

## SEARCHING FOR SHIPWRECKS OFF ROBBERN ISLAND: AN EXERCISE IN CULTURAL RESOURCE MANAGEMENT\*

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### ABSTRACT

In February 1991, representatives from the Department of Correctional Services, the South African Navy, the National Monuments Council (NMC) and the Department of Archaeology, University of Cape Town (UCT) started a joint project which was completed in May of the following year. Codenamed 'Operation Sea Eagle', the project was initiated by the national government with the objective of assessing the underwater cultural resource in the area surrounding Robben Island. The combined results of underwater fieldwork and research in archives and libraries showed that this resource mainly consists of shipwrecks, dating from the 17th century to the present and originating from nine different nations. It could also be established that most shipping incidents were a result of a combination of natural, human and to a lesser extent technical factors. This article describes the research methodology which was followed and reports on some results of the project, which can be regarded as a first for Africa.

### INTRODUCTION

Due to the changing political situation in South Africa, Robben Island is slowly becoming more accessible. No political prisoners are detained anymore in the maximum security prison and it has been indicated that responsibility for the management of the island will be transferred within the next few years. For some time the future of the area has been uncertain. Suggestions made ranged from commercial exploitation to placing the territory under the control of the National Parks Board (Weekend Argus 18 May 1991:19; Cape Times 31 March 1992:1). In March 1993 the cabinet decided that Robben Island would not be exploited commercially and that a development programme be set in motion with provisions for protecting fauna, flora and shipwrecks in the area (Cape Times 4 March 1993:1).

For years, diving aimed at removing rock lobster (*Jasus lalandii*) and perlemoen (*Haliotis midae*) took place around the island, but also illegal profit-orientated salvage activities have been reported on several occasions. Unlike salvage, 'Operation Sea Eagle' involved a non-destructive survey of Robben Island's shipwrecks with the intention of providing advice on their future management. Although forming part of a larger management programme, the operation in itself was undertaken as an independent exercise (Werz & Deacon, 1992).

### PHYSICAL SETTING

Robben Island is situated in Table Bay at 33.48S and 18.22E. The island measures 3,4 by 2 km and is approximately 7,5 km from the nearest land (Fig.1). Its shoreline is rugged and jagged rock projections interspersed with eroded gullies can be found in most areas. Only the east coast contains some small stretches of sandy beach. The seabed in the immediate vicinity of the island consists mostly of rocks, interspersed with unconsolidated deposits ranging from boulders to sand.

Two main types of bedrock have been observed in the area. Granite can be found at a distance of some nautical miles out to sea off the south-west coast of the island. To the east, the seabed is characterised by unconsolidated sediment belonging to the Malmesbury Formation which can also be observed in the whole Table Bay area. The seabed off the east coast is quite shallow and flat, with a sandy mantle. From here, the depth gradually increases towards the center of Table Bay while the western side of the island is characterised by a steep bathymetric profile (Woodborne 1982:4-6A).

The wave action is considerable due to the long fetch and the deep waters surrounding the seaward side of the island. Waves with a height of up to 6 m have been observed which result in strong undercurrents. In addition, northerly and westerly winds, which normally prevail during the period from April to September,

