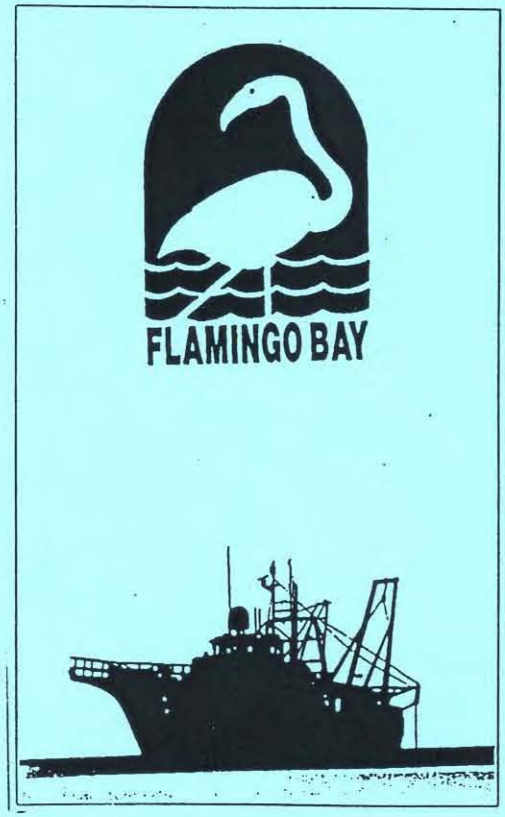
The 'Flamingo Bay Voyage'

including reports on
Japanese Submarine *I 124*
The Iron Barque *Ann Millicent*
Indonesian Divers at Cartier Island
Inspection of a site thought to be the *SS Koombana*



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Mr Ted Graham.
Mr Kerry Thom.
The Town of Port Hedland and the Port Hedland Port Authority
The Mayor, Karen Merrin.
Harbour Master, Capt. Ian Baird.

Explanatory Note

This offering replaces a preliminary report dealing solely with HIJMS *I124* which was produced in May 1990. Though some relevant documents still had not been made available, at the time, the mercury contamination issue surrounding *I 124* had not been resolved and the wreck was a continuing source of speculation and rumour. An interim report was clearly required.

Despite the fact that *I 124* was outside our area of responsibility, the WA Museum became involved in a manner which will soon become apparent. Acting as an independent historian, I attempted to produce an objective and informed assessment of the claims in the form of my May 1990 report.

In November 1990 I was finally able to view the last official documents that I had requested be made available to me relating to the submarine.

This, my final report on *I 124*, deals with a number of site inspections conducted in March and April 1989 onboard RV *Flamingo Bay*. Two of these sites, *I 124* and *Ann Millicent* are in waters administered for the purposes of the Historic Shipwrecks Act by the Northern Territory Museum and one, a site believed to be the *SS Koombana*, the rationale for the entire project, in waters administered by the Western Australian Museum.

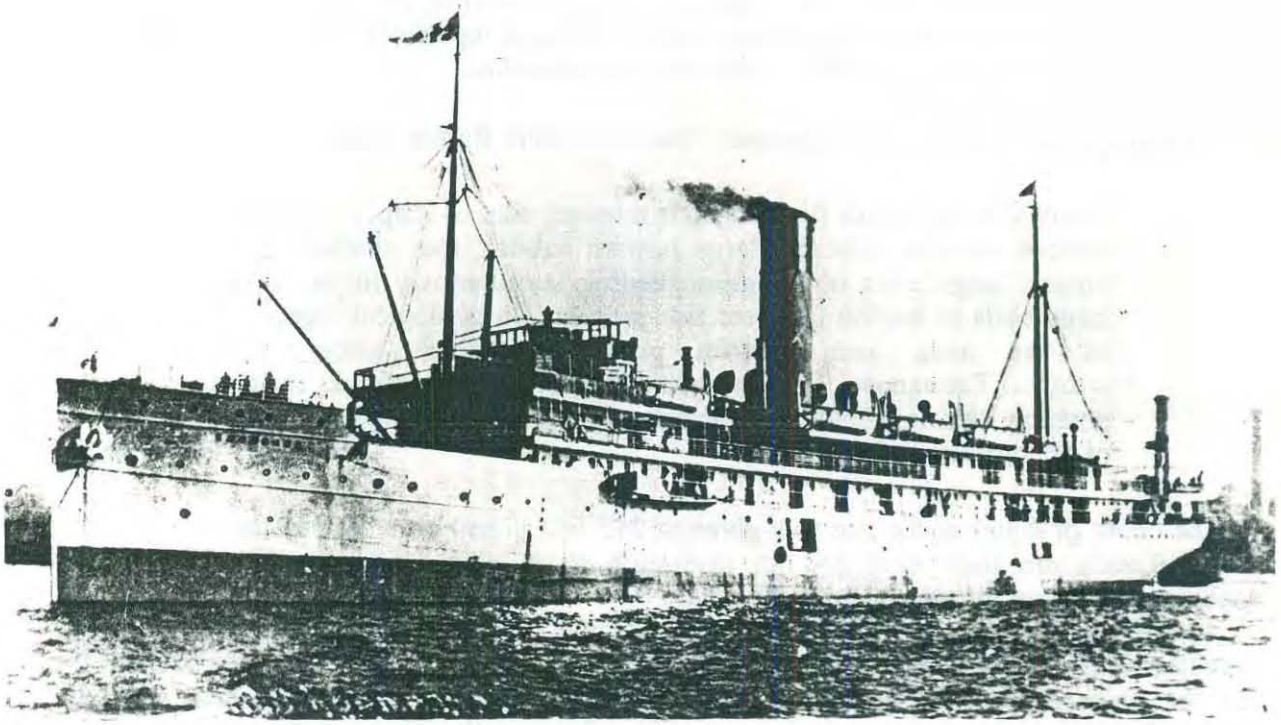
Mike McCarthy
WA Maritime Museum

Table of Contents

Background to the Report : The rationale for the *Flamingo Bay* voyage from Darwin to Port Hedland March 19-31 1989.

On the morning of 20 March 1912, the Adelaide Steamship Company's 4399 ton passenger steamer SS *Koombana* left Port Hedland for Broome. In encountering a cyclone, the vessel, the crew of 76 and around 63 passengers were lost.

Figure 1 : The *SS Koombana*.



A number of searches were conducted at the time, but these succeeded only in the recovery of some wreckage 75 Nautical Miles NNE of Port Hedland and between 20 and 64 nautical miles west of Bedout Island. At a position 19° 07' S., 118° 53' E., wreckage was seen, apparently coming from the bottom. See figure 2.

On 3 March 1987, Captain David Tomlinson, master/owner of the Research Vessel *Flamingo Bay* rang the WA Museum and indicated that Taiwanese fishermen had come across an obstruction in deep water off Port Hedland. He also indicated that when they recovered their nets, they had found indications of a wreck. He believed that the cause of the obstruction was the SS *Koombana* and advised that as he was in the area that he would investigate further. The exact position of the find was not revealed at the time.

A few days later the find was confirmed in person by Mr Mick Barron of the Commonwealth Fisheries. He had been aboard both the *Flamingo Bay* and the Taiwanese boat from which the report came. While Mr Barron was being interviewed at the Maritime Museum, Captain Tomlinson rang from onboard his vessel to say that he had just located the position with echo sounder and that the obstruction projected 49 feet (15 metres) off the sea floor. This indicated what was, in his opinion, a substantial site of the height expected of the *SS Koombana*. Again the exact position was not revealed. Later in the same month Mr K.H. Thom, representative of the Port Hedland Regional Maritime Historical Society inc., also rang. Under their previous name, the 'Koombana Search Committee' he and his associates had been actively searching for the wreck since 1984.

They had heard of the find through contacts at their base in Port Hedland. The Koombana Search Committee had also been previously successful in arranging for RAAF and USAF air searches and had expended a considerable amount of time, energy and money in the search for the SS *Koombana*. With this long standing interest in finding the wreck they were naturally keen to obtain the co-ordinates of the Barron/Tomlinson find.

They inquired as to the source of the information supplied to the Museum, but were reluctantly informed that it could not be divulged except to confirm that a site had been found in the Port Hedland region. The two groups were urged to discuss the matter and if possible to combine their resources.

There was some rivalry evident and the suggestion that they combine was met with considerable scepticism on both sides. The Port Hedland group then stepped up its activities in attempting to locate the source of the Barron/Tomlinson report and to conduct searches of its own. On 7 June 1988, mindful of the possibility that the Port Hedland group might find their site, Baron and Tomlinson filed an official report of finding a wreck believed to be historic at 19°18'S., 118°09'E., with the WA Museum.

In making their most promising report, Tomlinson and Barron commented that

> All echoes on depth finder match relevant size of ship's drawings-surface sea-life indicates large bottom habitat, reef sharks, crabs, turtles, large pods of dolphins feeding continuously in the zone-large boils of batfish and reef fish present. No geological formation in the area and bottom profile constant except for wreck....Taiwanese fishermen...reported a large wreck in this position...All information gathered on site clearly identifies a wreck of similar size to *Koombana*.

The depth of water at the site was given at 245 feet (75m) on a sand bottom.

Mr Tomlinson then extended an invitation to a team from the WA Museum to accompany him on his next visit to the area.

As the Tomlinson/Barron site clearly was of some substance it required inspection. The Director of the WA Museum is the appointed delegate of the Federal Minister responsible for the Department of The Arts, Sport, The Environment, Territories and Tourism, (DASETT) in relation to Historic Shipwrecks in Western Australian waters. The author is responsible to the Director for the Western Australian 'wreck inspection' program. It was decided on analysis of the available options and in the light of the WA Museum's policy of involving the finders where possible, to join with Messrs Tomlinson and Barron in an inspection out of Darwin on board the RV *Flamingo Bay*. It was also clear that Tomlinson's vessel which had a recompression chamber, laboratory and excellent facilities for divers was a very well equipped and most suitable vessel for such a venture.

The Port Hedland group in the meantime continued their strenuous efforts to track down the source of the Barron /Tomlinson report. Pressure began to mount as the rivalry deepened. On inquiry as to the ramifications should they find the wreck of the *Koombana* at a position that proved to be the Tomlinson/Barron site, they were informed that their claim could not be given prior standing.

Despite this, they continued their research unabated. In achieving success, they reported three sites from Taiwanese and other sources. One of which, unbeknowns to them was the Tomlinson/Barron site. They then officially reported the three sites to DASETT and in preparing to assess them, invited the Museum to join in the searches and surveys that they intended mounting.

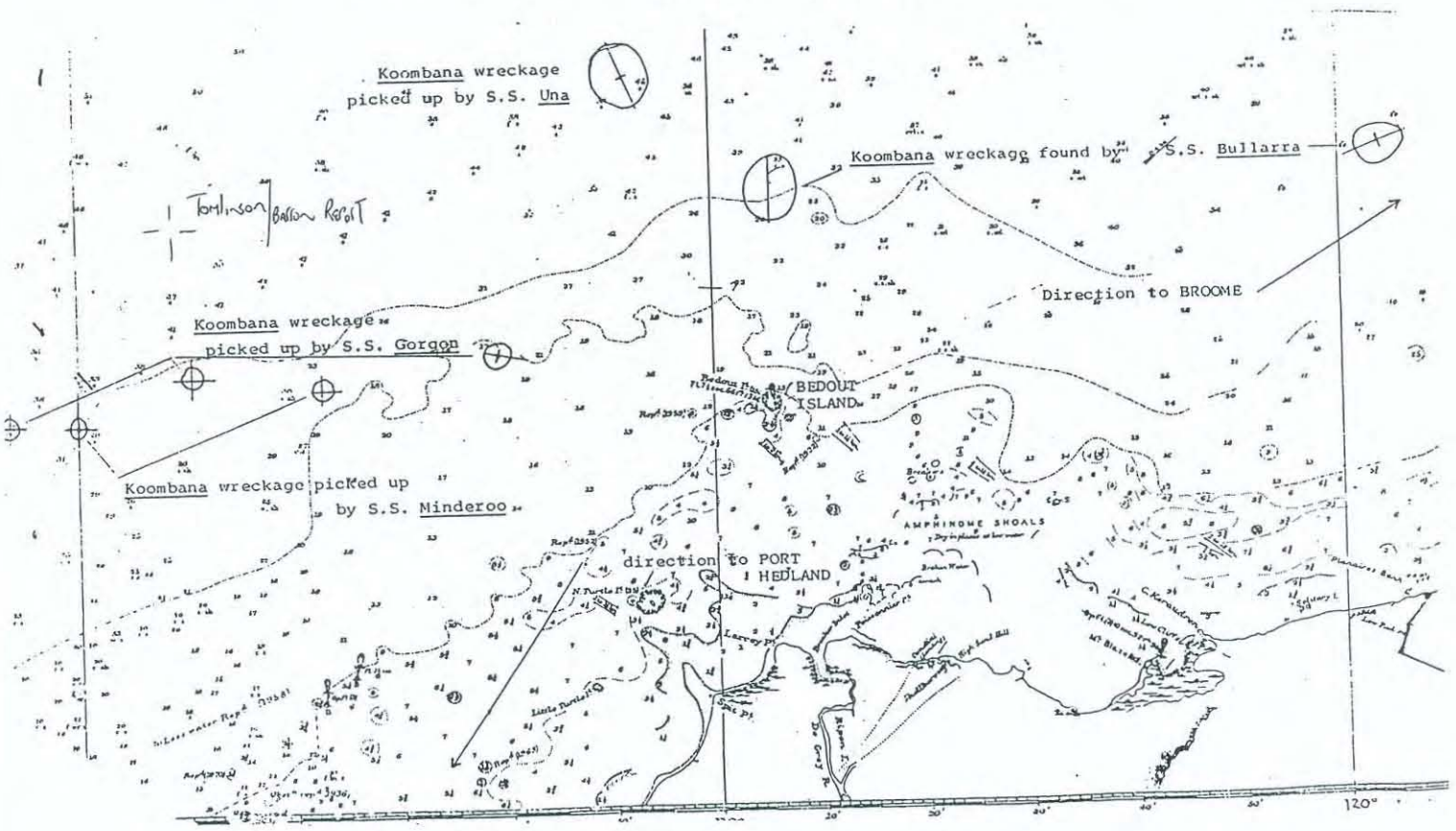
The situation was clearly tense and it was suggested that they hold off their proposed search of the region in which the Tomlinson wreck lay and that in return, he invite two of their representatives onboard in his coming search. The compromise was eventually agreed to by both parties. It was also agreed that, if time allowed, Tomlinson would

proceed with the combined team to the Port Hedland group's other two sites and examine those.

Due to the depth of the water in which the site lay and the distance off-shore, all this required not only the use of RV *Flamingo Bay* which is normally chartered at circa $2000 per day, but also the hire of a sophisticated position fixing system, a Remote Operated Submersible Vehicle with camera (ROV), echo sounder and side scan sonar. When operator costs are added to all of this, the venture was a potentially very expensive one. Sponsors were clearly required as the venture was outside of the WA Museum's 'wreck inspection' budget.

In order to attract sponsors and to keep the venture cost effective in all respects, it was agreed, on my suggestion that, as *Flamingo Bay* was Darwin based and would leave out of that Port for the supposed *Koombana* site, an approach would be made to the Northern Territory Museum to arrange an inspection of sites in their waters. These inspections were for the purposes of an on-going corrosion study of iron and steel wrecks in Australian waters and were to be the basis of a film proposed as a means of attracting sponsors to the project.[1]

Figure 2 : Excerpt from BA 1048 showing the area of the Tomlinson/Barron report and the proximity of wreckage from the *SS Koombana*.



[1] The author has excavated the iron *SS Xantho (1872)* and, due to the lack of similar studies, is in need of comparative data with which to compare corrosion results. The submarine and the iron Barque *Ann Millicent* at Cartier Island were to be the beginnings of that study.

The Northern Territory sites selected for this comparative study included the iron barque *Ann Millicent* which was wrecked at Cartier Island in the Timor Sea around 1890, and the *Japanese Submarine I 124* which was sunk off Darwin, in water around 25 fathoms (45 metres) deep, on 20 January 1942.

In 1977 the submarine was afforded the full protection of the 1976 Commonwealth Historic Shipwreck's Act by the declaration of a restricted zone centring on 12° 06.92' S. 130 06.77' E. This position had been 'fixed' by HMAS *Moresby* in that same year.[2] It also appears marked in the usual fashion for a submerged wreck on the various Admiralty charts of the region.[3] The restricted zone prevented entry and diving in the area and on the site without permission of the Federal Government or its delegate, the Director of the Northern Territory Museum.

After achieving permission to visit and inspect the *I 124,* a voyage was planned out of Darwin on board *Flamingo Bay* involving a combined WA/NT Museum team. The Northern Territory Museum was to be responsible for the examination and report of sites in its area of jurisdiction and the WA Museum, with the author as it's representative, became responsible once *Flamingo Bay* entered Western Australian waters.

