long, use a pumice powder or a fine brush and water to remove stubborn stains.

Lead, Silver and Gold - these are stable metals and can be stored dry. Silver can be cleaned with a 2% citric acid solution and then by electrolysis.

MARK CLIFF

## WRECK TO BE EXCAVATED

Marine archeologists from the WA Museum will begin excavations soon on the wreck of the Lady Lyttleton which sank in Oyster Harbour, near Albany, in 1867.

The whaling vessel, which operated off the south coast, is expected to yield much historical material for the Albany branch museum, which is due to open in August.

Divers have already recovered a sextant, a collection of coins and some ship's fittings.

The Inspector of

Wrecks, Mr Scott Sledge, said that there were a number of wrecks in the Albany area, but they were usually covered with sand.

Unusual weather patterns recently had exposed some of these sites.

The Lady Lyttleton's figurehead was restored last year and would also be housed in the new branch museum.

An inspection of the wreck had shown that much whaling equipment was intact. Part of the ship's structure was visible above the sand.

"D/N 7-9-78

## Warning over divers

Boat users have been warned to keep clear of marker buoys in Jervoise Bay.

The appeal comes from the WA Maritime Archaeological Association whose members are engaged in diving work in the area.

Association secretary, Denis Robinson, said that because of a proposal to develop a shipbuilding industry in the bay in the Port of Fremantle's outer harbour, his association had been authorised by the WA Museum to carry out a survey of shipwrecks in the area.

Said Mr Robinson: "We know of the locations of eight shipwrecks which have been

the subject of preliminary surveys.

"However records show that there are other wrecks which so far have not been located."

M.A.A.W.A.Diary Of Activities

by Denis Robinson  
(Hon. Secretary 1974-79)

OCTOBER 1974

Inaugural General Meeting held on the 8th October at 8 Glyde Street, East Fremantle. Election of Office bearers. Mike Staines, President.

Committee formed to draft a constitution and investigate incorporation of Association.

Bank account opened at Subiaco Branch of R & I.

First publication received for M.A.A.W.A. Library - "Shipwrecks around Fremantle". Author Denis Robinson.

Family day to Cockburn Sound to visit stranded wrecks - "Kwinana", "Abemama", "Alacrity", "Omeo" and "Wyola".

Scott Sledge, Denis and Raina Robinson inspected over 30 wrecksites during W.A. Expedition to North West Coast.

NOVEMBER 1974

Indemnity forms distributed and signed by all members.

Marine Science course proposed for W.A.I.T. Several members enrolled in course as part time students.

Swimline conducted near Clarence Rocks in unsuccessful search for "Rockingham's" cannons.

"Lady Elizabeth" project started by clearing kelp off the wreck.

DECEMBER 1974

Several newspaper articles published outlining the formation of the Association and the proposed activities.

First equipment bought from Association funds - two survey tapes.

Unsuccessful search conducted for "Helen" or "Ellen" north of Woodman Point using swimline method.

JANUARY 1975

Several projects announced for 1975-

"James Matthews" at Woodman Point to be excavated.

"Batavia" expedition in the Abrolhos Islands at Easter.

FEBRUARY 1975

"James Matthews" project underway - air lifting sand to reveal 7000 slates.

Denis Robinson produced documentary of works done on the "James Matthews" site for ABC T.V.

Wreck "Centaur" inspected off North Beach

Unsuccessful line search conducted for anchors of the "James Matthews".

#### MARCH 1975

A survey of the "Lady Elizabeth" started under project leader Lindsay Hill.

Association's badge was adopted by the membership - the design features a diver inspecting an amphora which is symbolic of the birth of maritime archaeology as a science.

#### APRIL 1975

Expedition to Beacon Island to raise timbers off the "Batavia" attended by 8 members.

Research on "Redemptora" started by Loraine Frawley.

Denis Robinson and Hugh Edwards both filmed the "Batavia" for ABC T.V. Programme "This Day Tonight".

Photo-Mosaic started on "Lady Elizabeth" by Dave Gamble.

#### MAY 1975

Treasurer Loraine Frawley had moved to Victoria and Richard McKenna elected to the position.