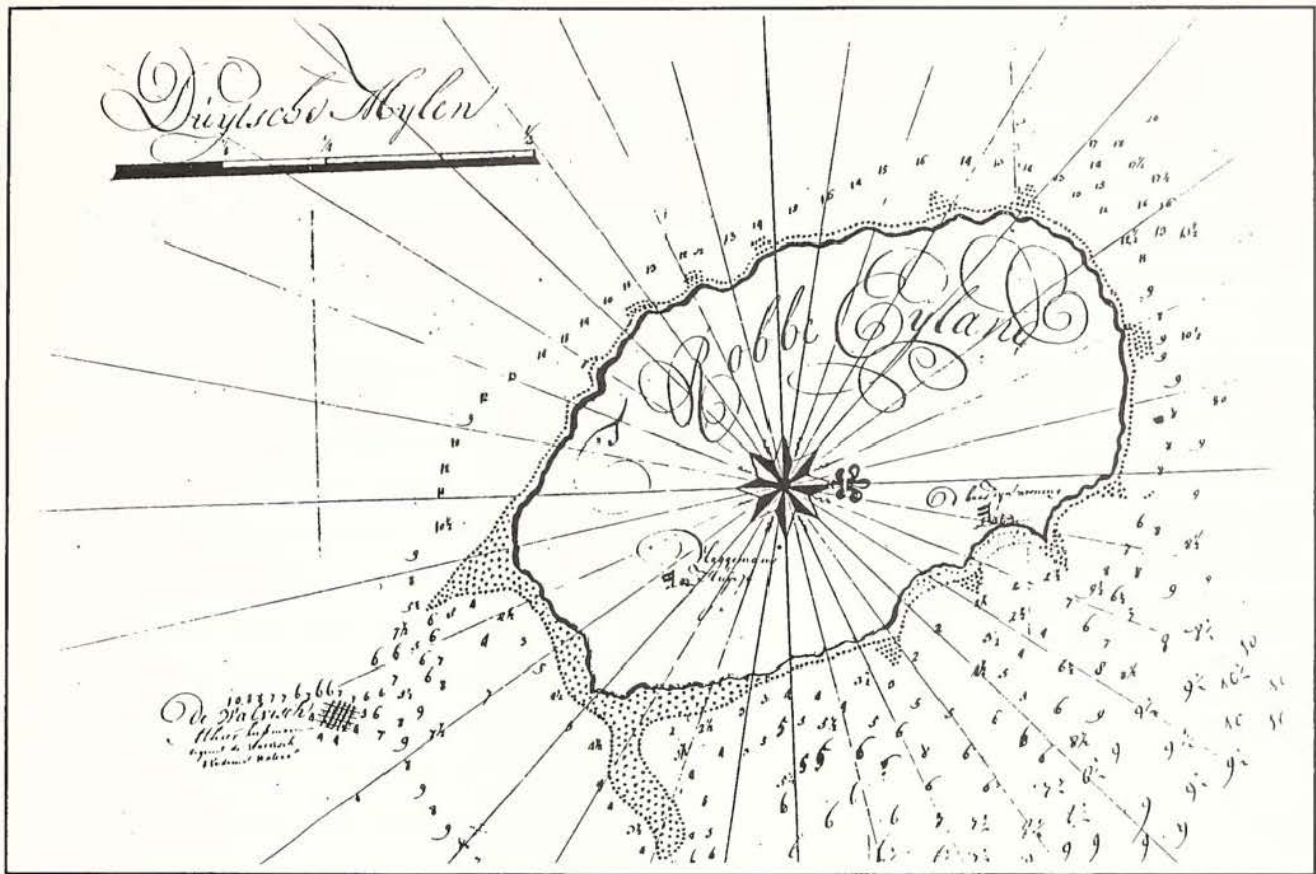


Fig. 1. Manuscript map of Robben Island, oriented to the west (1731). On the island, the position of a signalling station or "Vlaggemans Huijsje", near the present day lighthouse on Minto Hill, is indicated. The great number of soundings near the island's east coast indicate the 17th and 18th century anchorage. To the south, the position of Whale Rock, a notorious hazard to navigation, is marked. Source: Algemeen Rijks Archief, The Hague, The Netherlands. Collectie Leupe No. 194.

increase the wave size and make diving from the shore in winter virtually impossible. The south-easterly off-shore winds which are typical for the summer months have a positive effect in that they tend to decrease the wave size.

### FIELDWORK

The objective of fieldwork undertaken during 'Operation Sea Eagle' was to assess the location and state of shipwrecks within the restricted zone of one nautical mile surrounding Robben Island. Information obtained from documentary research and seabed observations indicated that no other cultural remains were to be expected, except for the foundations of a jetty on the south-eastern shore of the island. Underwater observations later showed that the jetty's construction is of little significance.

Preliminary arrangements for the operation were organised by a working group, which included representatives from the Departments of Correctional Services, National Education, Trade and Industry,

Customs and Excise, Sea Fisheries, the South African Navy and the NMC. This working group was directly responsible to the cabinet and created a special task group to undertake the survey (Werz 1991a:1). The task group compiled an operations plan which briefly described the envisaged *modus operandi* for the exercise. A breakdown into three phases was suggested.

1. Establishing the exact position of those places where cultural material had been deposited on the seabed.
2. Identification of located shipwreck sites.
3. Recording of located sites with underwater video.

Personnel for diving operations was provided by the Operational Dive Team, naval base Simonstown, and other Navy divers who assisted the maritime archaeologist (Werz, 1991b:1-2). Other logistical support was the joint responsibility of the Department of Correctional Services and the South African Navy, while assistance during survey work was provided by the Department of Surveying, University of Cape Town.