Figure 3 : The R.V. Flamingo Bay (Photo, Pat Baker)

The venture was heavily sponsored by Flamingo Bay Research Pty. Ltd., which provided the vessel gratis. Largely through the entrepreneurial flair of Captain Tomlinson, a side scan sonar, Global Positioning System (GPS) and two operators were supplied gratis by the well known remote sensing company, RACAL. An ROV (Remote Operated Vehicle) was also supplied at a reduced fee by Underwater Systems Australia (USAL). $5,000 was allocated to the project by the WA Museum from a grant made by DASETT for

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[2] Doyle, J. J. (15/8/84), Cmdr. RAN Deputy Hydrographer to J. Amess, Department of Home Affairs and Environment (now DASETT),*Position of Wreck Submarine 1124.*

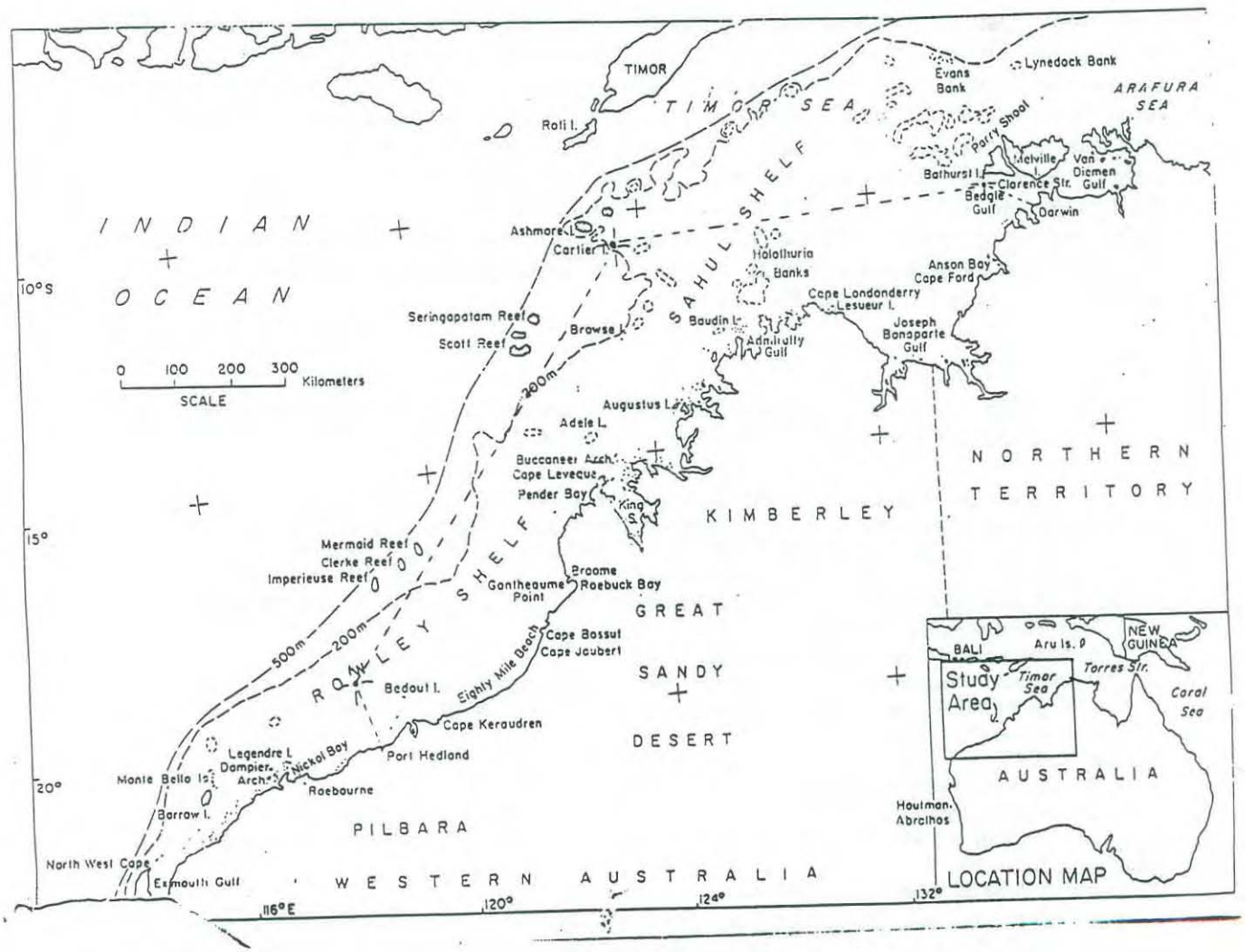
[3] See charts AUS 722 & BA 1047.

the purposes of wreck inspection. ANSETT Air Freight also assisted and Australian Geographic provided support to Captain Tomlinson in the expectation of an article of interest.

The WA Museum team of Baker, Carpenter and McCarthy, led by the author, departed for Darwin on March 8 1989. There followed a number of delays and highly political developments that saw the withdrawal of the Northern Territory Museum's contingent. Despite this it was decided to continue in order not to jeopardize the inspection of the site believed to be the *SS Koombana,* which was the rationale for the entire voyage. The team then departed onboard *Flamingo Bay* for the inspection of the Japanese *Submarine I 124* in waters off Darwin. From there they proceeded to the iron Barque *Ann Millicent* which lay en-route at Cartier island. At Cartier Island Indonesian vessels fishing for Trochus shell were encountered and their activities were recorded. The team then proceeded to the Tomlinson/Barron site via Port Hedland where Mr Kerry Thom and Mr Ted Graham, representatives of the Port Hedland Regional Maritime History Association, were embarked. In an expectant mood, they all then proceeded to the area of the reported site fully expecting to find a wreck of significance. In conducting an inspection, all were dismayed to find that the source of the report was not a wreck, but an abandoned oil rig festooned with fishing nets.

All this will be explained in detail in the reports that now follow.

Figure 4 : track of the Flamingo Bay, showing the sites visited.



JAPANESE SUBMARINE *I 124*[4]

As indicated earlier, the submarine was afforded the full protection of the 1976 Commonwealth Historic Shipwreck's Act by the declaration of a 'restricted zone' centring on 12° 06.92' S. 130 06.77' E., fixed by HMAS *Moresby* in that same year.[5] This zone prevented entry and diving in the area and on the site without permission of the Federal Government or its delegate, the Director of the Northern Territory Museum.

By the time the WA Museum team had arrived in Darwin, the inspection had become more than a routine wreck inspection for the purposes of obtaining comparative data and film of interest. A number of issues of greater importance arose. These are the subject of the remainder of this report.

The Issues Involved

(i) The Two Submarine Theory

On the basis of verbal advice and documents that he had received before the proposed expedition, Captain Tomlinson noted that contemporary RAN and USN accounts of the sinking of *I124* all claimed that more than one submarine was sunk in engagements on 20, 21 and 23 January 1942 and that two of the supposed 'kills' lay within a Nautical mile (1853 metres) of each other.[6]

To add further weight to this possibility, RAN 'fixes' of 1944, 1977 and 1984 for the wreck believed to be the *I124* differed by as much as 1300 metres.[7]

The belief that there was more than one submarine wreck was supported by comments made to Captain Tomlinson that, in recent times, two submarines had been found close to each other, each with different characteristics. One story was to the effect that a fisherman working in the area, snagged his nets and being unable to free them had dived on the source. He found what he claimed to be a submarine lying 'in a gutter' with its hull 'disappearing into the sand'. There was, according to this unknown informant, no evidence of a gun on deck. Captain Tomlinson had also been informed by divers commissioned to survey the wreck believed to be the *I 124,* in 1973 that a German compass was seen on the bridge and an unsuccessful attempt was made to remove the instrument. It was also noted that this particular submarine was fitted with a gun. Another claim was to the effect that there was an aeroplane hangar onboard one of the submarines dived on, yet *I 124* was known not to have been fitted for that role.

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4 The designation 'I' is actually イ (pronounced e) the first character of the Japanese alphabet. This figure was used by the Japanese to designate large submarines in general.

5 Doyle, op. cit.

6 Mr Tomlinson was in possession of the operations report of HMA Corvettes *Deloraine*, *Lithgow* and *Katoomba* all claiming that more than one submarine had been sunk. These reports were,

(a) D. A. Menlove, LCDR., RANR., C. O. HMAS *Deloraine* to NOIC Northern Territory.
'Attacks by surface craft on enemy submarines'.

(b) OIC HMA Anti Submarine School 16/2/42, 200/3/1 to Sec. Naval Board Navy Office, Melbourne.
'Operations Against Submarines'

(c) D.A. Menlove, to NOIC Northern Territory 23/1/42
'Attempted torpedoing of HMAS Deloraine and Counter attacks carried out.

(d) A. S. Knight CMDR RANR HMAS *Lithgow* 27/1/42 Ref L1, to NOIC Northern Territory.
'Anti Submarine Operations'

(e) Ditto 31/1/42
To Sec, Naval Board, Melbourne.
Letter of Proceedings.

(f) A Cousin, Cmdr RANR, C.O. HMAS *Katoomba* . 27/1/42 K28/1942, to Sec. Naval Board, Victoria.
'Attacks on Submarine'.

The source of these documents is not known.

7 Doyle op. cit. Commander Doyle stated that the wreck lies at the 'extreme range for the equipment and methods of fixing' then used by the RAN and the positions given for *I 124* 'must be considered to be approximate'.

All this understandably led to strong claims that there was more than one submarine wreck in the vicinity of the submarine believed to be the *I 124*.

To add further to the speculation, it was claimed by Japanese sources that the *I 124*, lay in very shallow water 'forty feet deep with clear water free from strong tidal currents'. It was also reported, that the vessel was 'cut open' to enable the divers to successfully retrieve 'navy code books' and the 'merchant vessel code book'.[8]

These surprising claims were reinforced by an account appearing in the *'Submarines of the Imperial Japanese Navy'* published by the US Naval Institute Press in 1986, to the effect that,

> the *I 124* with her Division Commander Keiyu Endo, embarked, sank with all those onboard in water only forty feet deep. US Navy divers were sent down and entered the submarine, and removed naval code books, a godsend for the Navy codebreakers at Pearl Harbour. [9]

As the wrecks which were the subject of the varying claims above all lay in deep water, and as water of that depth lay a considerable distance away from the known submarine in 25 fathoms of water, this account added further to the speculation that there was more than one submarine lying in waters off Darwin.

(ii) The Mercury Issue

As plans for the venture materialised, Captain Tomlinson also reported that he had obtained information that the submarine(s) contained considerable quantities of mercury possibly as cargo or trimming ballast to the order of 15 tonnes. Supporting evidence in the form of high mercury content of fish taken from the vicinity was produced. On the basis of his information that the submarine posed a distinct environmental threat, Captain Tomlinson was in correspondence on the matter with politicians and authorities in both Darwin and Canberra and the matter also began to receive considerable media coverage.[10]

In Captain Tomlinson's analysis, the WA Museum's proposed corrosion study on the hull of *I 124* would, of its nature, indicate wether mercury was escaping, and would, in giving an indication of the integrity of the hull and its projected life intact on the seabed, be of use in the assessment of the urgency of the supposed threat. The proposed examination of the site would also reveal if there was physical evidence of any leak of mercury from the vessel.

(iii) Political Considerations

Unfortunately, just before the WA Museum team left Perth to address the issues above, permission to enter the *I 124* restricted zone and to physically inspect the remains was rescinded for political reasons. The Japanese government had apparently expressed concern on the basis of the fears that divers would disturb the human remains onboard and sought the assistance of the Federal Government in preventing diving on the site. In the meantime the Japanese Government gave an assurance that they would assess the claims that the vessel carried mercury and would advise the Australian Government as soon as the information became available.

Further complicating the matter, the Northern Territory Government was, at the time, apparently undertaking a feasibility study on the possibility of raising the vessel for display purposes.

Amid growing speculation about the viability of the trip, and the increasingly complex political situation, discussions were held with the Commonwealth Department responsible

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[8] Hiroyuki Agawa. (nd) *The Reluctant Admiral. Yamamoto and the Imperial Navy. Kodansha International*. Tokyo, p. 307.

[9] Carpenter, D. and Polmar, N., (1986), *Submarines of the Imperial Japanese Navy*, Conway, NY, Cha. 2.

[10] See 'Diving on sub wreck banned', *West Australian* 7/3/1989, and 'Jap Subs are Still Menacing Darwin', *The Australian*, (ND), for example.

for the wreck (DASETT), representatives of the Australian Federal Police (AFP) and NT Museum about the situation.

In an attempt to ensure that the inspection of the site believed to be the SS *Koombana* was not jeopardized by the decision to rescind permission to dive the *I 124* and to keep the project attractive to prospective sponsors, Captain Tomlinson proposed that, as an alternative, a search be mounted for the submarines believed to lie nearby. It was proposed that they be dived on instead of the wreck believed to be *I 124* which was supposedly inside the restricted area.

This appeared a most useful solution and a decision was made to proceed on that basis. Despite this compromise, and despite an invitation having been extended to the AFP to have a representative onboard, the NT Museum team were then withdrawn by their government for unspecified reasons. This occurred the day before the departure of *Flamingo Bay* on the inspection tour.

Despite the pressures to abandon the venture, a decision was made to proceed in the light of the commitment of time, money and equipment on behalf of the various sponsors.

(iv) Restrictions on Diving the Site

Further discussions were then held with the Australian Federal Police. It was eventually agreed by all concerned and put in writing that, provided the team did not enter the *I 124* restricted zone centring on 12°06.92' S and 130°06.77' E.,[11] it could deploy the ROV outside the restricted area for the purposes of fixing and identifying any sites found close by. It was also agreed there was to be no diving undertaken on any submarine believed to be *I 124,* even if it lay outside the restricted area.

The following report needs to be read with these considerable restrictions, many issues and political considerations in mind.

Aims of the Inspection and Research

In the light of the above, there were a number of issues that needed to be addressed beyond the original aims of collecting data of relevance to the study of corrosion on iron and steel sites i.e.

(i) Was the protected submarine the *I 124* and did it lie in the restricted zone?

(ii) If not, what was the identity of the submarine and what was its correct position?

(iii) Did other submarines lie in the vicinity and if so what was their identity and position?

(iv) Was/were the wreck(s) an environmental hazard?

(v) Having answered or addressed the questions above, what are the management options available?

In order to properly address all of the above issues and to acquaint readers with the topic, the matter will be addressed in chronological sequence beginning with the construction of *I 124*, the wreck believed to be at the centre of the controversy.

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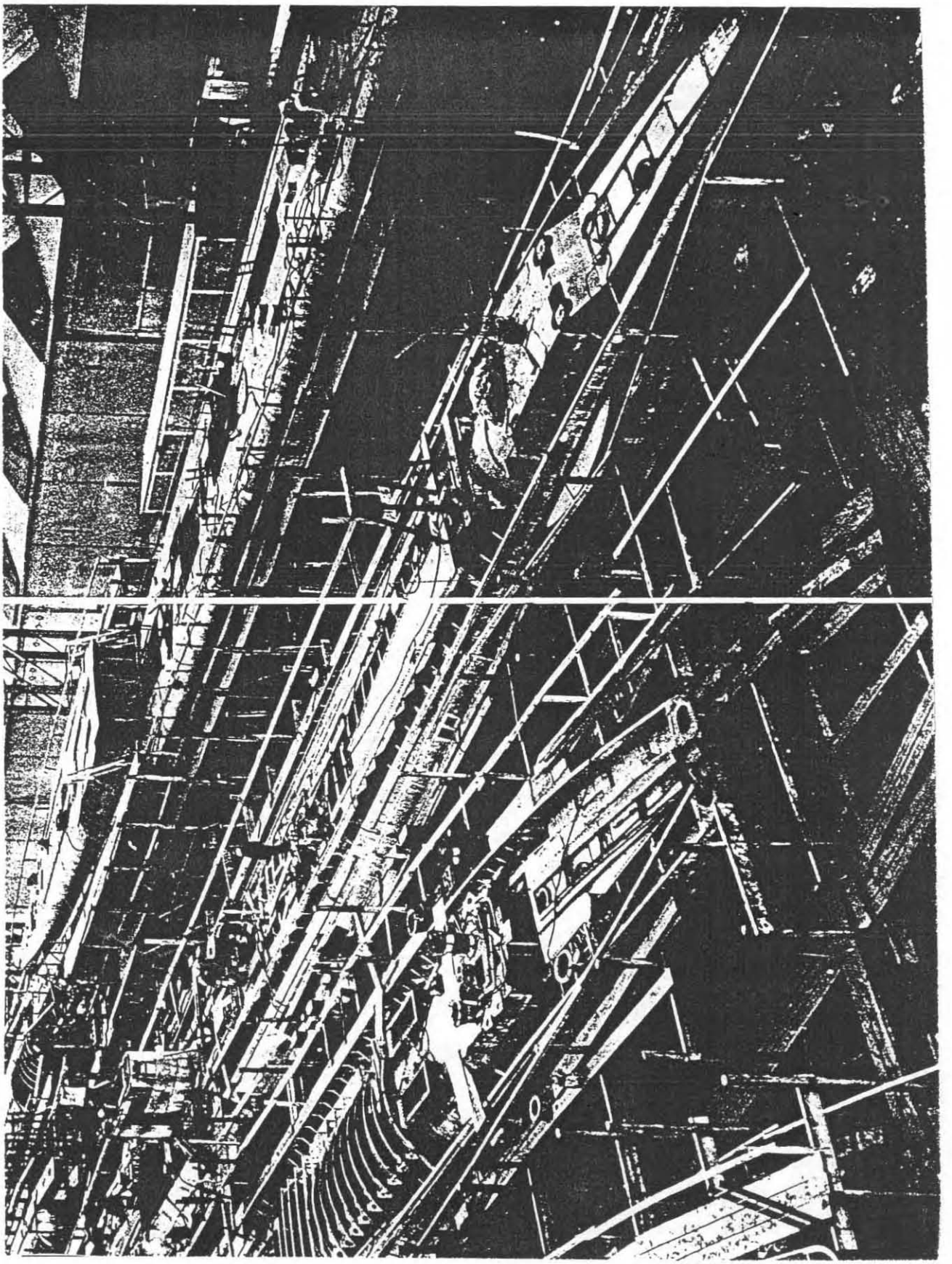
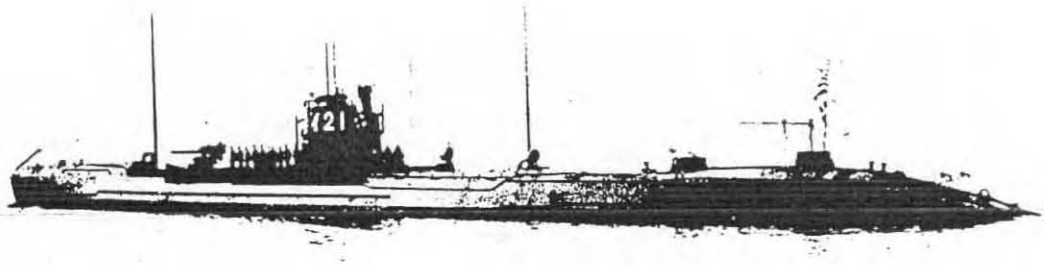
[11] On AUS 722. Australia, North Coast. Cape Hotham to Cape Fourcroy.

Figures 5 (a-d) Illustrations of the Japanese Minelaying Submarines and their German predecessor.[12]

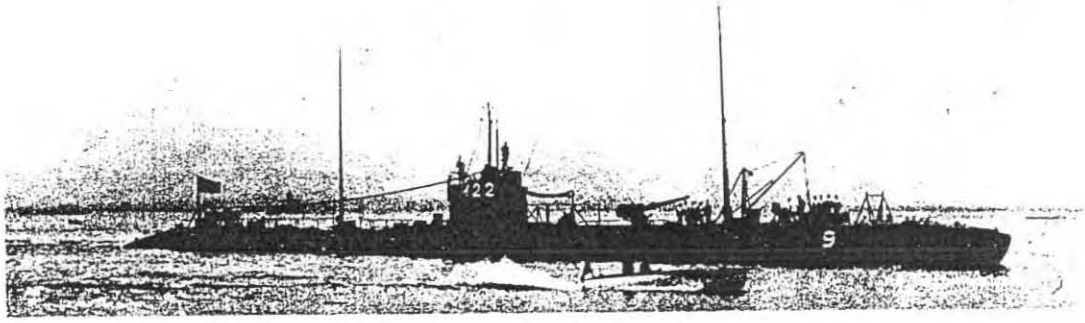


Left: *U117-U120* (Project 45) on the slips at AG Vulcan, Hamburg.