Association funds over \$250.

W.A.I.T. Marine Studies group to build a towed sled. When built the unit would be available for M.A.A.W.A. members to search for wrecks.

#### JUNE 1975

Field day to Yanchep to survey the stranded wreck "Alex T. Brown". Sketches and drawings made of timbers.

#### JULY 1975

A family social day took place in the form of a "car trial". The course ended at Serpentine Dam where a picnic took place.

Search undertaken of Clarence Rocks area in attempt to find Mear's property. It was thought that if successful it may lead to the wreck of the "James".

#### AUGUST 1975

Myra Stanbury co-ordinating volunteer help at the Conservation Laboratory. Work had involved cleaning and sorting artefacts from "Batavia".

Aerial survey of shoreline of Cockburn Sound made by Mike Fane (pilot), Mike Staines and Mike Pollard.

SEPTEMBER 1975

W.A.I.T. conducted a survey to ascertain the possibility of starting a Marine Science Degree (later abandoned due to changes in Government Tertiary Education funding).

Draft constitution presented at meeting.

OCTOBER 1975 (1st Annual General Meeting)

Lindsay Hill elected President  
Membership for 1974/75 - 53

Number of members signed attendance book for year - 269  
Number of meetings held during year - 12  
Number of average membership attendance - 23

M.A.A.W.A. became affiliated with the Conservation Council of W.A.

Constitution adopted by membership.

NOVEMBER 1975

The wreck "Uribes" was found by Denis Robinson in Thomson Bay, Rottnest Island and was reported to the W.A. Museum.

Newsreel film made of the finding of the "Uribes" for the ABC T.V.

Two wrecks near the S.E. Power Station reported to the W.A. Museum by Mike Pollard.

Mike Staines appointed project leader "Redemptora".

Tony Rechner appointed project leader "Dato".

Some coal had been found on "Lady Elizabeth" presumably for a galley stove.

DECEMBER 1975

Unsuccessful search for "Sea Nymph" lost in vicinity of Robb's Jetty.

A short film "Down in the Brig" made by Denis Robinson was shown on ABC T.V. The film featured M.A.A.W.A. members on the "James Matthews".

JANUARY 1976

Mark Staniforth reported that the excavation of the "James Matthews" had exposed half of the hull.

FEBRUARY 1976

Planning underway for "Zeewijk" expedition.

Constitution under review of Crown Law Department.

MARCH 1976

Crown Law Department requires changes in Constitution.

New wreck found in Careening Cove, Garden Island. Lindsay Hill and George Green to be project Co-ordinators. Navy security to apply to divers working on this site.

APRIL 1976

"Zeewijk" expedition underway. Several M.A.A.W.A. members participating with W.A. Museum. An old Greek coin found on Rottnest Island was showed to members. It was believed to have been a facsimile or a novelty. Photos of 4 old coins were also presented which were supposedly found on a timber wreck on W.A. Coast. W.A. Museum officials were sceptical of such "finds".

MAY 1976

W.A. Museum agreed to pay for the cost of hiring the compressor being used for the excavation of the wreck in Careening Cove.

JUNE 1976

The Association's motif was incorporated onto official letterheads.

The food and drink account for the "Zeewijk" trip accounted to \$923.

An old divers helmet was found on the "Macedon" by Greg Scharf.

An "iron water tank" and "windlass" was uncovered during excavation on "Garden Island" wreck.

JULY 1976

M.A.A.W.A. became affiliated with the Institute for the Conservation of Cultural Material.

A group of association members complete a survey of residents living near the Careening Bay wreck for information on this and other wrecks.

AUGUST 1976

The W.A. Museum conducted a survey of persons interested in Maritime Archaeology Degree Course.

A "yard truss" found on Burns Beach was inspected by members on behalf of the W.A. Museum. It was presumed by the Museum officials to be the wreck "Eglinton".

SEPTEMBER 1976

Wreck in Careening Cove identified as "Day Dawn".

Jeremy Green of W.A. Museum nominated as the association's first "Life Member".

OCTOBER 1976 ( Second Annual General Meeting)

Certificate of Incorporation received from Crown Law Department.

Lindsay Hill elected as President for second term.