Fieldwork started on 26 February 1991. A total of 45 Navy divers was involved in the first stage of the operation which ended on 9 April. On average, the diving team consisted of twelve to fifteen Navy personnel and the maritime archaeologist. During the second and third field seasons, from 15 October to 27 November 1991 and from 17 February until the beginning of May 1992, smaller groups of six to eight people were employed. Due to the nature of the diving operation it

was decided to use SCUBA-gear, with compressed air as a breathing medium. Throughout the operation a one-person recompression chamber was kept on stand-by in the event of a sudden incapacitating medical event, like air-embolism or pneumothorax. In addition, a high pressure compressor for filling SCUBA-tanks and two boats were allocated to the project.

To allow for the optical surveying of located wreck sites, fifteen datum points were established along the shores of the island, ranging from 'Alpha' to 'Oscar'. In between these cardinal points, 62 sub-points were erected. Depending on the state of the terrain, several of these points were placed between adjacent cardinal points at an approximate distance of 200 m. The X- and Y-coordinates for each survey point were recorded in relation to the national gridsystem. Once located, wrecks were buoyed and plotted in from different stations by means of triangulation. The advantages of this method were the high level of accuracy obtained and its simple application.

Due to the size of the search area, diving operations were aimed first at locating and identifying those wrecks which foundered near the shores of the island. Relevant documentary evidence also indicated that the majority of wrecks were to be found in this area. Each day a section of several hundred meters long was demarcated parallel to the shore. Within the confines of this area the seabed was scanned systematically, using both parallel and perpendicular grid searches, from the low water mark to a distance of approximately 300 m off-shore. The conditions underwater and on the surface imposed severe constraints. Large swells combined with undercurrents caused by backwash, hampered the divers considerably. Besides that, most search areas were overgrown with thick kelp (*Ecklonia maxima*) which added an extra risk factor as on some occasions divers became entangled. As well, the kelp obscured large parts of the seabed from vision and covered several wrecksites which made observation difficult.

Before fieldwork started, the Navy suggested to undertake side-scan sonar and proton-magnetometer surveys to locate wreckage. It soon became clear, however, that such surveys were impractical due to the high risk of equipment being lost as a result of the presence of kelp and rock formations, the highly variable inshore bathymetry with limited waterdepths, often less than five metres, the strong swells and currents and the proximity to the shore. By using a hand-held underwater metal detector an alternative way of locating metal artefacts was attempted, especially in gullies which were sometimes covered by a shallow sandy mantle. Unfortunately, ferromagnetic minerals contained in the bedrock made this instrument unsuitable for detection purposes. All material located during 'Operation Sea Eagle' was therefore found through visual observations.

Efforts to identify wrecks, Phase 2 of the operation plan, were carried out at the same time. By using archival documents, contemporary newspaper reports, maps, charts, aerial photographs and information provided by people on the island, possible areas where incidents took place were indicated.

Located wrecks were at a later stage visually recorded with a Sony Handicam underwater video camera. During this third phase of the operation, many wrecks had to be relocated as buoys previously left on the various sites had washed away. A total of nine sites was filmed, including the "Bernicia", "Goel No.1", "Golden Crown", "Natal", "Rangatira", "Sea Eagle", "Solhagen", "Tantallon Castle", and an old anchor lying just south of the site of the "Sea Eagle" which was possibly lost by a ship when anchoring under the protection of the island's coast. Wreckage near Whale Rock was not recorded on video because of the high risk involved in diving this area. Weather and sea conditions were unfavourable at the time.

## LOCATION AND IDENTIFICATION OF SHIPWRECK SITES

The underwater survey was reasonably successful. Many shipwreck remains were accurately located (Fig. 2). Nearly half of these sites could be identified positively based on data obtained from archival information and underwater observations. This interplay between documentary and archaeological research has proved to be essential when conducting preliminary investigations aimed at locating and identifying historical shipwrecks in the underwater environment.

The remains of ten located vessels could be identified with certainty. These were the "Sea Eagle", "Bernicia", "Tantallon Castle", "Natal", "Rangatira", "Golden Crown", "Solhagen", "Fong Chung No.11", "Goel No.1" and "Daeyang Family". Five other sites were located, but fragmentation beyond recognition and in many cases interspersed materials from different sites prevented positive identification. Ships in this category probably include the "Kingston", "Bittern", "Timor", "A.H. Stevens", and "II Nazareno". The wrecks of seven vessels could not be found although relevant documents provided information on approximate positions. These include the "Dageraad", "Flora", "Perseverance", "Gondolier", "Forfarshire", "C. de Eizaguirre", and "Hypatia". In addition, two sites were discovered which only showed a limited quantity of cultural material, a boiler and some metal plates. This wreckage may have belonged to ships mentioned above (Appendix).