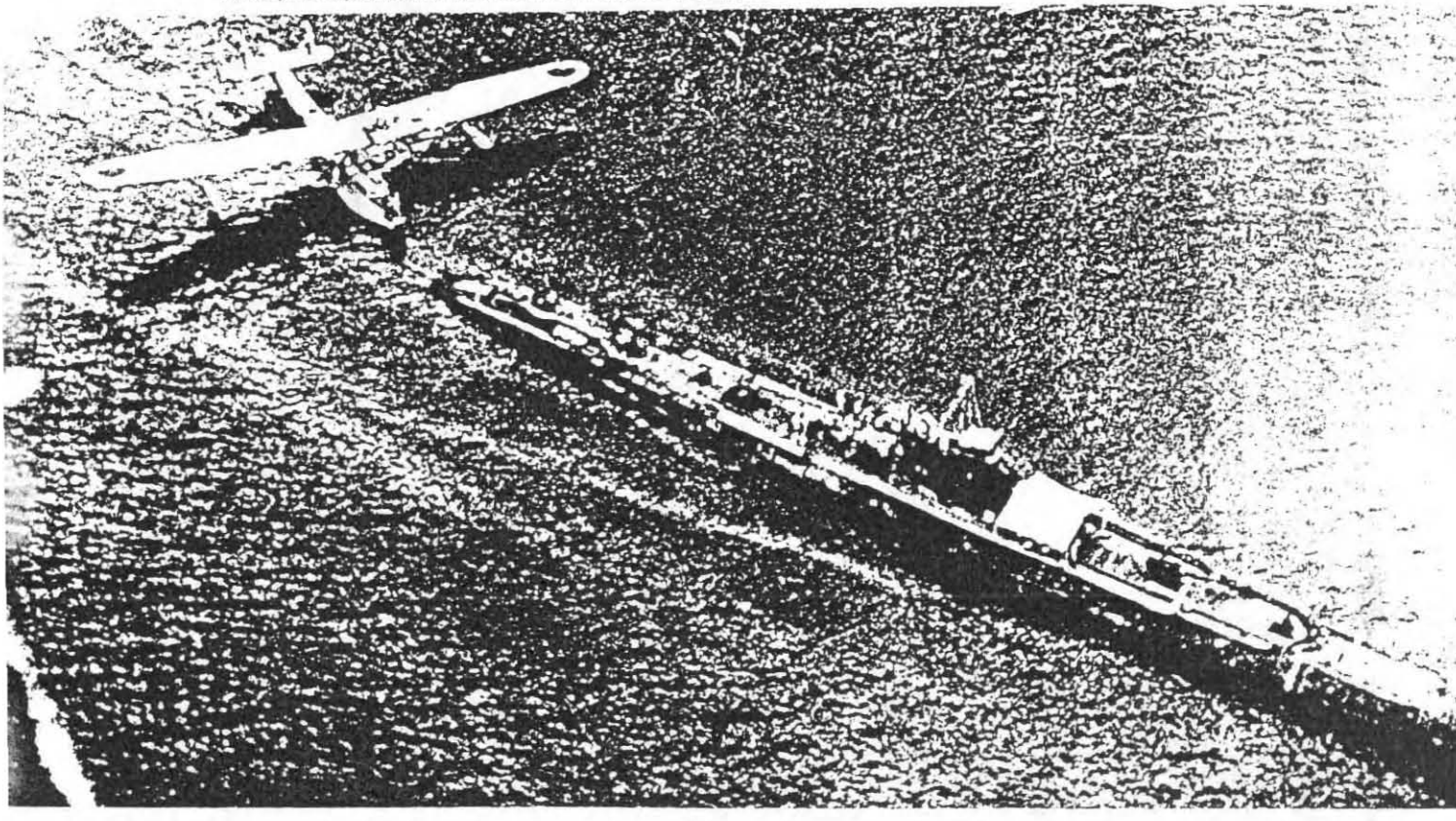
[1] Supplied by the Submarine Warfare Library, from Rossler, McMurtrie and Watts, below.
The author is indebted to Dr T. O. Paine of the Submarine Warfare Library, Santa Monica California. For his invaluable assistance in replying to my inquiry on this and other matters in a remarkably detailed fashion.
WA Maritime Museum, File, 3/89. Submarine *I124*.



The I-21 (later I-121) was one of four specialized minelaying submarines built by Japan. Their design was based on a German U-boat acquired after World War I. They were additionally modified to refuel seaplanes while retaining their mining capability. The I-121 was the only one of the class to survive the war. (Imperial War Museum)



The I-22 (later I-122) with her radio masts in place and a crane rigged for handling a small boat. (Holbrook)



n addition to operating floatplanes, several Japanese submarines were modified (and later specially built) to refuel and rearm flying boats. Here the I-22 (later I-122) s refueling a Kawanishi H6K Mavis flying boat. In this peacetime view, the minelaying submarine has awnings spread and many of her crew are present on deck. Anthony J. Watts)

HIJMS *I124*

Historical Background

The Japanese submarine *I 124* is a reasonably well known type of purpose built submarine.[13] It is believed to be based on the German 'Project 45' class of 'enlarged minelaying' submarines numbered *U117-U126* that were built in 1917-1918.[14] *U125* was sent to Japan after World War I as the *O1*.[15] Four submarines, apparently based on the design, were later built by the Japanese Navy as the KRS Type. These eventually became *I 121*, *I 122*, *I 123* and *I 124*.

Some sources claim that the KRS type was 'practically identical or 'almost a direct copy'[16] of the German 'Project 45' type which is also known as the U117 or UE II class of Ocean Minelayer. Plans of this type appear in Figure 13. Other sources are less definite on this matter, though there is general agreement that the German and Japanese types were very similar.

The Japanese vessels were 279.5 feet (85.2 metres) long by 24.5 feet (7.5 metres) wide and had a draught of 14.5 feet (4.42 metres). They displaced 1383 tons on the surface, 1768 tons submerged and were 1142 tons standard. They carried one 5.5 inch (140 mm) gun which was fitted on the fore-deck. Four 21 inch (533 mm) torpedo tubes were set at the bow. The submarines each had two propellers driven by two diesel and two electric motors. They carried 12 torpedoes forward and 42 mines which all 'stowed in a compartment aft'. Some sources state that they had a complement of 75 officers and men.[17] Others differ, one for example, states that the complement was between 51-70 men.[18] The German type carried a crew of 40.[19]

In examining the German plans, it can be seen that the mines were contained within the pressure hull itself and were launched from two horizontal tubes in the stern. It was also noted in comments on the German Project 45 type that ,

> A peculiarity of this design was the storage of a further ten torpedoes in pressure tight containers, positioned in special troughs on the port and starboard sides of the upper deck. In place of these torpedoes, 30 additional mines could be carried in deck storage boxes and could be slid along rails to the after launching position.[20]

It is not known if this was the case with the Japanese model, though one source claims that the Japanese type was fitted with 'two full sets of reload torpedoes' and that the mines were 'launched through vertical tubes'.[21]

There are also clear differences between the plans of the German type and photographs of the Japanese vessels appearing above.

A former Japanese submarine commander, Mochitsura Hashimoto, served in one of the Japanese type as a torpedo officer before WWII and stated that they were,

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13 McMurtrie, F.E., (ed) Janes Fighting Ships, 1943-4, Sampson, Low, Marston, London. p. 180. & Watts, A. J., and Gordon, B.G., (1971) *The Imperial Japanese Navy*, Double Day, NY pp 319-321.

14 Rossler, Eberlard, (1981) *The U Boat (The evolution and technical history of German submarines).* Arms and Armour Press. London/Melbourne, pp 58 et. seq.

15 Le Fleming, H. M. ( ) *Warships of World War 1 : 5, Submarines* (British and German), Allen, London, p. 58. (Undated excerpt supplied by Submarine Warfare Library).

16 Bagnasco, E. ( ) *Submarines of World War Two*, p. 180. & Conways, *All the Worlds Fighting Ships. 1922-1946, Japan*, (Undated excerpt supplied by Submarine Warfare Library).

17 Carpenter and Polmar, op. cit., Cha. 8, *I Series Large Submarines* & Bagnasco, op. cit., p. 180.

18 Conway's op. cit., *Japan.* (undated excerpt supplied by the Submarine Warfare Library).

19 Taylor, J. C., (1970), *German Warships of World War I*, DoubleDay, NY., & Le Fleming, op. cit., p. 58.

20 Rossler, op. cit., p. 59.

21 Watts, A. J., and Gordon, B. G., op. cit., pp 319-321.

> difficult boats to handle. Their surface speed was slow and they were difficult to manoeuvre submerged, owing to their small hydroplanes and rudders.

He claimed that there were 48 mines on board and that the handling of them onboard was 'a really dangerous task'. When they were eventually released from the stern of the submarine, it proved 'extremely difficult to keep the boat level', presenting considerable danger in hostile waters.[22]

The Japanese submarines had a range of 10,500 nautical miles[23] at 8 knots on the surface, and 40 nautical miles at 4.5 knots submerged. They had a maximum speed of 14.5 Knots surfaced and 7 Knots submerged and could operate independently for around twenty days. They had a maximum diving depth of 195 feet or 59 metres. In 1940 they were modified to refuel seaplanes 'being fitted with gasolene tanks', but in doing so they still retained their minelaying capacities.[24]

The construction of *I 124* was begun in 1926, the hull was launched in December 1927 and it was completely fitted out on 10 December 1928.[25]

Wartime Career of *I 124*

Details of the wartime career of *I 124* appear in a monograph[26] compiled from Japanese sources in 1952. This document was kindly supplied in full by Dr T. O. Paine of The Submarine Warfare Library in Santa Monica, California.[27]

In summary, *I 124* with the other three minelaying submarines *I 121, I 122 & I 123* comprised the Sixth Submarine Squadron, Japanese Third Fleet.

The *I 123 & I 124* which comprised the Ninth Submarine Division of the Sixth Submarine Squadron was assigned to the Philippines as the 'Philippine Submarine Group'. On 1 December the group left Samah on Hainan Island (China) for the Balabac Strait and Manila Bay where, on 8 December 1941, the day after the Pearl Harbour attack, they laid mines. *I 124* also served as a 'service boat to the air-force' in this period.

On 10 December, *I 124* torpedoed the British, 1523 ton, SS *Hareldawins,* the first vessel to be sunk by Japanese Submarines in WW 2. It then returned to Camranh Bay, arriving on 14 December. There the four minelayers were reunited and patrolled Manila Bay. On 11 December whilst on this patrol, one of the *I 124* mines sank the 1881 ton American SS *Corregidor.* [28] The *I 124* also rescued aircraft crews that had ditched in an air attack on Manila.[29]

These, it was noted by the Submarine Warfare Library were 'the first two ships sunk by Japanese submarines in the Pacific War'.[30]

On 18 December, the squadron began a patrol of the South China Sea. From there the minelayers proceeded to Davao in the Philippines, arriving at the end of the month where they were joined by the flagship of their squadron, the Light cruiser *Chogei.*

The group was re-deployed with the six vessels of the Fifth Submarine Squadron to the area of the then 'Dutch East Indies' and to the northwest of Australia. From their base at Davao they were to assist in invasions, disrupt 'enemy' lines of communication, patrol, observe, intercept the Allied Fleet, and to lay mines in these regions.

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22 Mochitsura Hashimoto, (1954) *Sunk, the Story of the Japanese Submarine Fleet, 1942-5.* Cassell, London, pp 69-70.

23 The nautical mile is still used in navigation at sea. It is 6080 feet, the equivalent of 1.853 kilometres.

24 Hashimoto, Carpenter and Polmar op. cit., & Bagnasco op cit.

25 Ibid.

26 Shibuya Tatsuwaka, Japanese Monograph No 102. *Submarine Operations December 1941-April 1942.* USN. (Supplied by Submarine Warfare Library).

27 Paine to McCarthy, 3/4/1990. *I 124* File, WA Museum.

28 Rohwer, J., ( ) *Axis Submarine successes 1939-1945,* Naval Institute Press. Excerpt supplied by the Submarine Warfare Library, p. 258, (Undated excerpt supplied by Submarine Warfare Library).

29 Hashimoto, op. cit.

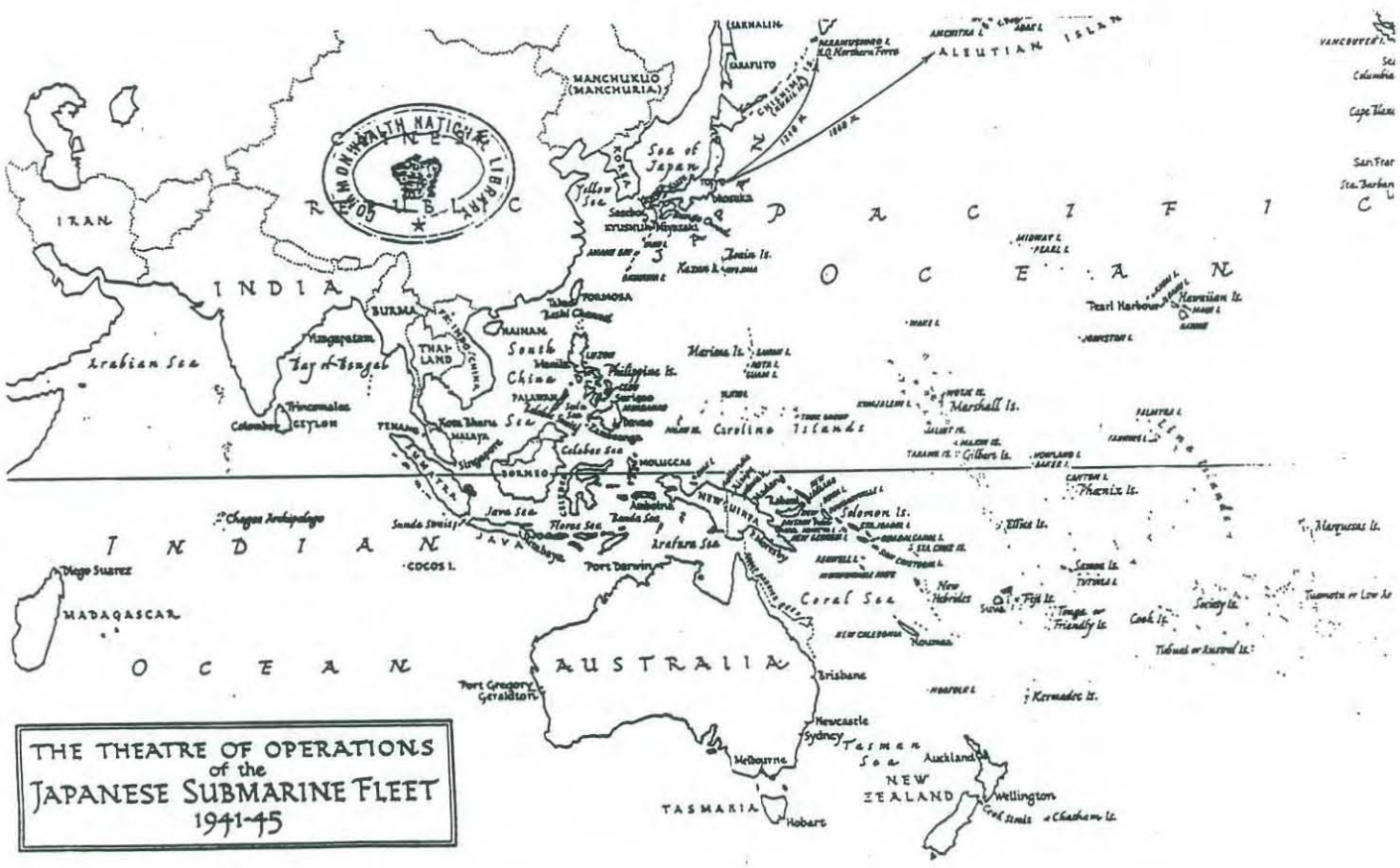
30 Paine to McCarthy, 3/4/1990, op cit.

In January, the minelayers were split into their two Divisions of two submarines each to began preparations for minelaying in the Darwin area and in the Torres Strait. On 10 January they departed Davao and headed south. Whilst the submarines were away on this venture, the 1976 ton Panamanian SS *Daylight* was sunk by a mine laid by *I 124* in Manila Bay.[31]

Having sighted elements of the US Far Eastern Fleet, the four minelayers then joined together in patrols in the Darwin region. *I 123* laid mines in the 'northern entrance to Torres Strait' and on 16 January *I 121* and *I 124* laid mines at the 'western end of Clarence Strait' and continued on their patrol of those waters. According to the Japanese, it was 'during this operation, the *I 124* which was commanded by Lieutenant Koichi Kishigami, and which had on board the Division Commander Keiyu Endo, disappeared in the Darwin area on 20 January and failed to return.[32]

It can be seen from the accounts following that other submarines may have been involved in the actual engagements that resulted in the loss of *I 124*. Whether, the others involved, if there were any, were the sister ships to *I 124* is not known. What is known however, is that they were not sunk in this engagements. *I 123* was sunk near the Solomon Islands on 28 August 1942 and *I 121* was captured after the war. *I 122* which did not join its fellow mine-laying submarines on the raid, was sunk on 10 June 1945 in the Sea of Japan. [33]

Figure 6: The Area, near Australia in which the Japanese Submarine Fleet Operated.[34]



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1 ibid.

2 Shibuta Tatsuwaka, op cit., pp. 43-5.

3 Alden, J. (1985) *Japanese Submarine losses in World War II*, in Warship International, Vol. XXII, No.1, pp 12-31. Supplied The Submarine Warfare Library, 2401 Colorado Avenue, Santa Monica Calif. See also Masanori Ito and Roger Pineau, (1962), *The End of the Imperial Japanese Navy*, Weidenfield and Nicolson, pp. 221-228.

4 From Hashimoto, op. cit.

The sinking of I *124*

When Japanese records were scrutinized after the war, the United States and Royal Australian Navies identified the site as *I 124* and altered their files accordingly.

Recently the RAN file 'Sinking of Submarine *I 124*' was declassified specifically for the purposes of this study.[35]

When read in conjunction with similar recently declassified reports on the same subject from the USN,[36] the following can be deduced.

At 0630 local time on the morning of January 20, at a position approximately 12° 05.5' S. 130°05.6 E., in the Beagle Gulf, i.e. about 40 Nautical miles out of Darwin, an attempt was made to torpedo the oil tanker USS *Trinity* whilst it was being escorted in by the destroyer *USS Edsall.* Three torpedoes were seen. The enemy was located by *USS Edsall* and while it 'screened' the oil tanker, the submarine was attacked with depth charges from USS *Alden,* which was nearby. Contact was then lost and the convoy proceeded into Darwin Harbour, arriving at 1130 hours.

Just prior to the arrival of the Americans, the corvette *HMAS Deloraine,* which was conducting sweeping operations outside Darwin Harbour, was ordered immediately to the vicinity of the attack. Two other corvettes HMA ships *Lithgow* and *Katoomba* were ordered to sea as soon as they could be made ready.