Research into the wrecking of "Day Dawn" carried out by Mike Pollard.

NOVEMBER 1976

A small group of members had attended the "Batavia", but little progress achieved due to bad weather.

DECEMBER 1976

"Day Dawn" in cleaning up stage.

Unsuccessful search made for "Twinkling Star" at northern end of Garden Island. Mike Pollard leader.

An incident involving another club not flying a divers flag at "Day Dawn" wreck site resulted in a warning by the Navy that access would be further restricted.

JANUARY 1977

Liaison at Garden Island maintained.

Capstan raised off "Day Dawn" wreck and transported to George Green's home for conservation treatment.

Search for "Rockingham" in Careening Bay was unsuccessful however a quantity of china cups and plates were found from World War II ships anchorage.

FEBRUARY 1977

Vinyl car stickers of Association emblem produced for members.

"Dredge D9" located in Cockburn Sound by George Green.



MARCH 1977

An "after gun" voice pipe was found in Careening Cove during another search for "Rockingham".

Unsuccessful search made for "Chalmers" by Graham Anderton.

A project to search for evidence of "Gilt Dragon" survivors to take place at Ledge Point under direction of Warren Robinson.

APRIL 1977

Ron Stevens drafted a cross-section of the "Day Dawn".

A field day in the use of a magnetometer was conducted over the north mole "barges".

A vessel was found by Denis Robinson in Mosman Bay; believed to be a Swan River Cement Co. barge.

MAY 1977

Some steel deck frames were raised from the "Day Dawn" and an article was written by Mike McCarthy of the whole project.

Stranded barge on beach north of Dyers Island identified as "Shark" by Denis Robinson from Port Authority records.

Steve Hill appointed to complete Photo-mosaic of "Lady Elizabeth".

JUNE 1977

Mike McCarthy appointed project leader of a survey of the old Fremantle jetty.

A 10 lecture series on Maritime Archaeology arranged for W.A.I.T. as a prelude to a conference in Perth in September.

JULY 1977

Mike Pollard reported a timber wreck about 25 metres in length north of Alcoa jetty.

A dive on the jetty at Fremantle resulted in the finding of several old bottles and china plates.

AUGUST 1977

Details announced for September Conference.

SEPTEMBER 1977

1st Southern Hemisphere Conference on Maritime Archaeology held at Sheraton Hotel. Several members attended and 2 papers presented by Conrad Groen and Denis Robinson on behalf of Association.

A metal-detector search of the Ledge Point well-site revealed a wide range of lead bullets and sundry items but no 17th Century material.

A group in N.S.W. and Victoria were each given permission to use M.A.A.W.A. motif and name for the formation of their new association.

State Taxation Department advised M.A.A.W.A. not eligible for exemption on Stamp Duty re-cheques.

#### OCTOBER 1977 (3rd Annual General Meeting)

Tony Rechner elected President.

New wreck legislation applying to Australian and West Australian published in newspapers.

The Commissariat building in Fremantle to be new branch of W.A. Museum.

M.A.A.W.A. invited to join Maritime Archaeology Advisory Board. Mike Pollard to be representative.

#### NOVEMBER 1977

M.A.A.W.A. became Associate Member of I.J.N.A.

Lindsay Hill appointed project leader on "Redemptora".

"Europa" wreck reported to Museum by Bill Maclay and a dive by members recovered china plates.

Field day at Museum drawing hull types.

#### DECEMBER 1977

Several members and their boats assisted the Department of Environment in a sea grass study of Cockburn Sound.

A dive at Cervantes revealed remains of a freezer cray fishing boat.

Tuart Hill High School students in conjunction with Mike McCarthy & Bill Marshall inspected some "barges" in the Canning River - recommended they be declared historic.

#### JANUARY 1978

New set of photographs taken of "Lady Elizabeth" wreck site for another photo-mosaic.

Phil Roberts appointed to investigate output of dredges, water and air lift.

Ian Warne produced first official Association T. Shirts.

An impression of the James Matthews completed by Mike McCarthy and put on display at the Fremantle Museum.

FEBRUARY 1978

Several members attended trip to Albany area where some whaling try pots were raised.