## DOCUMENTARY RESEARCH

The main objectives of the documentary research undertaken during 'Operation Sea Eagle' were: to produce an inventory of ships which foundered around Robben Island; to retrieve information which would permit positive identification of wrecks located during diving operations; and to identify those areas where incidents took place, in order to use the time available for fieldwork more productively. It was acknowledged that without a study of documentary evidence, no proper assessment of the cultural-historical potential of the area could be made. The combined results of both fieldwork and documentary research have indeed shown that without

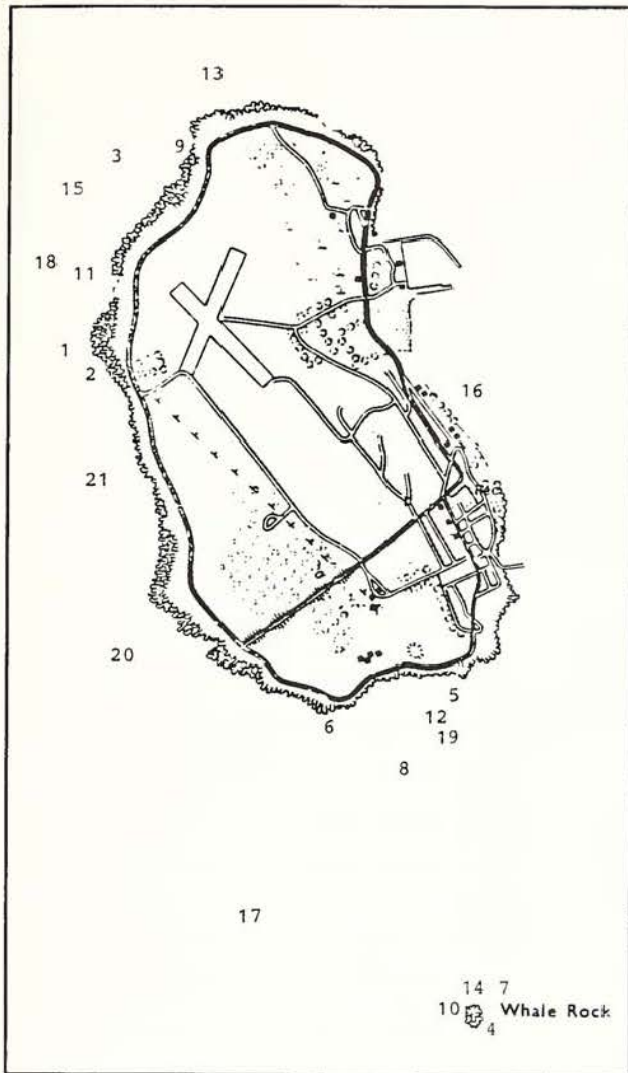


Fig. 2. Map of Robben Island, oriented to the true north, indicating the spatial distribution of shipwreck sites located during 'Operation Sea Eagle' (1993). The numbers correlate with the sites listed in the appendix. On the island, the position of roads, an abandoned airfield and Murray's Bay harbour on the east coast are shown.

the inclusion of the latter, most important information would not have been revealed.

The documents indicated that the cultural resource deposited on the seabed surrounding Robben Island is in fact greater than could have been deduced if only the results of the diving operations were taken into account. This is illustrated by the fact that of the 22 shipwrecks recorded in relevant documents only 15 were located by diving operations. In most cases names, nationalities, ships types and dates of foundering, as well as additional information such as tonnage, cargo and details of factors which led to the various incidents could be traced back. Without this information, none of the located sites would have been identified positively. The documentary evidence also assisted in assessing the cultural-historical value of wrecks.

Extensive use was made of documents currently lodged with the Cape Archives Depot and the South

CAPE TOWN, FRIDAY, NOVEMBER 21, 1856.

SALES BY AUCTION.