At 1335, whilst en-route the area of the original engagement, *HMAS Deloraine* narrowly avoided a torpedo attack. In locating the submarine responsible with ASDIC, *Deloraine* commenced an attack at 1343 with a Catalina Flying Boat and two American float-planes in attendance. This attack resulted in the sighting of a large quantity of oil and bubbles. At 1349 a second attack caused the submarine to surface momentarily, showing periscope and bow and listing 20° to port. It was then hit whilst on the surface with a depth charge from *Deloraine* which was set for 100 feet (30 m) and a bomb dropped from one of the American aircraft. The submarine (called A for the purposes of this narrative and in order to match a contemporary analysis mentioned below) then submerged and remained stationary on the bottom, in water around 25 fathoms (46 metres) deep. More attacks were made. Lt. Cmdr. D.A. Menlove (RANR), Commanding Officer of *HMAS Deloraine,* advised that the enemy was stationary with oil and air rising continuously to the surface. In his opinion it 'had been put out of action permanently'. HMAS *Deloraine* then sayed on station with 5 depth charges remaining.

At 1430, while crossing through the oil patch caused by this submarine (A), another echo was obtained bearing 125°, 3000 yards (2740m.) distant. At 1440, an attack was made on the 'new' submarine (B) which also appeared to be stationary. Oil and bubbles were sighted after the attack and the enemy, (B), remained stationary. By 1500 hours *Deloraine* had expended her supply of depth charges, but remained on site experiencing 'no difficulty' in 'holding the two contacts', i.e. Targets A and B.

At 1633 hours, the American destroyers cast off from alongside their flagship USS *Blackhawk* in Darwin harbour having been requested to assist in the hunt. At 1700 and 1748 respectively *HMAS Lithgow* and *HMAS Katoomba* arrived on the scene of *Deloraine's* engagement.

Lithgow then began its attack and having produced bubbles of oil and air, laid a 'Dan Buoy to the eastward of the position' of one of the submarines rendered stationary. On its third attack, *Lithgow* produced 'very heavy oil and much air' from the submarine and 'it appeared that the submarine almost surfaced and blew her tanks'. When *Katoomba*

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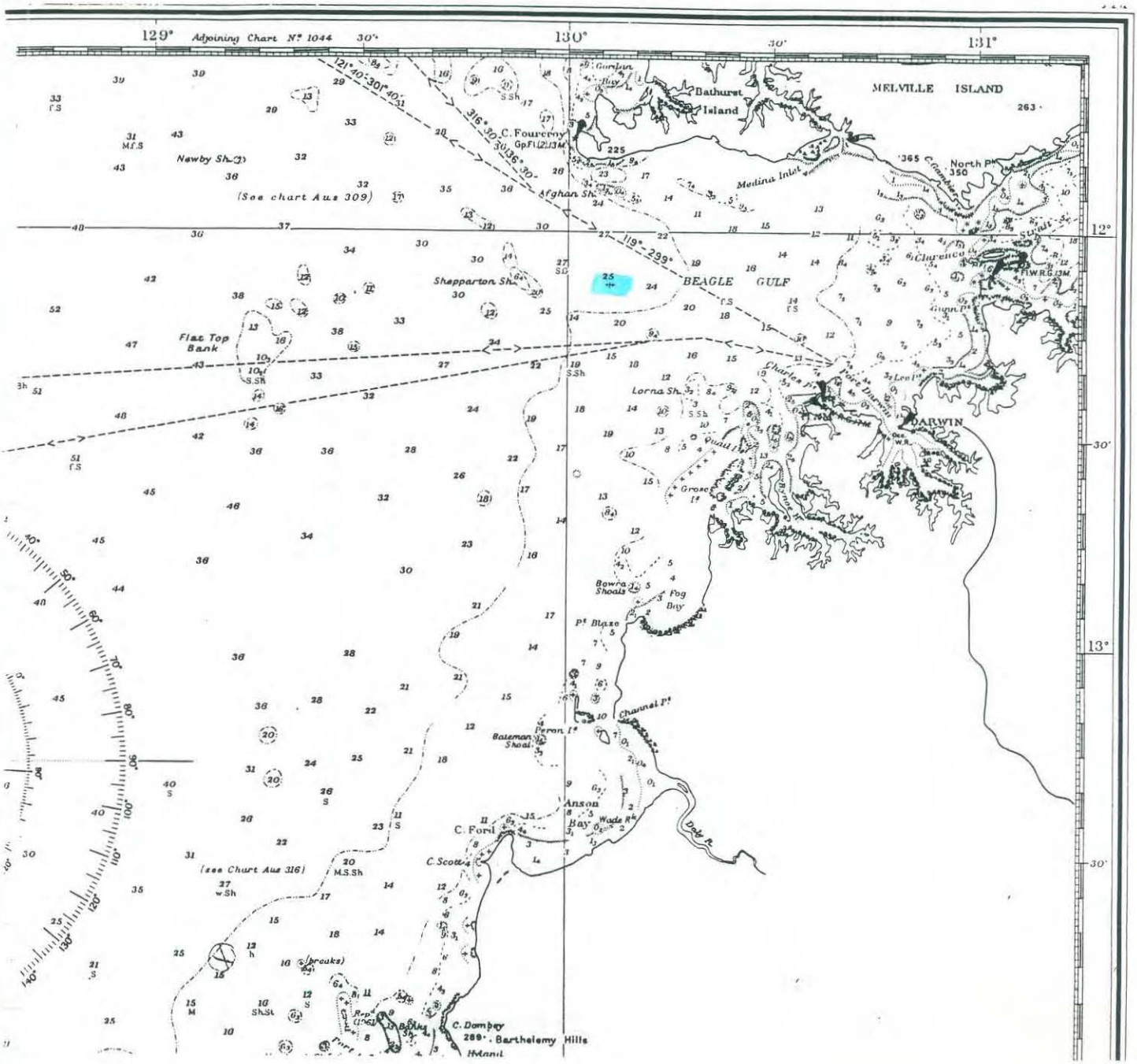
36 Commonwealth Archives Melbourne, file 1932/3/51 *Sinking of Submarine I124.* Including reports from HMA ships *Deloraine, Lithgow, Katoomba,* US ships *Edsall, Alden, Holland,* OIC HMA Anti Submarine school, messages and other relevant information. Hereafter called *CAM I 124* file. Note that the submarine was not identified in 1942 and that the name *I 124* was not established until later.

36 *CO USS Edsall to C. in C. US Asiatic Fleet, US Asiatic Fleet, Destroyer Division 57, USS Edsall (DD 219)* 31/1/1942, & *Commander Destroyer Squadron 29 to Commander US Naval Forces South West Pacific,* 10/2/1942, Examination of I 124, 20 January 1942, *Action Report, USS Holland,* supplied by Flamingo Bay Research. (Note the cover of this file is dated 5/10/1965. The identification of the I124 was not known in 1942).

arrived, *Lithgow* was doing its last run, having made seven attacks and having expended its 40 depth charges on the one submarine. (Either Submarine A or B) *Lithgow* reported that it was confident that a submarine was 'definitely killed during this operation'. As *Katoomba* began its run into the stationary submarine which was marked, as indicated, with a Dan Bouy offset to the east, it was noted by those onboard, that the submarine was actually located apparently 400 to 500 yards away from the Buoy. On the basis of this and other evidence, it was concluded that 'he was possibly still crawling away'. Those onboard *Katoomba* were apparently not aware that the Dan Buoy had been set some distance away from the submarine and they subsequently began their attacks which produced oil. *Katoomba* then remained on site replacing the other two Australian Corvettes. *Lithgow* was ordered into harbour and *Deloraine* was ordered to reload depth charges and return the next morning. At 1929 and 1955 hours, the American destroyers *Alden* and *Edsall* arrived and began their attacks.

Figure 7 : An excerpt from Admiralty chart BA 1047, showing the area of the engagements and the position of the sunken submarine.



When the Americans arrived on the scene the *Katoomba* was, in the their estimate, attacking a target at the 'southern edge of an extensive diesel oil slick'. While searching for this target, the *Edsall* located another target approximately 3/4 of a mile (1300-1400 metres) away on the Northern edge of the slick. Both the Americans and Australians attacked this target obtaining oil and air bubbles and 'evidence of violent disturbances in the water'. At around 2000 hours, USS *Alden* obtained contact with 'the original submarine' at the southern end of the slick and depth charged it. They also attacked other positions nearby. HMAS *Katoomba* noted them attacking positions to the SW and NW of the original sunken submarine (A) which was considered from the echoes received to be 'so large' that it was thought to possibly be a 'mother ship to other smaller ones'.

Darkness set in and at 2047, and with no further movement on the sea-bed, the Americans left to commence patrolling to the north-west of the original engagement area.

Katoomba then attempted to 'fix' the wreck of the stationary Submarine (A) accurately, and noted that it was lying on a bearing of approximately 020°-200°. The submarine was firmly hooked and another Dan Bouy laid. (See Figure 8) *Katoomba* then cruised around the wreck all night expending a further four charges 'in order to be sure he would remain there for all time'. To the attackers' surprise, these 'did not split him asunder but only increased the flow of oil from the vessel'. *Katoomba* reported the wreck to lie at 12° 09'S. 130° 10'E and suggested that divers be sent to investigate. A.P. Cousin, the Commanding Officer of *HMAS Katoomba* indicated later in his report that 'it is quite possible that the Submarine was completely disabled before *Katoomba* fired any charges. He went on to give the credit for the 'kill' to *Deloraine* and *Lithgow*.

At 0137 on 21 January, divers were despatched from Darwin aboard the *HMAS Kookaburra* to investigate the 'kill', apparently with the intention of beginning work as soon as possible the next morning.

At 0305, whilst returning to the scene after reloading depth charges, HMAS *Deloraine* obtained a submarine echo and at 0321 passed the '1st Dan Bouy marking defunct submarine'. A decision was made to attack again and at 0322 an attack was made producing further oil. *Deloraine* then joined *Katoomba* in a search to the south.

At 0717, *USS Edsall* commenced an attack on a 'small' submarine (C) to the north-west of *Deloraine* in position 11° 59.6'S., 130.01.3'E. The submarine apparently performed violent manoeuvres in order to escape. Six depth charges were released at 0749. Due to gear malfunction, *Edsall* could not press home its advantage and contact was lost. Though two of the Australian vessels and a plane also rendered assistance, the 'submarine' escaped.

The *USS Edsall* then left the area, and at 0900 USS *Alden* commenced an attack to the south on a submarine (D) at 12° 11'S. 129° 40' E. This submarine had been sighted by an aircraft on the surface, probably making repairs. It then dived and was apparently leaking oil. *Alden* had previously expended its supply of depth charges, and USS *Edsall* sped to assist.

HMAS Kookaburra then arrived with the divers and proceeded to the buoyed submarine, (A) apparently maintaining station overhead. At 0940 *Katoomba* and *Deloraine* then proceeded to attack what was reported from an aircraft to be an oil patch from another submarine (E). This was on a bearing of 220° to HMAS *Kookaburra* 5 miles (9 kilometres) distant, with Penguin Hill bearing N 14°W. These attacks produced large quantities of oil.

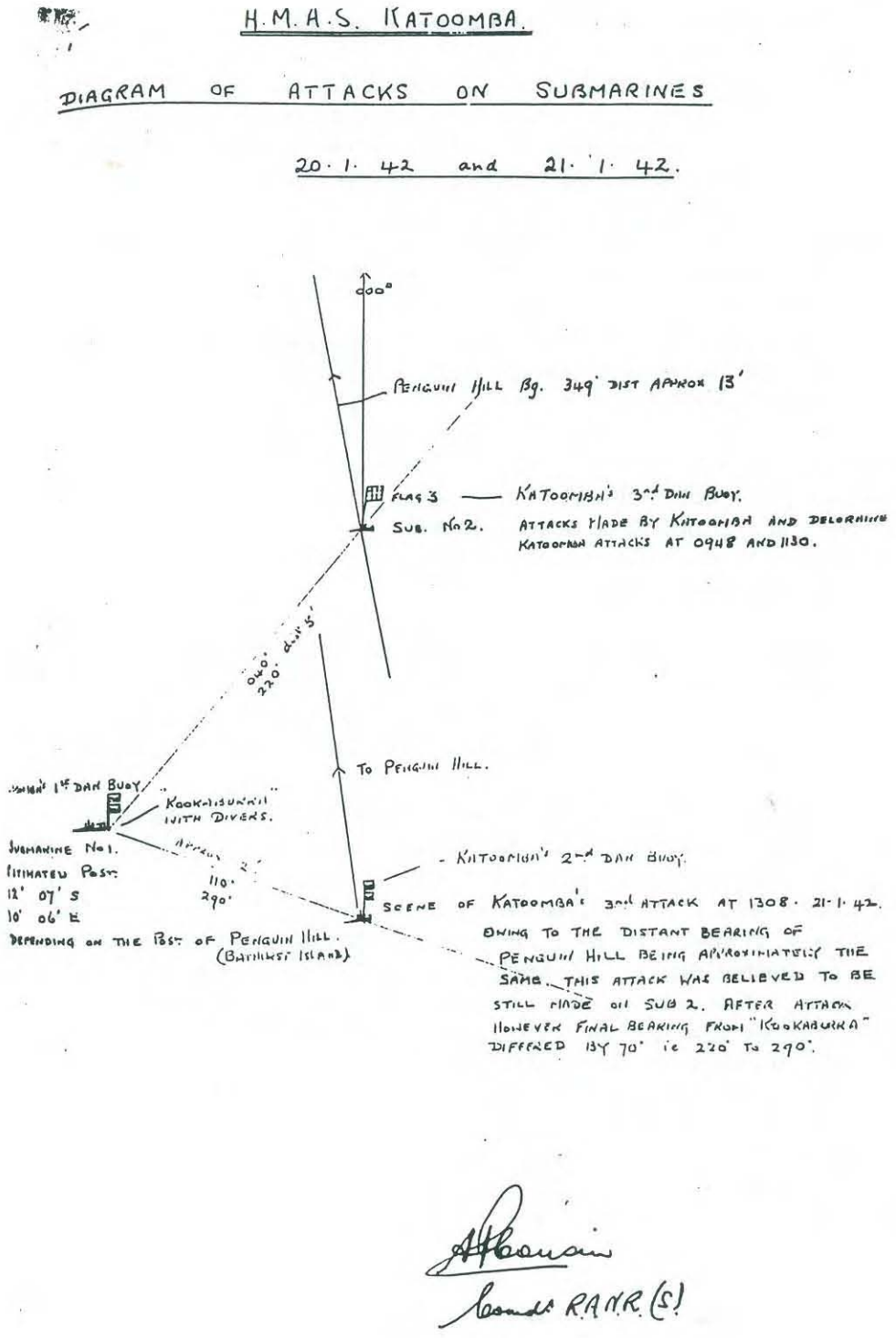
While heading southwards towards USS *Alden, USS Edsall* passed the Australians at 0951 and seeing that the 'corvettes have situation well in hand', kept clear while the Australian vessels made the attacks above. There seemed, according to the Americans, to be 'two subs down in this area about 3/4 mile [1300-1400 metres] apart', in the vicinity of 12°06'S., 130 04'E. (Possibly Targets A or B and E)

At 1038 HMAS *Lithgow* arrived and was ordered to provide anti submarine protection for the divers on HMAS *Kookaburra* . At 1120, HMAS *Deloraine* completed the last of its attacks and proceeded to Darwin.

At 1308 HMAS *Katoomba* established another contact (Submarine F) and attacked bringing oil to the surface. A 'Dan Buoy' with two flags was laid at the site which, to the surprise of the attackers, was on a bearing of 290° approximately 2 miles (3.7 kilometres)

from the *HMAS Kookaburra* . This was some 5 miles or 9 kilometres to the south of the submarine (E) attacked earlier. It was claimed by the Australians that all three attacks were successful. These three positions appear in a contemporary illustration below.

Figure 8 : A contemporary illustration showing the positions of the Submarines believed sunk by the Australian corvettes



At 1315, the Americans abandoned their searches for submarine (D) attacked earlier by *USS Alden*. Their failure to re-locate it was apparently due to heavy rain squalls and poor visibility that forced their air support back to base. The conditions also prevented them sighting the oil slick produced earlier. They then returned to harbour.

At 1420 HMAS *Lithgow* was sent to replenish its supply of depth charges. Having done so it was sent to the position of the '*Alden* Submarine' (D), and remained there overnight conducting an unsuccessful search. HMAS *Katoomba* also remained at sea maintaining an anti submarine watch over the sunken submarine (A) 'on which *Kookaburra* was attempting to dive'. While doing so, they unsuccessfully attempted to relocate the submarine (F) which was attacked by *Katoomba* at 1308.

An analysis of the combined Australian/American attacks, on targets A-F was conducted by H. M. Newcomb, the acting OIC HMA Anti Submarine School. His analysis appears in Appendix 1. In his opinion there were six series of attacks on six targets A-F by the Americans and Australians. He was of the opinion that 'only two submarines were present' in the engagements. He believed that one (A) was 'almost certainly destroyed' and that the sinking of the other (B) was 'highly probable'. He concluded his report, with the words that 'if the sinking of target (A) is substantiated, the credit must be given wholly to *Deloraine*'. He was inclined to give the credit for sinking target (B) 'if the sinking... can be substantiated' to *Katoomba*.[37]

In addition, Newcomb felt that target (E) was originally target (B) which having been damaged and with 'oil tanks leaking...crept away to the north-east' where it was again attacked as target (E).

He discounted targets (C) and (F) as 'non-Sub', the former being the result of possible inexperience. The 'oil' produced in the latter case was dismissed as 'scum normally produced by D.C [depth-charge] explosions'. In the case of target (D), he was less positive, but was inclined to dismiss it as 'non-sub'.

A message sent from Darwin on 23 January relating to the attacks on targets A-F, indicated that they were certain of one 'kill' and,

> of the three remaining submarines... one can be eliminated, one is very doubtful. But one is very probable. Latter is small submarine situated about three miles from ... large submarine and does not now give such good asdig [sic] contact since final heavy attack.[38]

A few days later, on 23 January, while attempts were being made to confirm the sinkings claimed above, two other inconclusive engagements involving the US vessels took place. While proceeding up the Clarence Strait north east of Darwin, contact was made by USS *Edsall* with a submarine apparently moving in to torpedo one of the convoy. The attack was repulsed, but the American counter-attack could not be pressed home. On the same day further east, in the Arafura Sea (off Trepang Bay on the Coburg Peninsula, NT, see figure 4) *Edsall* attacked a submarine (G) producing ' a strong smell of diesel oil'. A torpedo was sighted and the submarine was located and bombed by air. More depth charges were dropped. A 'large gush' of oil and air was seen. Oil streamed from the submarine for 'some time after the attack' and mines were also seen. The Americans lost the submarine with the onset of darkness, but were able to give the position of the engagement as 11°04.7'S., 131° 56.3'E.[39]

The 'Trepang Bay' submarine may have been the subject of a report a few days later on 25 January in which the Naval Officer in Charge at Darwin was advised by his counterpart

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[37] *H. Newcomb, OIC HMA Anti Submarine School to Secretary, Naval Board, Navy Office Melbourne*, 12/2/1942. CAM I 124 file, op cit.