A "glass brick" and some ceramics were found on "Redemptora".

A "cement keg" was raised from the "Sepia" for display purposes in the Museum.

MARCH 1978

The President and Secretary spoke to several community groups on the Association's activities.

Several members took part in an expedition to Mombasa with the W.A. Museum to help excavate a Portuguese wreck.

APRIL 1978

Field day in use of Museum's magnetometer on "Sepia" wreck.

Formation of M.A.A. Tasmania underway.

A water dredge was used on the "Redemptora" by Bill Marshall & Russel Miners and revealed a further section of hull.

The expedition to the "Zeewijk" was very successful. Many M.A.A.W.A. members attended.

MAY 1978

A "new wreck" was discovered in Careening Bay using the magnetometer - a 3 metre galvanised iron canoe.

A "working bee" of M.A.A.W.A. members anti-fouled the Museum's work boat "Henrietta".

JUNE 1978

M.A.A. New South Wales underway with John Barch as foundation President.

Russel Miners had estimated the ballast stones in "Redemptora" as being 400 tonnes. Length now known to be 47 metres.

Search continues off Yanchep for anchors of "Wackende Boey". Warren Robinson of the Museum in charge.

Jervoise Bay area to be searched for missing vessels by M.A.A.W.A.

JULY 1978

During a field day practising with an underwater metal detector, a five tonne anchor was found and the owners, Taylor Woodrow Ltd. donated \$50 to the Association.

Following the cash donation for the anchor two sextants and a station pointer were purchased.

A koala and a M.A.A.W.A. T-Shirt were presented to Catharina Ingelman-Sundberg of the W.A. Museum as a token of appreciation for her assistance when she resigned to take up an appointment overseas.

#### AUGUST 1978

Balance in Association funds over \$700.00.

A water pump which had been donated to the Association in poor condition had undergone successful trials after being reconditioned by Bruce Potter.

Personalised name badges were purchased for all members to be worn at meetings. Lyn Hall ensured all members received and wore their badge.

A booklet of papers presented at the 1st Southern Hemisphere Conference on Maritime Archaeology was published by Peter Stone in Melbourne. A copy was placed in the Association's library.

Abrolhos Island declared marine reserve - restricted access for divers however M.A.A.W.A. would not be restricted on Museum Expeditions.

#### SEPTEMBER 1978

The search for wrecks in Jervis Bay was started utilising a swim line with 5 divers in a grid pattern. Denis Robinson appointed Project Leader.

Museum diver, Jimmy Stewart, passed away. Condolences sent from all members.

#### OCTOBER 1978 (4th Annual General Meeting)

Mike McCarthy elected President.

Membership for 1977/78 - 80.

George Green elected to the new position of Equipment Officer. All Association gear in future will be stored in a special lock-up shed at his home.

|   |        |
|---|--------|
| Number of members signing Attendance Book | - 417. |
| Number of meetings held during year       | - 12.  |
| Number of average attendance              | - 35   |

Committee Meeting decides on new association policy guidelines and an Archaeological Seminar to be held early in 1979.

#### NOVEMBER 1978

Lindsay Hill elected President following the retirement from the chair by Mike McCarthy as he had been appointed to a position on the permanent staff of the W.A. Museum.

The Wreck "Contest" was found in Mangles Bay, Rockingham by members Drew Bathgate, Colin Scrimshaw and Denis Robinson and was reported to the Museum.

During the "Contest" inspection a near accident occurred when a power boat drove close to members who were displaying a divers flag. The incident was reported to the Harbour and Lights Department who warned the driver of court action if it re-occurred.

Colin Scrimshaw appointed wreck researcher for Swan River area.

DECEMBER 1978

A large brass plate had been uncovered by Bill Marshall on the "Redemptora".

More "cement kegs" had been raised from the "Sepia" for display purposes in the new Museum.

A new "treasure" ship had been found on the Ningaloo Reef near Exmouth and several members assisted the Museum in a survey.

M.A.A.W.A. to become affiliated with the Maritime History Association of Australia.

Richard McKenna completes the history of Coal Hulks in the area.

Denis Robinson,  
December 1978.