## Wrecked Ship "Sea Eagle."

A PUBLIC SALE

Of the Cargo saved from the Wreck of the American Ship "Sea Eagle,"  
CAPT. WILLIAMS, WILL BE HOLDEN AT H. M. CUSTOM-HOUSE YARD,

### This Morning, Friday,

AT 11 O'CLOCK,

The Original Cargo consisting of:

2 BOXES, containing a PLATFORM SCALE  
535 TONS OF ICE  
13 BOXES and 1 BUNDLE SUNDRIES  
1 GARDEN ENGINE, 1 SEED SOWER  
4 CASES MERCHANDIZE  
5 CASES and 2 KEGS OF MERCHANDIZE  
16 PACKAGES OF MERCHANDIZE  
1 CASE OF TOBACCO  
94 BOXES OF TOBACCO  
301 SPARS, various sizes  
100 BARRELS OF ROSIN  
150 BARRELS OF PITCH  
60 CARBOYS SPIRITS OF TURPENTINE  
1 TIN BOX and 8 BOATS' MASTS  
34 BOXES,  
13 PACKAGES,  
10 IRON PIECES, } MACHINERY  
4 FLY WHEELS,  
2 BOARDS,  
4 BOXES OF MERCHANDIZE  
36 PACKAGES Do.

AFTER WHICH WILL BE DISPOSED OF

The Hull of the said Ship, as she now lies in Murray's Bay, Robben Island,  
TOGETHER WITH HER

SAILS, RIGGING, CHAINS, ANCHORS, &C., &C.

DEANE & JOHNSON.

Fig. 3. Newspaper advertisement of a public sale of items recovered from the "Sea Eagle" (1856). Source: Cape of Good Hope shipping and mercantile gazette 21 November 1856.

African Library. The first stage was to draw up a list of wrecks known to have foundered in the area under study. Subsequently, detailed references to individual ships were traced. Contemporary newspaper reports provided valuable information on the foundering of vessels and goods which were salvaged from wrecks shortly afterwards (Fig. 3). Information provided by manuscripts proved to be of limited use. Short entries in the Registers of arrivals and departures of ships, for example, sometimes merely mention the fact that a vessel grounded or sank while the exact location was quite often not recorded (Cape Archives Depot 1/42, PC 3/1-3/21). Additional research in overseas archives might well provide more detailed information on the ships, specifically construction details, previous journeys, cargoes and people onboard (Werz, 1991d:1). However, the scope of the project, the limited time which was made available and insufficient funding did not allow for this.

An evaluation of available records brought some inconsistencies to light. For example, no references for the 18th century have been found as yet. Extensive research in the daily logs of events or "Dagregisters", which were kept at the Dutch East India Company's settlement at the Cape, could reveal further information (Cape Archives Depot 1/1, C). In some cases confusion was caused by inaccurate reports in secondary sources as

a result of inadequate research undertaken by others. For example, the "Lancastria" was described as: "wrecked on Robben Island on 31 December 1880" (Turner 1988:162). A contemporary source, however, reads: "The barque Lancastria ... parted one of her cables, drifted, and ultimately got ashore at Robberstein" (Argus Annual 1889:172). The location of the wreck was confirmed by another source which stated that: "The British bark Lancastria ... now lying on the beach at Robbestein Point, near Blueberg" (Argus 6 January 1881:1). This evidence has placed the wreck-site on the mainland, at a distance of more than 7 km from Robben Island.

Incorrect interpretation of archival documents by others has not only lead to incorrect locations of shipwreck sites. It could be concluded that some vessels were in fact not even deposited on the seabed, contrary to what was stated in some reports. The Dutch barque "Johannes Jacobus", for example, was thought to have gone ashore at Robben Island (NMC *n.d.*). Archival research undertaken during 'Operation Sea Eagle' showed that this vessel stranded on 26 April 1890, but returned to her anchorage shortly after (Cape Archives Depot 4/1, (CC) 3/7/2/4 *in dato* 29 June 1890). A similar incident happened to the "King Bleddyn", which hit Whale Rock but was pulled off and managed to reach Cape Town harbour for repairs (Argus 16 February 1925:9; 9 March 1925:12; Cape Times 30 October 1929:11).

Unfortunately, the maritime archaeologist was only called upon to become involved in "Operation Sea Eagle" shortly before diving operations started. Within a time span of a few days a plan of action had to be produced and preliminary archival research could not be undertaken (Werz 991c:3). This affected the results of the first field season, since relevant historical information which would have assisted in the identification and position of some wrecks was not directly available. As a result, archival research was conducted parallel to fieldwork throughout the duration of the project

## RESULTS

'Operation Sea Eagle' has shown that the potential of shipwrecks around Robben Island is variable. At present, archival information is available on 22 wrecks in the area but the possibility that even more vessels foundered around the island should not be excluded.