[38] *CWR ? to ACH Darwin ?*v 23/1/1942. CAM I 124 File, op. cit.

[39] C. O. *USS Edsall* to C. in C. Asiatic Fleet, Action against submarines by USS Edsall, 31/1/1942. DD 219/A16-3 (03). Supplied by Flamingo Bay Research. and *H.V. Wiley, Cmdr Destroyer Squadron 29 to Cmdr US Naval Forces South West Pacific*, 10/2/1942. FF 6-8 A16-3, supplied by Flamingo Bay Research.

at Port Moresby who broke radio silence with the report that two unidentified submarines were sighted 'bearing east sailing north'.[40]

In an assessment written purely from the American perspective, J. J. Nix, Commander of USS *Edsall*, claimed that the *Edsall* and *Deloraine* had sunk a submarine (A) on 20 January and that *Edsall* had also been successful in the attack (G) to the north-east of Darwin on 23 January.

At the time the Americans were awaiting verification of this last attack from NOIC Darwin who was apparently 'investigating with divers'.[41] Though confident of a victory here, they were still awaiting verification on 10 February. H. V. Wiley, the Commander of Destroyer Squadron 29 wrote to the Commander US Naval Forces South West Pacific informing him of this and that

> The [original] joint attack...resulted in the destruction of a large submarine. which was later boarded by divers from USS *Holland*. There was some evidence from sound search, that the wreck of a small submarine lay about a mile away. The Naval Officer in command Darwin was inclined, naturally, to credit the large submarine to HMAS *Deloraine*.
> Sound search did not locate the wreck of the submarine attacked by *Alden*, although *Alden* felt certain it had been destroyed, as oil and bubbles were observed for some time after the attack.
> It is believed the attack described [by *Edsall* to the NE of Darwin]...was successful in causing damage to a submarine. The plane pilot reported that he estimated the submarine to be beyond effective depth for his bombs to have done any real damage but he saw a large oil slick and release of air bubbles indicating *Edsall's* depth charge had been effective... mines were seen in the vicinity.[42]

Claims that two or more submarines were sunk examined

From the above it can be seen that RAN and USN claims to have sunk more than one submarine in January 1942 were originally based on very good evidence.[43] It needs to be noted here however, that unsubstantiated claims to have sunk enemy vessels abound in wartime.[44]

While the USS *Edsall* claim to have sunk a submarine (G) to the NE of Darwin near Trepang Bay was not properly assessed at the time, HMAS *Lithgow* examined the area of the *Alden* report (D) on the night of 21 January without result.

On 27 January *HMAS Swan* was requested to examine the site of the supposed 'small' submarine (B/ E) originally believed to have been sunk in the vicinity of Submarine (A) in the following terms.

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[40] NOIC Port Moresby, to NOIC Townsville and Darwin, 26/1/1942., CAM I 124 file, op. cit.

[41] See Reports of the vessels named above in Commonwealth Archives Melbourne, file 1932/3/51 *Sinking of Submarine I124*, (CAM I 124 file) op. cit. and C. O. *USS Edsall* to C. in C. Asiatic Fleet, Action against submarines by USS Edsall, 31/1/1942. DD 219/A16-3 (03). Supplied by Flamingo Bay Research.

[42] *H.V. Wiley, Cmdr Destroyer Squadron 29 to Cmdr US Naval Forces South West Pacific,* 10/2/1942. FF 6-8 A16-3, supplied by Flamingo Bay Research.

[43] Gill, G. H., (1957), *Royal Australian Navy, 1939-1942*, Canberra War Memorial, pp 532-533, states that 'at the time there was good reason to believe that three submarines had been destroyed'.

[44] General MacArthur telephoned the Australian PM Curtin on 5/6/1942 with the news that 'The Royal Australian air force has sunk two enemy submarines today in Australian waters and the Dutch have sunk a third'. Australian Archives A5954/1 Box 2400. ACT. This claim was analysed at my request by Roy Smalley RAN/RAAF Historian and by Mr V. Jeffery, PRO for both the RAAF and RAN in WA. Reply was also received from the RAAF Historical Section to the effect that the report was the result of engagements conducted on the east coast of Australia, in which 'kills' were then claimed but not later substantiated. Copy of letter on *I 124* file.

> The only position in which a submarine may have been sunk during recent operations and which has not yet been investigated is [one and a half] to 2 miles from known sunk submarine. Request you will explore with asdic as convenient. [45]

Apparently, as a result of this unsuccessful search, a further message reads

> No further contact can be obtained with small submarine and this claim has been discounted. Total result of operation on 20th and 21st January is therefore one large submarine. Latter has one escape hatch open and entry by diver is now being attempted.[46]

The depth of the sunken vessel was given in all the accounts as between 24-27 fathoms depending on tides.[47]

Thus the theory that there are two or more Japanese submarines in the vicinity of the successful attacks of 20/21 January 1942, or in the Beagle Gulf, in general can be discounted from the various wartime assessments of the claims made by the attacking vessels.

This evidence is supported by J. Alden's *Japanese Submarine Losses in World War II* which was produced in 1985. An examination of this comprehensive work also shows that there is no substance in the USS *Edsall's* claim to have sunk a submarine to the north-east of Darwin, near Trepang Bay [48]

The remote possibility that other enemy submarines were acting in association with the Japanese was also assessed. 'Vichy' French and Italian submarines are discounted, as the area was outside their sphere of activities.The only other possibility is a German submarine. In response to enquiries, the following reply was received

> German authorities have specifically confirmed that no German submarines were lost in Australian waters during World War II.[49]

Thus the vessel sunk by HMAS *Deloraine* with assistance initially from HMA ships *Lithgow* and *Katoomba* and later by USS *Edsall* and *Alden* is, on the basis of the historical evidence, the only large[50] enemy submarine lost in Australian waters and it is the *I 124*.

Given the difficulty in accurate position fixing in an area with few noticeable landmarks and strong tide, and given that during the engagements on 20 and 21 January 1942 poor visibility was experienced on some occasions, there is to be little surprise that the sunken submarine,(*I 124*), was accorded positions varying from 12° 03' S., 130 09'E., to 12° 07' S., 130° 09'E., and 12° 09 S., 130° 10 E., during the War.

It becomes apparent in all of the above that when relying on oil slicks to fix the position of a supposed wreck, allowance must be given for strong tides, as it is clearly possibly for a slick or even small bubbles to surface a considerable distance downstream of the point of origin. Thus in areas such as the Darwin region with its strong tides, and in times of conflict or in difficult conditions, only when a supposed wreck is fixed by some physical or remote sensing means can the supposed location of another nearby be considered by any means a certainty.

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[45] *DNO Darwin to HMAS Swan*, 27/1/1942, CAM *I 124* File, op. cit.

[46] *To ACNB from DNO, NT*, 27/1/1942, ibid.

[47] In the Darwin region they can be up to 8 metres in height and 3-4 fathoms difference in the depth quoted is not significant. *Australian National Tide Tables* 1989.

[48] Alden op. cit.

[49] S. Kentwell, Director Japan Section, Dept. of Foreign Affairs and Trade to McCarthy, 16/2/1990. WA Museum *I 124* File, (WAM *I 124* file) 3/89.

[50] Japanese 'midget' submarines were lost in Sydney Harbour. A section of one is on display at the Canberra War Memorial.

The slightly varying fixes for the same wreck obtained in the comparative calm of 1944, 1977 and 1984 by much better equipped survey vessels,[51] further attest to the difficulty of obtaining accuracy in such an exercise during an engagement.

Any 'two submarine theory' based on positions given for a particular wreck that vary by as little as one nautical mile or 1.5 kilometres in peace-time up until the advent of Satellite Navigation Systems, and by a substantially greater distance during conflict, must be treated with caution.

Even with this in mind, it does appear from all accounts, that more than one submarine was rendered stationary in the early stages of the engagements above, but one apparently escaped.

In a report dated 29 January 1942, Capt. N.T.P. Thomas, the Naval Officer Commanding Northern Territory summed up the entire situation thus,

> It would appear that three and possibly more submarines were operating off Port Darwin during these operations, and reports received from Commanding Officers during preliminary interrogations were sufficiently decisive to cause considerable over-estimation of probable results obtained.
> Subsequent investigation suggests that, although one Submarine only can now be claimed to be sunk, at least two others appear to have been severely damaged.[52]

Whether the other submarine(s) attacked were *I 123* and *I 121* is not known.

Diving on the I 124

There appears to have been an unsuccessful attempt to dive on the stricken submarine on 21 January, the day after it was sunk. The evidence for this appears on 22 January, when a message was sent to the Melbourne headquarters of the RAN to the effect that a submarine had been 'confirmed beyond question in 27 fathoms. Diving is difficult but efforts will be continued'.[53] This report most likely refers to the efforts of the party on board the net tender HMAS *Kookaburra* which arrived at the site on 21 January and for which *Lithgow* provided anti submarine cover from 1038 to 1420 on that day. Detailed contemporary accounts of that dive have not been obtained.

One modern account claims that American divers from USS *Blackhawk,* the flagship of Destroyer Squadron 29, US Asiatic Fleet, dived on the wreck on 21 January and heard tapping from within the hull.[54] It was also claimed recently that an Australian diver from *HMAS Deloraine*. was the source of this account.[55]

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[51] 1944 : by HMAS *Shepparton* 12° 07'.25S., 130° 06'.13 E.
1977 : by HMAS *Moresby* 12° 06'.92S., 130° 06'.77 E.
1984 : by HMAS *Cook* 12°07'.1 S., 130°06'.25 E.

[52] Capt. N.T.P. Thomas, NOIC, NT to The Secy. Naval Board. Subject. *Operations against Enemy Submarines at Darwin by H.M.A. Ships "Katoomba", "Lithgow" and "Deloraine" and U.S. Destroyers "Alden" and "Edsall" -20th and 21st January, 1942*..N.T. 0579/1, CAM *I124* File, op. cit.

[53] CWR Melbourne, from ACN Darwin, 22/1/1942, & NB to FOCAS 585, 24/1/1942. ibid.

[54] It has been claimed that on 21 January a diver from the Fleet Repair Ship USS *Black Hawk* went down onto the vessel and heard tapping. *The Sun 9/5/1973*.

[55] G, Laffer, Acting Secretary, [HMAS] 'Sydney Research Group', to McCarthy, 29/9/1990, WAM file 630/81/4. Mr Laffer was referring to an interview with a Mr Bob Williams who claimed to be a member of the crew of HMAS *Deloraine* crew and who recounted his memories of the dive undertaken, the report of hearing the Japanese within the hull, and the aborting of the dive due to the diver becoming tangled in the wreck. Mr Williams was dangerously sick in hospital at the time of writing and was not able to be interviewed. He stated in his interview with Laffer that the skipper of his vessel was a Commander Donovan, casting some doubts on his powers of memory at the time. WAM *I 124* File, op. cit.

An official note dated 23 January 1942 however, reads 'diving has been unsuccessful due to tide. Dark shape has been seen but not reached by diver... Diving has been abandoned until neap tide on January 26.'[56] This casts doubt on both the *'Blackhawk'* and *'Deloraine'* stories and is an indication of how freely events can be interpreted with the passage of time. As there were still concerns that active submarines were in the vicinity, diving, when it did take place, was most likely to have been from onboard the relatively dispensable net tender HMAS *Kookaburra,* and not from *HMAS Deloraine* as claimed

Thus it was not until 26 January that divers actually descended to the wreck. Though based on the relatively well equipped submarine repair vessel *USS Holland,* they dived from HMAS *Kookaburra* initially in an attempt to further confirm the 'kill' and possibly to set the scene for further work on the wreck. The American divers, under the command of Lt. Commander R. E. Hawes, arrived at the 'buoyed location' of the submarine at 0700 on 26 January and experienced some difficulty in locating the wreck. Part of the reason for the difficulty experienced in this case lay in Hawes understandable decision to 'keep the divers on the bottom not longer than 16 minutes in order to stay on the decompression table'. All the air he had at his disposal onboard the net tender *HMAS Kookaburra* was a portable bank of 'air flasks' from *USS Holland* and an 'unsatisfactory gasoline air compressor' borrowed from the Australian Army. After two unsuccessful descents in which the submarine was not found, the third diver reported finding a 'large gully about 15 feet across and 4 to 6 feet deep' indicating the position which the submarine apparently made a violent contact with the seabed. The *Kookaburra* was subsequently moved a short distance aft of its position and the fourth diver landed on the aft deck of the wreck which was found upright in 25 fathoms on a sandy bottom.[57]

This diver down reported one hatch blown open and no evidence of identifying marks on the submarine. He did not reach the conning tower. The fifth reported as follows

> gaskets were blown out of two other hatches aft of the conning tower... a V shaped well at forward part and abreast conning tower about 15 to 20 feet long and 6 feet inside, apparently peacetime boat storage... Antenna ran from the stern to the conning tower...Did not locate gun, says he was about 15 steps forward of conning tower... The hatch blown open was nearest the conning tower...color of submarine black.[58]

In being so restricted in their air supplies and by the time allowed by Hawes in order to keep them from needing to decompress, the divers proceeded in their inspection along the aft deck and only 15 paces forward of the conning tower. In doing so they were led to report that they did not see a gun forward. This comment later appeared in one modern analysis of the dive report, quite incorrectly, as 'no gun'.[59]

The diving team were satisfied that the submarine was immobile and recorded its position as 12° 03' S., 130° 09' E. They then returned to Darwin to replenish their air supply, arriving at 0200 on 27 January. After a short while in the harbour, they arrived back at the wreck at 2000 hours on the same day. With the sea too rough to work, they returned to port, arriving at about 2400 hours. The dive report was concluded with the statement that,

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[56] CWR? to A/CH Darwin, 23/1/1942, CAM *I 124* File, op. cit.

[57] The difficulty experienced in actually locating the wreck on this occasion indicates that it was not actually dived between 21-25 January.

[58] *J. W. Gregory, C.O. USS Holland to C in C Asiatic Fleet, 1/2/1942 'Sunken Enemy Submarine - investigation by divers and to NOIC Darwin, 'Diving Operations- Report of.'* The report was compiled by Lt Commander R.E. Hawes OIC the diving party. CAM *I 124* file, op. cit. The ''furrow' report is possibly the source of the submarine in the trench story.

[59] Causing some confusion and adding fuel to the 'modern' two submarine theory

> Further exploratory diving is required before a recommendation for salving can be given. The bottom is hard sand but the submarine may lie in a trough now filled with silt. Her main ballast tanks are evidently intact and could probably be blown through the salvage air lines. The damaged hatches can be repaired so that the flooded compartments can be blown.[60]

It needs to be noted here that, in the light of the short 'bottom time' available to them in diving from the ill-equipped net tender HMAS *Kookaburra* and due to other technical difficulties, including the bulky nature of the 'Standard Dress' or 'hard-hat' apparatus, the divers apparently made no attempt to make their way through the submarine's hatches in an effort to examine the interior of the vessel.

This point needs to be examined in some detail for reasons that will become apparent.

The *I 124* was the fourth Japanese submarine lost in action in WW II and, apart from the midget *HA-19* captured at Pearl Harbour, was the first submarine accessible to the Allies. There were obviously pressing reasons for a penetration into the submarine to be made in order to recover documents and code books of vital use to the Allies.

The sole submarine tender in the region, *USS Holland* could not be placed at risk in the diving operations despite the potentially important results however. The commander of the diving group, Lt. Cmdr. R.E. Hawes, was noted as an excellent leader, a man of considerable bravery and skill and one who would have pressed ahead with the penetration if it were possible at the time with the men and equipment at his disposal.[61]

He did not do so for there were other plans afoot. J.W. Gregory, the Commanding Officer USS *Holland* submitted the dive team's reports immediately after the dives, together with his assessment of the situation to his own Commander-in-Chief. He noted that the strong currents would preclude diving until the next neap tides which were due around 9 February. He advised that by using the *USS Pigeon*, which was then in the Philippines, the submarine could be 'blown light enough to be lifted and moved to shallow water, taking advantage of the large rise and fall of tide.'[62]

USS Pigeon, was a vessel with a 'primary mission to salvage and aid submarines in distress'.[63] With this vessel, which had a fully equipped chamber for rescuing men from stricken submarines, mixed gas facilities and recompression chamber on board, 'bottom time' would not have been the limiting factor that it was in diving from HMAS *Kookaburra.* With the use of *USS Pigeon,* supported by aircraft to guard against attack and the Australian Corvettes in position to provide anti-submarine protection, an entry into the *I 124* and its eventual salvage would have been quite possible.

The Australians agreed with this assessment. In a report dated 29 January 1942 from Captain Thomas, Naval Officer Commanding Darwin to his superiors at the Australian Naval Board, the following comment was made,

> It is intended to estimate as soon as practicable the possibility of and equipment required for transfer of the submarine to shallow water.[64]

He advised that diving was only possible near 'slack water' on neap tides and that entry to the submarine 'cannot be effected' and was not possible until four moorings could be laid to counteract the tide. He also noted that 'complete salvage will probably require

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60 Possibly giving rise to the submarine in a trench story.

61 Hawes was 'a legend amongst submariners... and was known for his ingenuity with men and the materials at hand'. Navy Department, ( ) *Dictionary of American Fighting Ships. Vol 1 1959.* pp 303-4. (Undated excerpt supplied by Submarine Warfare Library). He died before this report however.

62 *J.W. Gregory, CO USS Holland to NOIC Darwin, Diving operations-report of,* 31/1/1942 and *Gregory to C in C Asiatic Fleet, Sunken submarine investigation by divers,* 1/2/1942, CAM *I 124* File, op. cit.

63 *Dictionary of American Naval Fighting Ships, Vol 1 1959,* Navy Department, Washington, p. 303.

64 Thomas, op. cit.

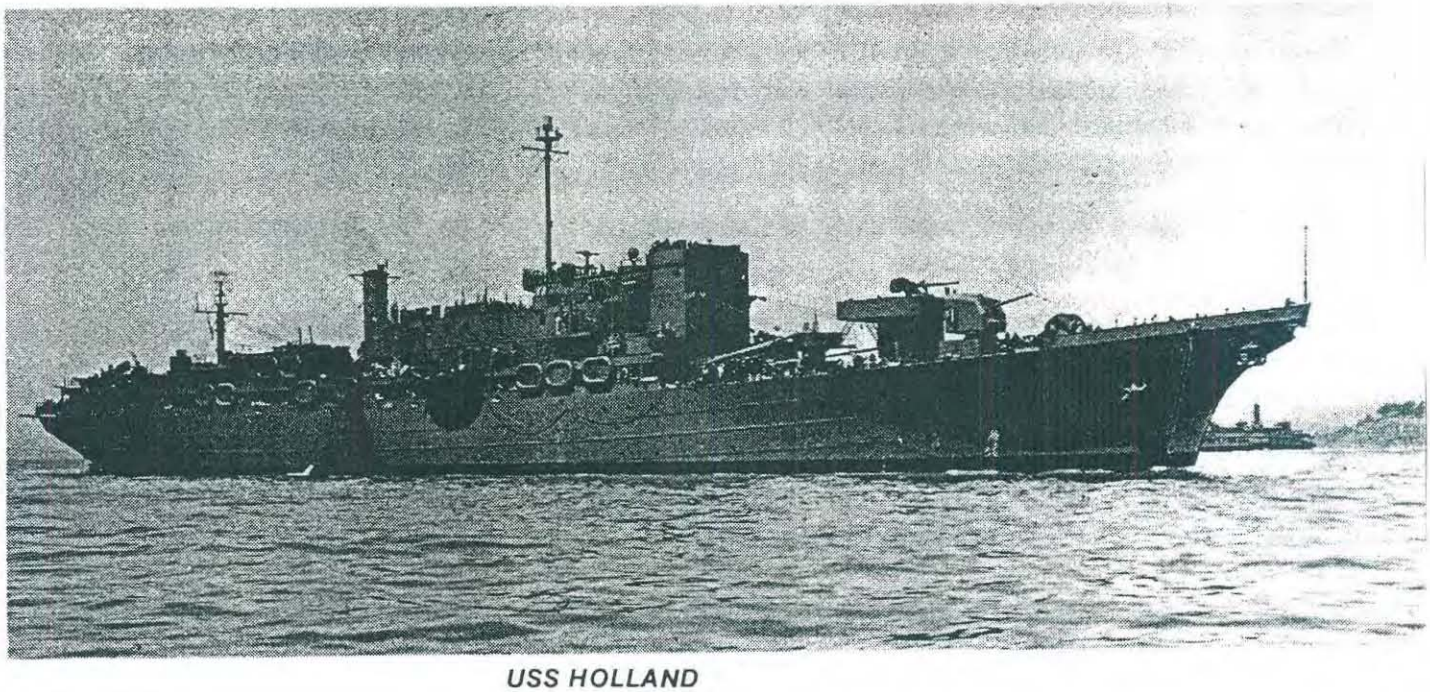
U.S. submarine salvage ship *Pidgeon [sic]* now held in Manila'. The report concluded with the note that, in the light of the imminent 'withdrawal from Darwin of US ships with divers and 'deep water equipment, no further preliminary diving can be effected with local resources'. It was also noted that HMAS *Kookaburra* had been returned to its normal duties and 'released from diving', apparently until the neap tides of 9 February.[65]

The Americans fleet was due out of Darwin before that time in order to 'remove' the 'Asiatic Fleet Submarine Force' and its staff to Australia.[66]

Mindful of the imminent departure of the Americans, the Australians apparently entertained ideas of using explosives and other diving equipment on the submarine. A number of radio messages were sent in an attempt to free a Captain Williams from his existing duties. He was apparently 'optimistic and anxious to start' on an unspecified project in which equipment was to be collected and despatched and a naval vessel, presumably *HMAS Kookaburra* was to be used as a diving tender.[67] Nothing more appears to have come of the venture however.

On 3 February USS *Holland* went to Java to relocate the 'Asiatic Fleet Submarine Force' to Albany and later to Fremantle in Western Australia. The first air raid on Darwin occurred on 19 February,[68] and USS *Pigeon*, hard pressed with enemy attacks in the Philippines, was sunk on 4 May 1942.[69]

Figure 9 : *USS Holland.*[70]



USS HOLLAND

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[65] *NOIC Darwin to NB 454*, 30/1/1942, CAM *I 124* File op. cit.

[66] See Creed, D., (1979), *Operations of the Fremantle Submarine Base, 1942-1945*, The Naval Historical Society of Australia, Sydney.

[67] A.C.N.B. to NOIC Darwin, 31/1/1942, D.N.O.N.T. to A.C.N.B.473, 31/1/1942 & A.C.N.B. to D.N.O N.T. 27, 1/2/1942. CAM, *I 124* File, op. cit.

[68] Powell, A., (1985), The Shadow's Edge. *Australia's Northern War*. Melbourne University Press., pp 69-72.

[69] ibid.

[70] From Creed, op. cit. Rear Cover.

Thus there is no record of a penetration into the hull of the submarine despite there being pressing reason at the time to do so.[71]

It must be noted here that, had Hawes had sufficient air supplies at his disposal onboard the *HMAS Kookaburra*, he may have attempted a penetration into the hull even without the servicess of *USS Pigeon*. A wartime penetration into a German submarine *U 853* in 127 feet or 21 fathoms (39 metres) of water near the coast of America has been recorded for example. In this case, divers succeeded in gaining some access into this particular vessel, but failed in penetrating far into the hull and in their primary objective of recovering the ship's papers. Despite that, the diver was awarded the Navy and Marine Corps medal for his feat.[72]

The honours thus bestowed on a diver, who at the end of the war entered a German submarine in 127 feet of water near the coast of America, are an indication of the sort of acclaim that normally would have followed on such a feat on *I 124*, in deeper much more dangerous waters at the onset of hostilities, and with much more to gain.

It could be argued that in an attempt to avoid alerting the Japanese to the fact that their codes had been broken, any penetration into *I 124* would have been kept secret and would not appear even in declassified files. This is a self evident comment, but there would have been no reason to continue with the secrecy after the war. At the end of hostilities, the divers and their feat, if it had taken place, would have received considerable and much deserved acclaim. Their feat would also have been highlighted in the annals of the history of code breaking in World War II and in the detailed USN accounts of its variousvessels and the people who served in them.

Again it can be stated, on the basis of all the above, that a wartime penetration into the *I 124* was not made.

On the basis of this evidence, post-war Japanese and American reports that the wreck of *I 124* lay in 40 feet of water and that it was entered in order to gain access to the safe are clearly in error. [73]

With this in mind approaches were made to the American authors involved with those reports. Reply was received that it is accepted, by the authors themselves, and in American Naval and Naval Historical circles that the reports are in error.[74]

According to the Submarine Warfare Library, the Japanese account is believed to relate to the sinking of the *I 1* on 29 January 1943 by two New Zealand corvettes. This submarine was rammed and run ashore in a sinking condition by the NZ vessels. It was reported that the 'allied divers salvaged a treasure trove of valuable secret documents'. Though many of the crew leaped ashore and buried some of the code books, many were found in the hull. The self evident comment was made that, had the codes onboard *I 124* become available, the story of their impact would certainly have been told as it was in the case of *I 1*.[75]

Thus, on the basis of the wartime evidence there is only one submarine in the Clarence Strait, it lies in water around 25 fathoms (45 metres) deep and it was not cut open or

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[71] Interviews conducted in May 1989 and October 1990 between the author and *USS Holland* crew-members Mr Homer White and Mr Louis Wiegand respectively also confirm this. In corroboration of their accounts they both independently stated that a section of white gasket rubber was recovered from the wreck. This is mentioned in the diver's report appearing in appendices following. Mr White also indicated that the American diver's suits were too big to allow access.
Mr Wiegand felt that the stories of tapping from within the wreck emanated from the *USS Holland* dive. If this is so, then some of the unfortunate Japanese crew remained alive for almost a week in the hull of *I 124*.

[72] Keatts, H., and Farr. G., ( ) *Dive into History U-Boats*, American Merchant Marine Press, NY. Undated excerpt supplied by the Department of Foreign Affairs and Trade,

[73] Hiroyuki Agawa. (nd) *The Reluctant Admiral. Yamamoto and the Imperial Navy. Kodansha Internationa*l. Tokyo, p. 307 & Carpenter, D. and Polmar, N., (1986), *Submarines of the Imperial Japanese Navy*, Conway, NY, Cha. 2.

[74] Paine to McCarthy, op. cit., and S. Kentwell, Dept of Foreign Affairs and Trade to McCarthy 12/2/1990, WAM *I 124* File, op. cit.

[75] ibid, quoting Holmes, W. J. ( ) *Double Edged Secrets. US Naval Intelligence Operations in the Pacific during World War II*, p. 123 & Blair, C. *Silent Victory. The US Submarine War against Japan*, p. 370. (Undated excerpt supplied by Submarine Warfare Library).

entered by divers. Those divers that did descend to the wreck centred their activities on the aft deck and proceeded only fifteen steps forward of the conning tower. See Appendix 2.

Dives in the 'modern' era

The *I 124* was then left undisturbed until it was relocated in 1972.[76]

An un-provenanced document entitled 'History',[77] obtained by Flamingo Bay Research Pty. Ltd., indicates that in late July 1972 a partnership of George Tyers, C. J. Hawks and Harold Baxter was formed with a view to locating the *I 124*. Many searches were conducted over 6 weeks and the vessel was finally located with echo sounder and sonar. Between September and November preliminary dives were conducted which included Mr Baxter.

Mr Baxter claims in a statement appearing in Appendix 2 to have found the wreck on 15 November 1972 and to have dived five times. He stated that it was fitted with a 5.5 inch gun and had open torpedo tubes. On the basis of research conducted at the time, it was his team's 'firm conclusion' that the wreck was the *I124*. Sounding equipment used on the hull led he and his colleagues to believe that 'half of the submarine is still water tight and the other half filled with water'. He estimated the scrap metal value of the wreck to be $1.5 million at the time and noted that 'it is possible that the ship also contains mercury which was used for ballast which would be worth $1 million. He also noted that, apart from these considerations, the submarine 'might be a valuable war relic'.[78]

Mr Baxter went on to make a number of claims relating to sharks, sea snakes, 'man eating' gropers and human remains. Though there is agreement on the prolific sea life around and above the wreck, including large groper and sharks, his comments and claims were considered somewhat sensational by his colleagues.[79] He and a Mr Lowry then went to Melbourne on behalf of the group to raise money.[80] On January 30 the T&L (Trade Winds Ltd. and Lincoln Ltd.) Salvage Company of the New Hebrides, through its solicitors, Garrick Gray and Company, announced that they had entered into a contract with Mr Baxter and Mr Lowry who had agreed to raise the submarine and deliver it to them. T&L Salvage also purchased Baxter and Lowry's interests in the submarine giving it the option of taking charge of the salvage operation. Film rights were offered for sale and it was indicated that the Company were prepared to sell the wreck to the Japanese government for $A 2.5 million once they could prove it was actually the *I 124*.[81] They also commissioned a 'very professional and thorough inspection' which was apparently conducted in January or February 1973 by Sub Sea Services headed by P. J. Washington.[82]

According to the unknown author of 'History', who was apparently a part of these proceedings, the wreck was 'in a perfect condition with only light growth 1/2 way up the side of the hull and on the conning tower.....[on the] aft deck was 2 rows of petrol drums in

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76 It has been claimed that relatives of the crew led by Atsuko Kishigami eldest daughter of the *I 124* commander attempted to organise the recovery of the remains in 1958. *The Sun 9/5/1973.*

77 An excerpt from a report 'History'. A copy of which is in the Flamingo Bay Research Pty Ltd archives and on AFP *I 124* file.

78 *Statement by Harold Baxter* circa January 1973, appearing in papers held by Mr Washington kindly released to the WA Museum by Mr Washington, formerly of Sub Sea Services, acting with the permission of his then client Mr J. Nason for whom Garrick Gray, solicitors, were operating. Hereafter called the *Nason Papers.*

79 There are many, the most notable being: (i) *Australasian Post* (13/3/1981)The $2 Million Dollar Graveyard: 4-6/ (ii) *The Sun* (9/5/1973) The Death of the Dreaded *I124* :10

80 Others involved in an unknown capacity appear to be, Messrs Lowry, Baxter, Reardon, Murray, Harper, Gray and Nason. Nason Papers op. cit.

81 *Garrick Gray and Co. to I Cran, 30/1/1973*, Nason Papers, op. cit.

82 *P. J. Washington, Managing Director, Sub Sea Services, Pty. Ltd., to Garrick Gray and Co., Solicitors, 8/3/1973.* Project, Submarine hull Inspection. Nason Papers, op. cit.

brackets which are intact.'[83] The inspection by Sub Sea Services showed that the wreck lay in 26-27 fathoms (c. 48 metres). The first diver descended to the bow and reported a net cutter 5 feet (1.5m) high, a hatch which was 'at an angle of 25° and between this and the conning tower was a gun. In the course of this 14 minute dive, (including 2 minutes descent), the diver left the wreck to clear his hose and could not return due to the currents. The second diver had a 37 minute dive and also landed at the bow. In proceeding aft from there, he noted a 'blown' hatch 40 feet aft of the conning tower. The diver also noted that 'forward of the conning tower is an open hole. Port side of the conning tower is a bad hole.' The next dive was aborted due to rupture of the air hose. The last diver had a 25 minute dive and noticed a 'mortar bomb' in the conning tower. He also commented that 'aft of the conning tower is a rack of depth charges or mines'. Mr Washington indicated that more information would be available in examining the photographer, Mr Bource's, results.[84]

According to the syndicate who commissioned the report, the wreck was,

> positively identified as *I124* from plans we had from Kawasaki and measurements taken on the submarine and relayed by telephone.

The comment was made that 'if it is loaded with mercury', it would be very valuable. On 1 February 1973, the finders offered the wreck for sale in the New York Times and the Straits Times. Some inquiries were received, including one from the Japanese Consul-General in Australia. He advised T & L Salvage that his government had not officially abandoned its claim to the wreck and that any salvage required Japanese approval. The Consul also commented that,

> apart from any discussion about the legal ownership of the submarine, I have been instructed to draw your attention to the fact that from a purely humane standpoint, should the submarine indeed be Japanese, our Government would naturally be responsible for the remains of any crew members and/or their personal belongings.[85]

In order to 'facilitate negotiations', the Japanese government requested information on the location of the submarine, how it was identified and the basis of the salvor's claims to ownership. The solicitors for T&L Salvage delayed replying to the Japanese whilst awaiting information from the finders. On 9 February a similar letter to the first was sent by the Japanese.

In the meantime the finders obtained a lengthy legal opinion on the available options. It appears from this document that the Japanese were accepted as the owners of the wreck and that possession gave the finders no rights. T & L Salvage were also advised that the Japanese claim of ownership would be recognised by the Australian Government should the wreck be bought into Australian waters. At the time these waters ended at the 3 mile limit. Though the wreck lay on the Continental Shelf, the (then) proposed 'Continental Shelf Legislation' (Seas and Submerged Lands Act 1973) was deemed to hold no powers as it referred only to Australian ownership of 'natural resources'. It also appears that as the submarine lay outside Australian waters, as they were then defined, the Australian Government at the time had no powers over the wreck under the Navigation Act or under 'common law' unless it were to be bought into those waters. By not bringing the vessel into Australian waters i.e. within 3 miles of the coast, the Company could then avoid dealing with the Receiver of Wreck as required under s. 302 of the Commonwealth Navigation Act 1912. There was concern that if the Receiver of Wreck were to become

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83 'History,' op. cit.

84 Washington, op. cit. These films are in the possession of the well known Mr Henri Bource of Brighton Victoria.

85 *Kazuhide Komuro, Consul-General of Japan to T. & L Salvage, 7/2/1973*, Nason Papers, op. cit.

involved, the Company would, as a result, 'lose possession' of the submarine. The advice was given that the letter from the Japanese Consul should be acknowledged, but that the intentions of the Company and the location of the submarine be withheld from them. It was advised however that the Japanese should be assured that the Australian salvors 'will pay full respect to the remains of any crew members which are found on board'. It was again noted that the finders had no title to the submarine by reasons of finding. The following revealing comment was made that,

> I presume that the matter is proceeding on the footing that it will not be possible to make an acceptable bargain with the Japanese Government.[86]

The unknown source of these legal opinions then indicated that 'it would no doubt avoid much trouble' if the potential salvors could obtain agreement with the Japanese. The opinion was then offered that, if they could not reach agreement, there was a possibility that the wreck could be salvaged by a vessel whose flag conferred rights to the salvors 'even against the true owner'. In that case it could be then floated to an atoll away from Australia and be cut up or otherwise dealt with there.[87]

About this time, dissension occurred within the ranks of the potential salvors, and the original united group that sent Baxter and Lowry to negotiate on its behalf split, apparently into two factions. The exact reasons are unknown, though it appears that there was disagreement over the best means of dealing with the Japanese Government in the light of the above. Public controversy was also mounting and Harold Baxter was apparently threatening to use explosives on the wreck in order to hasten a decision by the Japanese. On 13 April 1873, one faction led by C.J. Hawks and his associates disassociated themselves from Baxter 'and his threats to blow up the vessel'. Those remaining with Baxter became a group called 'Salvage Unlimited'.[88]

The Hawks group, apparently including G. Tyres and A.J. Chadderton, were of the belief that the daughter of the submarine's commander was the 'main agitator since the end of the war for the return of the bodies to Japan'. With this in mind they pressed ahead with their own salvage plans and discussions were held with the Japanese Government with a view to salvage after the proper removal of bodies.

The other faction pressed ahead in a mood less conciliatory to the Hawks' group or to the Japanese. Reference is made in 'History' to 'armed raids' on a tug moored to the wreck so as to try and 'change our legal standing of possession in international waters'. There was considerable considerable press coverage on the matter in 1973 and 1974. The Hawks group eventually completely withdrew in the face of mounting controversy. The Baxter group pressed ahead, but were requested to desist by the Australian Government in the light of the 'war graves' issue. Some of these official requests also received media attention.[89]

In one press report of October 1976, for example, it was reported that the Australian Government had been originally 'reluctant in being involved' because the wreck lay outside the 12 mile (19 Kilometre) territorial limit, but then had 'decided to put a stop' to further salvage.

In December 1976, the matter was also raised in Parliament. The occasion was the second reading into the 'Historic Shipwrecks Bill' which was then being discussed as a result of a high court challenge to the existing Western Australian Maritime Archaeology Act. In discussing the question as to what constituted an historic wreck, Senator Kilgariff of the Northern Territory suggested that the *I 124* could be seen in that context especially as he considered the wreck did not contain mercury and was therefore not of commercial

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[86] *Trade Winds LTD, Re Salvage of Submarine*, Opinion. 7/3/1973. Nason Papers, op. cit.
[87] ibid.
[88] *Hawks to the Department of Foreign Affairs*, 13/4/1973, WAM I 124 File, op. cit.
[89] 'Navy boat to protect submarine'. *The Age* 26/3/1973, 'Leave Japanese Submarine in Grave : Willesee', *Age* 27/5/1974, 31/5/1974. 'Govt orders : Stop war sub salvage'. *Herald* 15/10/1976.

value. The Senator then referred to a press release of a fortnight earlier which was designed to force Baxter to desist.

The release read,

> The Australian Government shares the view of the Japanese Government that the submarine and the remains of its crew should be regarded as a war grave, and that it should be left in peace. The Australian government also agrees with the view of the Japanese Government that the submarine remains the property of the Japanese state, and that no other parties have any right to it.