The approximate location of 21 archaeological sites was established. Of these, two contained isolated finds which have not been recorded in documents. The remaining 19 contained varying quantities of diverse material. The possible position of three shipwrecks could not be established as neither documents nor underwater observations provided relevant data.

With regard to the periods during which vessels foundered it appears that only two such incidents were properly recorded for the 17th century, although only the "Dageraad" (1694) was partly deposited underwater (Cape Archives Depot, C 1902). The "Schaapenjacht"

(1660) was cast ashore and its structure completely dismantled without leaving a trace in the archaeological record (Thom 1958:250, 254-255, 262, 267). No references were found to incidents occurring during the 18th century, but further research in the archives might well uncover more data. The majority of incidents took place during the 19th and 20th centuries in the ratio 11:10. Foundering during the 19th century are relatively evenly spread over the period, but the 20th century shows a more imbalanced trend.

It can be concluded from documentary evidence that in most cases a combination of events resulted in shipping disasters around Robben Island. In many cases, weather conditions contributed to these incidents including adverse winds and limited visibility due to fog or heavy rainfall. Also darkness, which made establishing an accurate position virtually impossible before the advent of modern technology, played a major role. Although the first lighthouse on Robben Island was built as early as 1864 (De Villiers 1971:106) a minimum of thirteen recorded incidents took place during the night.

Incorrect navigation procedures, calculations and failing navigational equipment has also been reported in some instances. An extreme example of this is the foundering of the "Fong Chung" in 1975. According to the ship's first distress call, its position was calculated at 120 miles south of Cape Town. Although this tunny boat was equipped with radar and other equipment it has been suggested that these instruments might have been switched off although visibility at the time was very limited (Cape Times 5 July 1975:21).

An analysis of the nationalities which are represented by the shipwrecks around Robben Island indicates an emphasis of British vessels. This can be explained by the important role played by the British in maritime traffic during the 19th century around the Cape. The ratio of British as compared to ships of other nationalities is 10 to 12. Others include: American (3), Dutch (3), Canadian, Italian, Korean, Norwegian, Spanish and Taiwanese.

The category of ships types is also diverse. A total of twelve sailing vessels is represented, consisting of four barques, four ships (proper), one or possibly two brigs, one clipper, one yacht and possibly one snow. The ten engine-driven vessels include two mail steamers, two steam whalers, one cargo steamer, one carrier, one research vessel, one steam liner, one steam trawler and one tunny boat.

Three areas where concentrations of wrecks occur can be distinguished: the north-west area, the south-south-east area and around Whale Rock (Fig. 2). This patterning is a result of the combination of factors contributing to the foundering of individual vessels. A subdivision between the spatial distribution of sailing vessels and that of engine driven vessels did not lead to any new conclusions. Analysis showed a relatively equal distribution of both types in the three areas. Based on this it can be concluded that environmental and human factors have played a much more significant role in the deposition of wrecks around Robben Island rather than vessel type.

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## APPENDIX: SHIPWRECKS AROUND ROBBEN ISLAND

The numbers refer to Fig. 2: Spatial distribution of shipwreck sites.

	Name	Flag	Type	Date sinking
1	A.H.Stevens	American	clipper ship	07-02-1862
2	Bernicia	British	barque	16-06-1861
3	Bittern	British	snow or brig	18-01-1848
4	Daeyang Family	Korean	carrier	30-03-1986
5	Flora	Dutch	ship (proper)	17-11-1821
6	Fong Chung No.11	Taiwanese	tunny boat	04-07-1975
7	Forfarshire	British	ship (proper)	15-09-1864
8	Goel No.1	Canadian	research ship	27-01-1976
9	Golden Crown	British	steam trawler	18-07-1923
10	Hypatia	British	cargo steamer	29-10-1929
11	Il Nazareno	Italian	barque	02-12-1885
12	Kingston	American	barque	23-12-1852
13	Natal	Norwegian	steam whaler	24-05-1914
14	Perseverance	British	ship (proper)	12-03-1826
15	Rangatira	British	steam liner	31-03-1916
16	Sea Eagle	American	ship (proper)	16-11-1856
17	Solhagen	British	steam whaler	11-09-1936
18	Tantallon Castle	British	mail steamer	07-05-1901
19	Timor	Dutch	barque	22-12-1856
20	isolated boiler			
21	metal plates			
Sites not located				
	C.de Eizaguirre	Spanish	mail steamer	26-05-1917
	Dageraad	Dutch	jacht	20-01-1694
	Gondolier	British	brig	07-02-1836

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