In commending the withdrawal of one faction from the salvage attempt, the Senator referred to the situation with the *HMAS Perth*, *HMS Prince of Wales* and *HMS Repulse*, which were all sunk with great loss of life, and in that context noted that 'Australians can sympathise with the feelings of the Japanese people for the protection of the remains of their servicemen'.

In supporting the proposed Historic Shipwrecks Legislation, allowing for the protection of historic wrecks on the Australian continental shelf, the Senator requested that, though the Australian and Japanese governments were then 'discussing the matter', the submarine should be declared an historic and therefore protected wreck.

The Historick Shipwrecks legislation was enacted in December 1976. In the meantime, apparently before the submarine was declared a protected wreck, Baxter severely damaged the conning tower with explosives in an apparent attempt to force the Japanese government to deal with him and not with his former partners.[90]

The reverse occurred and as a result, on 12 July 1977, the wreck was declared Historic. The position of the wreck was 'fixed' at 12°06.92' S., and 130°06.77' E., to the acknowledged limits of the equipment then available by HMAS *Moresby* in 1977.[91] A 500 metre radius 'restricted zone' was also declared around the site.

Partly in response to the reports of both Sub Sea Services and Baxter's group that unexploded mines lay on the deck of the vessel, seven dives were made by HMAS *Curlew* on 5 and 6 November 1984. Three of the dives were aborted in the strong tides.[92] In the course of this inspection, 'mine carrying rails' were noted on the aft deck, along with two hatches on the stern, one open. The after section of the conning tower was found detached from the main structure and lay across the starboard side of the vessel. A gun was noted on the fore-deck. Photographs and a site plan were produced. The report stated that, 'no mine-like objects or explosives were found on or in the vicinity of the wreck.' The hull appeared generally sound with no apparent damage, bar that noted above.

The four dive reports i.e. those of USS *Holland*, Baxter, Sub Sea Services and HMAS *Curlew* appear together in Appendix 2. It is clear that, though there are discrepancies, i.e. the net cutter missed in the *Curlew* inspection and the peacetime boat stowage noted on the *Holland* inspection, the four teams are referring to the same vessel. Any differences noted are due to the different places of access to the site (bow or stern) and the difficulties of diving on the site which can be summarized as short bottom time, severe narcosis (in some cases) due to the depth, gear failure, fear (in some cases), poor visibility and problems in combating the tide.

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90 The $2 Million Dollar Graveyard. *Australasian Post* (Date lost).

91 Doyle, J. J. (15/8/84), Cmdr. RAN Deputy Hydrographer to J. Amess. Department of Home Affairs and Environment (now DASETT), *Position of Wreck Submarine I124.*

92 Partington. R. Capt. RAN to J. Amess, DASETT. *Historic Shipwreck Japanese Submarine I 124.* 7/3/1985, and R. H. Crane, Lt. Cmdr. RAN, C.O. HMAS Curlew, to Flag Officer Commanding, *Survey of Japanese Submarine I 124* , 3/12/1984.

The one serious discrepancy was in the matter of the presence or absence of the row of 'depth charges' or petrol drums' noted by Sub Sea Services aft of the conning tower. These were not seen by divers from USS *Holland* in 1942 and HMAS *Curlew* in 1984.

The situation was resolved in an interview recently conducted with Henri Bource, who was the photographer and one of the Sub Sea Services diving team on the 1973 inspection. Mr Bource noted that poor visibility reduced the quality of his photographic record and that only 'five or six' of the photographs showed much detail. Mr Bource also indicated that he centred his attention on the seabed around the vessel in order to gauge the suction forces required to be overcome in order to raise the wreck. He did however spend some time in the area 'just aft of the tower to the bow' and looked through the 'grating' on the aft deck.

There, between the pressure hull and the outer hull, were drums in 'the shape of 44 gallon fuel containers'. Mr Bource reported this on surfacing and the suggestion was made from a perusal of Janes Fighting Ships that these may be mines, depth charges or petrol drums.[93] Mr Bource confirmed that no actual identification of the containers was made at the time.

Since the dives examined above there appears,with the exception of the attempt outlined below, to have been little activity on the wreck until this 1989 *Flamingo Bay* inspection.

The *M.V. Leisure* dive in January 1984

In January 1984, a group of divers from a charter boat, the *MV Leisure* were intercepted by the authorities after being noticed moored in the region of the *I 124*. An important figure in the venture appears to have been J. Chadderton, one of those involved in earlier attempts to salvage *I 124*.

The crew were all interviewed. They stated that they had not been successful in locating the wreck and that when apprehended they were attempting to locate the wreck by a grid search using satellite navigation systems. They all stated that their object was purely to photograph the submarine and that they were unaware that it was historic or that diving was prohibited.

It appears from other sources that there was interest at the time in rumours that there were 30 tons of 'crudely melted down' gold onboard the wreck, along with maps and documents relating to the location of buried 'spoils of war'.

Whether this assertion was a factor in the *MV Leisure* dive is not known. The issue will be briefly addressed later in this document.

The *Flamingo Bay* Inspection : March 1989

After a week spent alongside wrestling with delays and the political ramifications of the proposed inspection of *I 124,* the *Flamingo Bay* left Darwin Harbour on the night of 15 March and arrived an the area of the submarine at 0400 on the following day. The GPS 'window' opened at 0500,[94] allowing the RACAL team of Chris Jones and Laurie Etheridge to not only deploy their side scan sonar, but also to fix their position with great accuracy using GPS and other equipment supplied gratis by RACAL. The survey commenced at 0617. In utilizing the GPS position fixing systems and with the benefits of the Visual Display Unit plot and hard copy of the search vessel's course in coordinates to the Australian National Datum, Captain Tomlinson was able to to navigate the *Flamingo Bay* accurately outside, but on the border of, the 1000m. diameter restricted area as fixed by HMAS *Moresby* in 1977. The area inside the restricted zone was examined by skirting its boundary with the side scan sonar set on a range of 500 m. Nothing was seen within its confines. At 0850, a submarine was located 500 metres outside the zone towards the south, and the *Flamingo Bay* then conducted a side scan sonar assessment of the wreck

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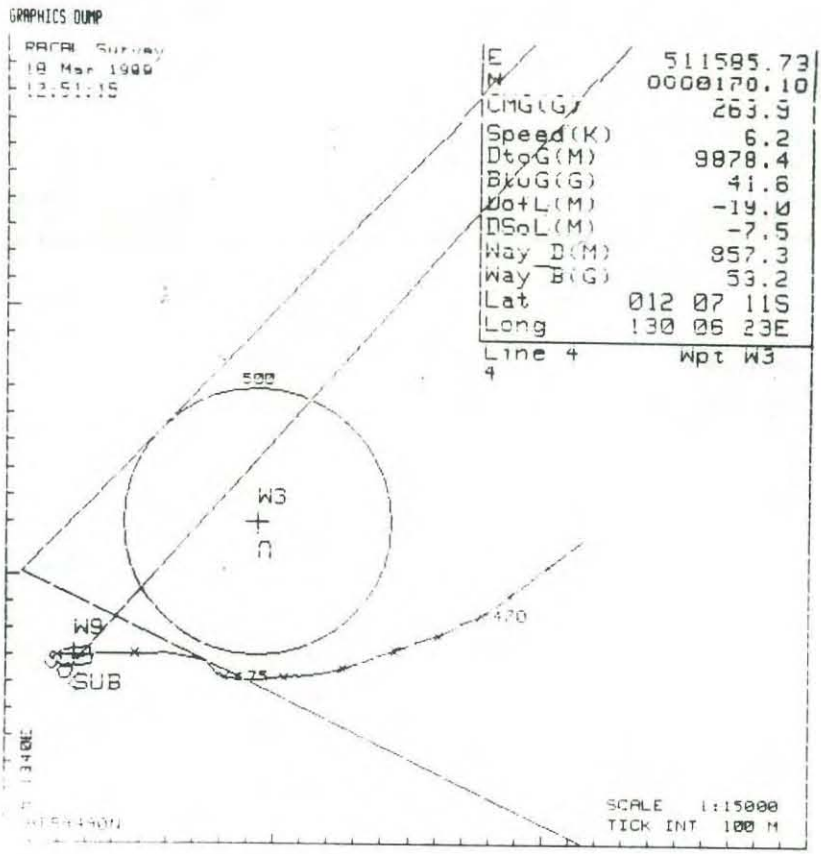
93 Henri Bource, pers. com to McCarthy, 21/5/1990. WAM *I 124* File 3/89, op. cit.

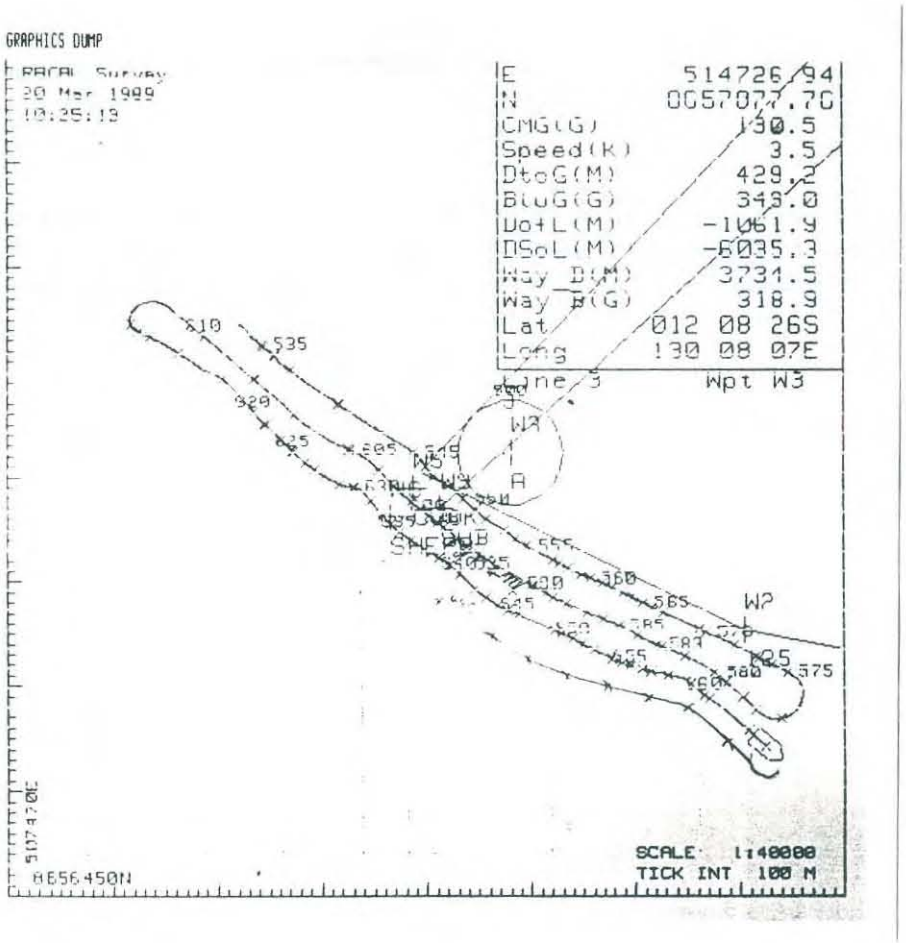
94 GPS systems are still awaiting the advent of a 24 hour coverage of the earth's surface by satellite. Three satellites are required for a reasonable 'fix'. At the moment this 'window' of availability is variable and affects the timing of searches considerably.

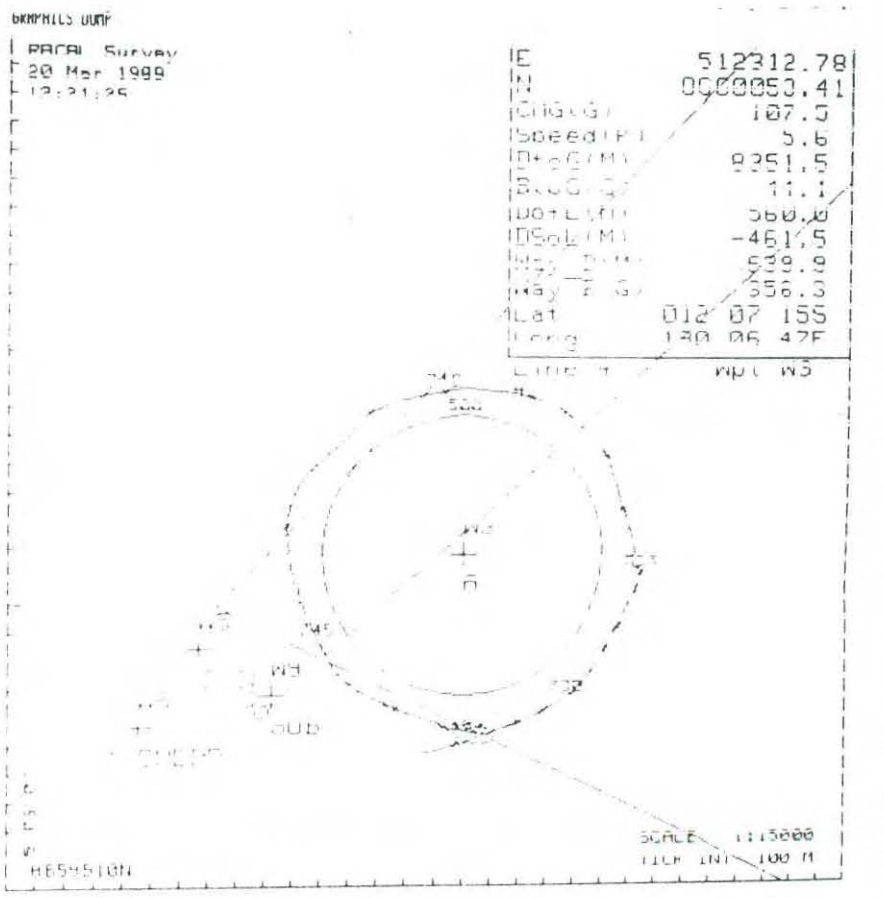
until the GPS 'window' was lost at 1150. Having lost the ability to navigate outside the restricted zone, Captain Tomlinson anchored above the wreck and Mr Thompson, assisted by Pat Baker of the WA Museum, deployed the ROV which was supplied, at a reduced cost, by USAL.[95]

Figure 10 (a-c) : Three of the RACAL Track Plot Sheets of RV Flamingo Bay around the area of the sunken submarine, showing the restricted area, the positions previously plotted for the wreck, the track of *Flamingo Bay* and the position of the submarine.



95 Details appear in WA Museum File, *I 124*, 3/89, op. cit.


GRAPHICS DUMP
PACAL Survey
20 Mar 1989
10:25:19
E 514726.94
N 8657077.70
CMG(G) 130.5
Speed(K) 3.5
DtoG(M) 429.2
BtoG(G) 343.0
DotL(M) -1061.9
DSoL(M) -6035.3
Way_D(M) 3731.5
Way_B(G) 318.9
Lat 012 08 26S
Long 130 08 07E
Line 3 Wpt W3
W3
W2
SCALE 1:40000
TICK INT 100 M


BRAMMILS DUMP
PACAL Survey
20 Mar 1989
E 512312.78
N 8660850.41
Lat 012 07 15S
Wpt W3
SCALE 1:5000
TICK INT 100 M

Considerable difficulty was experienced in deploying the relatively unsophisticated and under-powered ROV in the currents and Mr Thompson displayed considerable skill and ingenuity to counter these adverse factors. He successfully 'flew' the ROV along the aft deck of the submarine to the remains of the conning tower and produced a good record of those areas traversed. The periscope tubes were all clearly visible indicating that the conning tower had suffered either excessive corrosion or had been severely damaged in some way. Gear failure saw a close of activities for the night at 1815. On the following day searches for other wrecks were conducted, using the side scan sonar, while the GPS 'window' was 'open'. When this was lost at 1230, the *Flamingo Bay* returned to the submarine for further inspection with the ROV. This particular attempt was unsuccessful due to problems experienced in holding *Flamingo Bay* steady in the currents. It soon became abundantly clear that the comment made in 1942 to the effect that at least 4 moorings were necessary to hold any vessel above the wreck, were valid in this instance. On 18 March further side scan sonar searches were conducted, beginning with a number of 'runs' alongside the wreck. For the first time a gun forward of the conning tower was clearly 'seen' on the side scan sonar images.

From the side scan records and film taken from the ROV, it was evident that the site matched the description of the *I 124* as recorded in dives conducted on 5-6 November 1984 by a team from HMAS *Curlew*.[96] It has a gun forward, lies on a N/S axis with apparent damage to the conning tower. This also coincided with the report from HMAS *Katoomba* in 1942 that indicated the wreck lay on a bearing of 020°-200. The dive report from USS *Holland* matched the known details of the type in as much as they refer to the aft deck and its fittings and this in turn matched the description of the professional diving team commissioned to inspect the site in 1973.[97] Film produced from the ROV fitted accounts of damage wrought by Baxter to the conning tower of *I 124*.

Weather, technical problems, time constraints and difficulties in the operation of the ROV (despite the obvious skills of the operator) precluded a complete inspection. Only the aft deck and the aft section of the conning tower were recorded using the ROV camera. Of a total of eight ROV dives, six were aborted due to gear failure and/or inability to maintain station in the adverse currents. No inspection of the internal pressure hull was made.

Though what is shown above are still photos from a video (TV) image, the quality of the film produced by the ROV is sufficient to show what could have been done had this team been able to deploy the wider angle, hand held video and 15 mm still cameras at its disposal. Our frustration in being only able to deploy what amounted to an unsophisticated ROV and not produce a satisfactory record and take corrosion measurements as planned needs to be again noted at this point.

Despite the frustration of being anchored directly over a site confirmed to be *I 124*, lying outside its restricted area, with excellent video and still cameras at our disposal, the team abided by the letter and the intent of the agreement not to dive the *I124*. Consideration was also given to the presence of 'press' cameras and reporters onboard understandably keen to make a story at any cost. Two very frustrating days were spent attempting to deploy an ROV which, due to its 'simple' nature, could not satisfactorily maintain station in the strong tides. At one stage the ROV even became entangled in the 'down line' to the wreck and divers were sent to recover it. In doing so, they descended to 100 feet i.e. only 50-60 feet above the wreck but, as directed, did not proceed further. The feelings of all on board were of intense disappointment and frustration, and in some cases considerable anger.

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96 Partington, R., op. cit.

97 P. J. Washington op. cit.

Figure 11 : RACAL Side Scan Sonar record of I 124
(Photo Pat Baker)

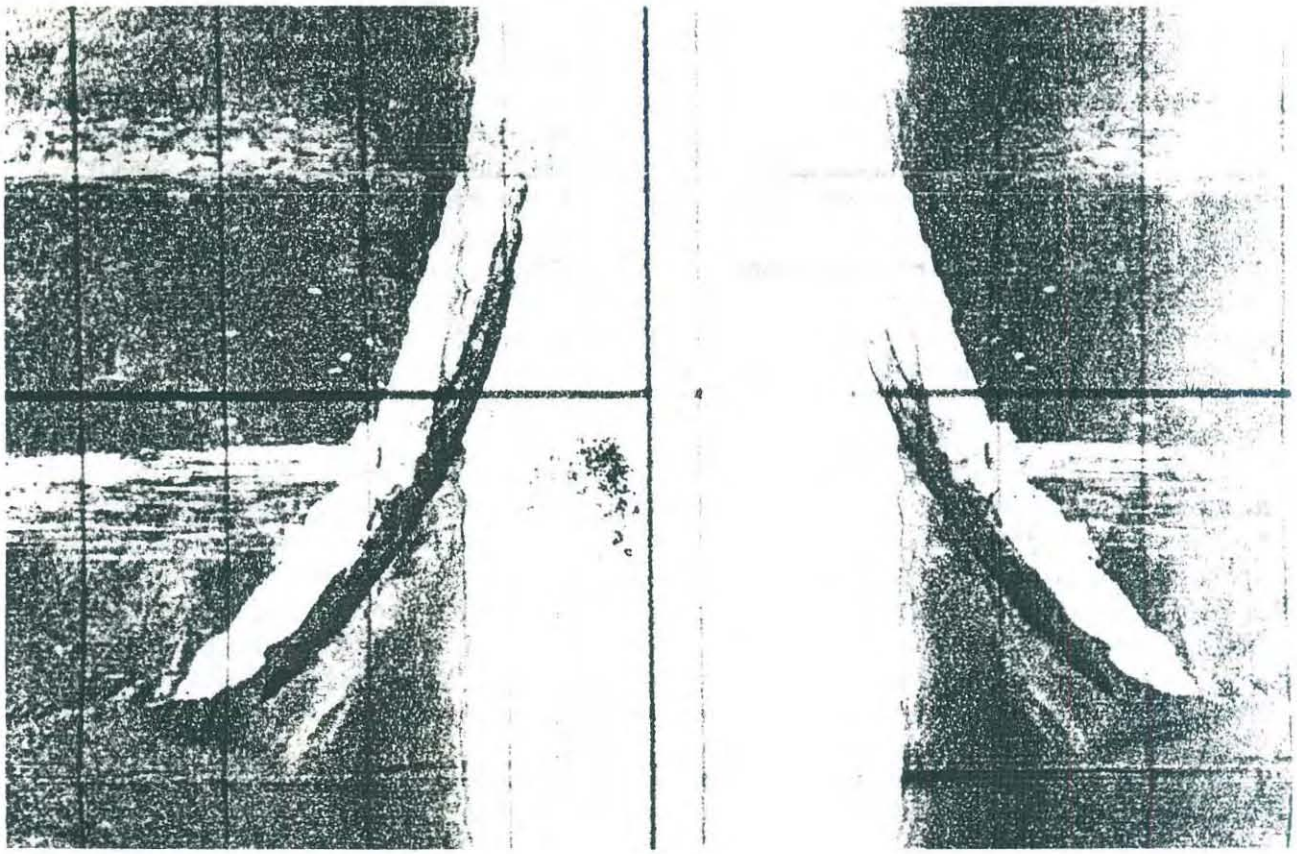


Figure 12, Mr Thompson and the ROV
(Photo Pat Baker)

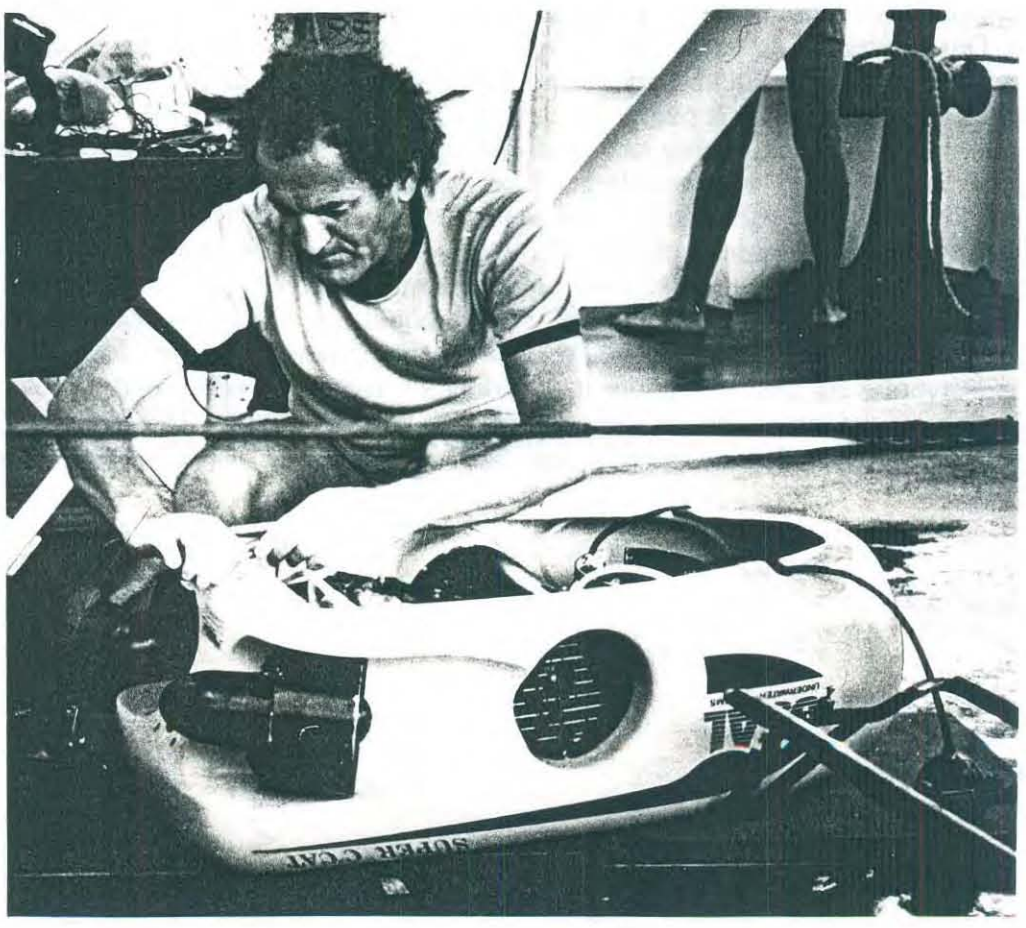
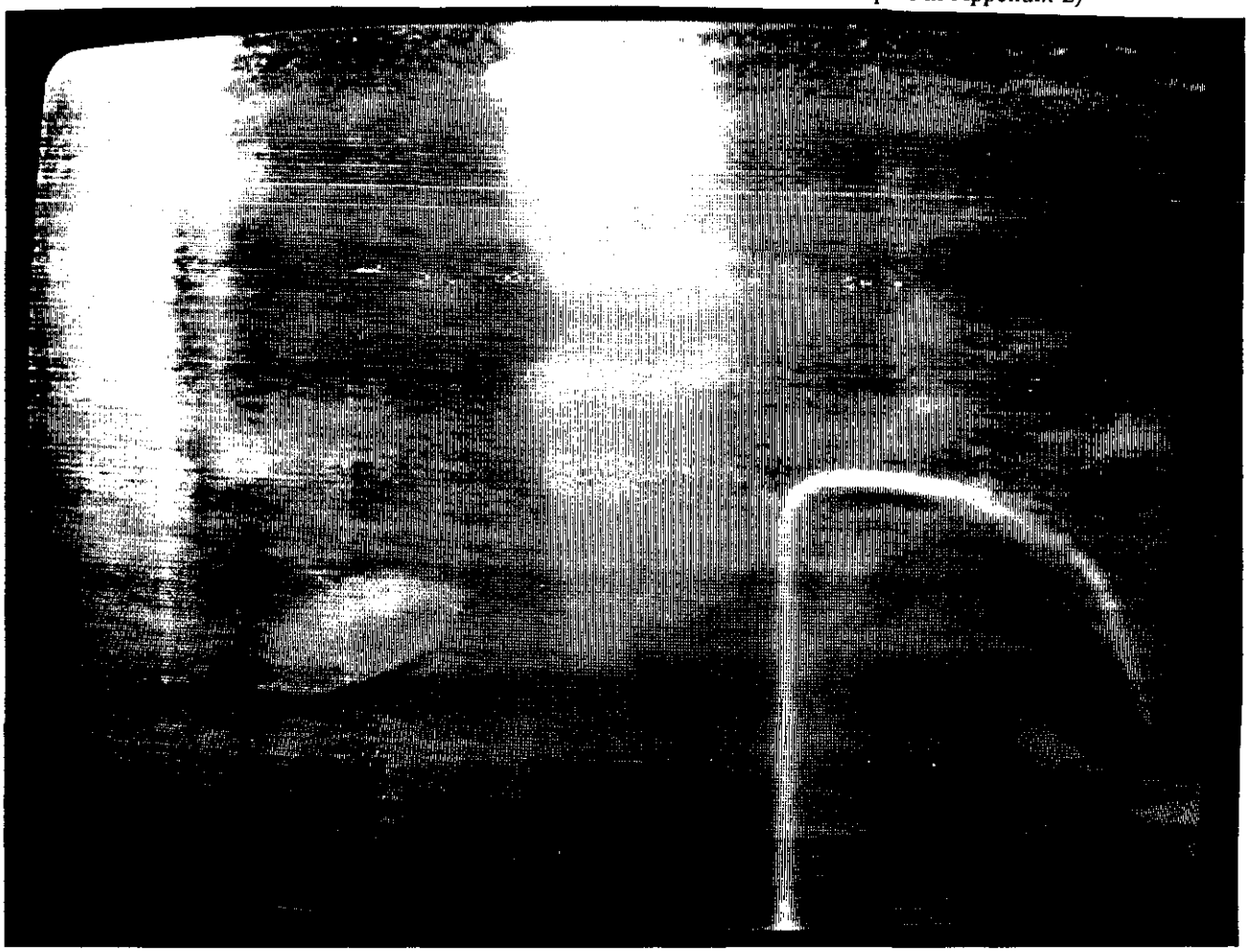


Figure 13 a & b : Still photos of the video images of the conning tower and DF Aerial (Photos Pat Baker. See similar photo in HMAS Curlew report in Appendix 2)



As indicated above, at the time the March 1989 inspection was conducted the *I 124* files were restricted. Having only the reports of HMA vessels *Deloraine*, *Lithgow* and *Katoomba* and USS *Edsall* and *Alden* to the effect that more than one submarine was sunk, searches were made for other possible sites.[98] There were, as indicated, verbal accounts of another submarine wreck with a 'german compass' a 'hanger and with a gun aft' lying 'in a gutter' in the vicinity.

Acting on the premise that this evidence supported the RAN and USN claims to have sunk more than one submarine and the (now known to be correct) belief that when the *I 124* was sunk the *HMAS Kookaburra* was moored over the site and was used as a navigation aid in the location of the other submarines believed sunk, searches were made for the other 'kills'. The positions were re-plotted and each area of a supposed 'kill' was examined using the side scan sonar. These supposed 'kills' lay 5 NM on a bearing of 220°, 2 NM on a bearing of 290°, and 3000m. on a bearing of 125°. Nothing was found other than a remotely possible (and at best a very fragmented) site near one supposed 'kill' at the last position noted above. This was later proved to be of natural origin.

In respect to the claims to have seen a submarine with a hangar onboard and one with a German compass on the bridge, an interview was conducted on 4 October 1990 with the man claimed to have been the source of the story, Mr P. J. Washington, former Manager of the Sub-Sea Services diving team. He stated that he was the diver who attempted to remove the compass and that its identity was not ascertained at the time and that. With regard to the submarine with the 'hangar', none of those known to have been involved in the early supports the claim. Finally in the case of the submarine in the gutter story, the name of the informant has been lost and, as a result, he could not be interviewed.

All this comes as no surprise with the benefit of hindsight, but at the time it all had some credence as all the evidence presented above was not available when *Flamingo Bay* left Darwin.

Following the searches outlined above, *Flamingo Bay* departed for Darwin arriving at midnight on 18 March.

The position of the wreck of *I 124* and the search areas above were plotted by RACAL staff. It lies at a position 18 NM due south of Penguin Hill, Bathurst Island, (using as datum AGD 66, AUS National Spheroid)[99]

Lat: 12°07'12.328" S. Long: 130°06'23.619" E. [100]
511 595 E.
8 660 160 N.

In the light of the accuracy of the systems employed onboard *Flamingo Bay*, it should be noted again at this time that, when the RAN conducted their surveys of *I 124*, in 1944, 1977 and 1984, GPS was not available and that the wreck lay in the 'extreme range for the equipment and methods of fixing employed by all three ships'.[101]

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98 In an interview recently conducted with Film North of Darwin, in March or April 1989, Lt. Cmdr Menlove, was adamant that at least two submarines were sunk.

99 RACAL Survey, Daily Log: *Japanese Submarine Location Survey. 22/3/1989*, Copy on *I 124* File 3/89/1 WA Maritime Museum, Dept of Maritime Archaeology. This needs to be transposed to suit the various charts used in locating the vessel.

100 This position now needs to be converted to fit the various charts on which the wreck appears. Some attention has been paid to this problem already. See R.D. Eames, Commander, RAN, Acting Naval Officer Commanding, North Australia Area, to DASETT, *Japanese Submarine I 124*, 7/9/1989.

101 Doyle, op. cit.

The Mercury Contamination Issue

In 1972 Harold Baxter raised the possibility that the *I 124* contained mercury and noted that if this was so it raised the value of the wreck quite considerably.[102]

The presence of mercury is, according to the Submarine Warfare Library, a

> fanciful justification for diving on sunken subs that has been used before by promoters seeking funds for their venture. High vapour pressure toxic materials are generally avoided aboard submarines.[103]

Yet we know that in the latter part of World War II mercury was carried on German submarines to Pinang (Penang) and possibly Singapore and from there it was transported to Japan, presumably by the Japanese.[104]

In examining these varying stances, it became evident that any mercury found onboard a submarine is, if it exists, to be found in three situations

(a) as cargo
(b) in instruments
(c) as trimming ballast

Mercury as Cargo

It is well known that mercury was carried as cargo on German submarines in the latter part of World War II.

In 1976 for example, an apparently loosely knit, Australian salvage company called 'The Group' dived on the German Submarine *U 859* which was sunk by HMS *Trenchant* in 120 feet of water about 25 Nautical miles north-west of Pinang (Penang) Island. According to Mr John Bastian, a member of the diving team, 'about 40 tons' of mercury were recovered from the submarine which had been cut in two by the engagement such that the two sections lay about 50 metres apart.[105] According to Mr Bastian, who in my opinion is a very reliable source and whose comments have been supported by others, the group was aware that the submarine carried mercury and located it in small 'steel flasks' not much larger than portable oxygen therapy bottles in common use today. These were found stowed horizontally in layers in the keel, in compartments aft of the conning tower which measured around '3 feet wide by four feet deep'. The compartments apparently bounded by the frames of the vessel and the keel itself. When the news of their find spread, the group were effectively dispossessed of the mercury by the West German Government.

This claim in relation to the carriage of mercury by the *U 859*, its loss, subsequent salvage and court case has been specifically supported elsewhere.[106] In that analysis it was generally noted that, specific purpose vessels such as the IXD2 class, of which *U 859* was a member, were

> despatched from Germany to Japan carrying mercury, optical instruments, radar sets and dismantled V weapons. Those that survived the round trip returned to Germany with cargoes of zinc, tin, raw rubber, quinine and opium.[107]

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102 Baxter op. cit.
103 Paine to McCarthy op. cit.
104 See discussion following.
105 J Bastian, diver, to McCarthy, 12/3/1990, *I 124* File, WA Museum File 3/89.
106 Keatts and Farr, op. cit, pp 135-6.
107 ibid.

Other cargo carrying submarines were built by both the Germans and Japanese.[108] Many of these were lost, and it is expected that some of the wrecks of these vessels still contain their respective cargoes.

In the context of the *I 124*, it has been noted by informed and experienced American sources that for the Japanese to send a vessel carrying such a cargo into combat is unthinkable.[109] In analysing this statement by the Submarine Warfare Library, it can be claimed, with little fear of contradiction, that to reduce that particular submarine's capacity to carry mines by loading it with mercury in 1942, when the war had just begun and Japan was on the offensive, is an absurd notion. In addition *I 124* did not go to Penang or Singapore en route the Darwin engagement.

Further to this, the carriage of cargoes by submarine does not appear to have commenced until the Japanese entered what has been described as 'Phase III' of their tactical concepts. This third phase began in 'mid November 1942', i.e. after the *I 124* was sunk and when the the 'majority of active submarines' were 'employed primarily to supply by-passed island outposts'.[110]

Further confirmation of this comes in the minutes of a meeting held in June 1989 between representatives of the Japanese Government and DASETT. It was stated by the Japanese officials present at the meeting that *I 124* did not carry mercury as cargo and that it had not been to Penang. The comment was made by the Japanese representative that if it had been transporting mercury, it was 'inconceivable that it would have been ordered to wartime operational duty.[111]

Mercury in instruments.

It is expected that *I 124* carried mercury in instruments in similar fashion to any ocean going vessel, but that even then alternatives would have been sought. As a source of contamination that source can be discounted.

Mercury as Trimming Ballast

There was some interest in the possibility that *I 124* used mercury as a 'trimming' ballast system for use when the stability of the vessel was altered by circumstances such as the release of mines.

An examination of the plans of the German type was conducted at my request by Mr George Thompson[112] with assistance from Mr A. Shaw, Engineering Project Manager, British Shipbuilders Ltd.[113]

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108 See *Submarines as Supply Ships* in Carpenter and Polmar, p. 29 et seq., op. cit. & Rossler, op. cit.

109 Paine op. cit. Dr. Paine served in US Submarines in WW11, and was executive officer on-board a captured Japanese submarine *I 300* on its last voyage back to America when peace was declared. He leads the American Submarine Warfare Library.

110 Polmar and Carpenter, op. cit., p.11, 29.

111 Record of Meeting between DASETT and Japanese Embassy Officials, 22/6/1989. *I 124* File.

112 George, G. 'Graham', Thompson, 6/7/1989, *I 124 W.W.2 Japanese Submarine. (investigation into the trim and Ballast system)*, WA Museum File *I 124*, 3/89. Mr Thompson served his apprenticeship with Vickers Armstrong (Shipbuilders) in the UK. Has worked as a draughtsman on armaments and worked seven years on Nuclear submarines as propulsion test engineer. He transferred to Vickers Oceanics and trained as a Diver-Pilot/Maintenance Engineer on two man deep diving submersibles. Since his arrival in Australia in 1981 has worked in the off-shore industry, three years as a two man submersible pilot, followed by five years as a Remote Controlled Vehicle operator and is currently employed by Subsea International as an engineer. He was ROV operator on the examination of *I 124*.

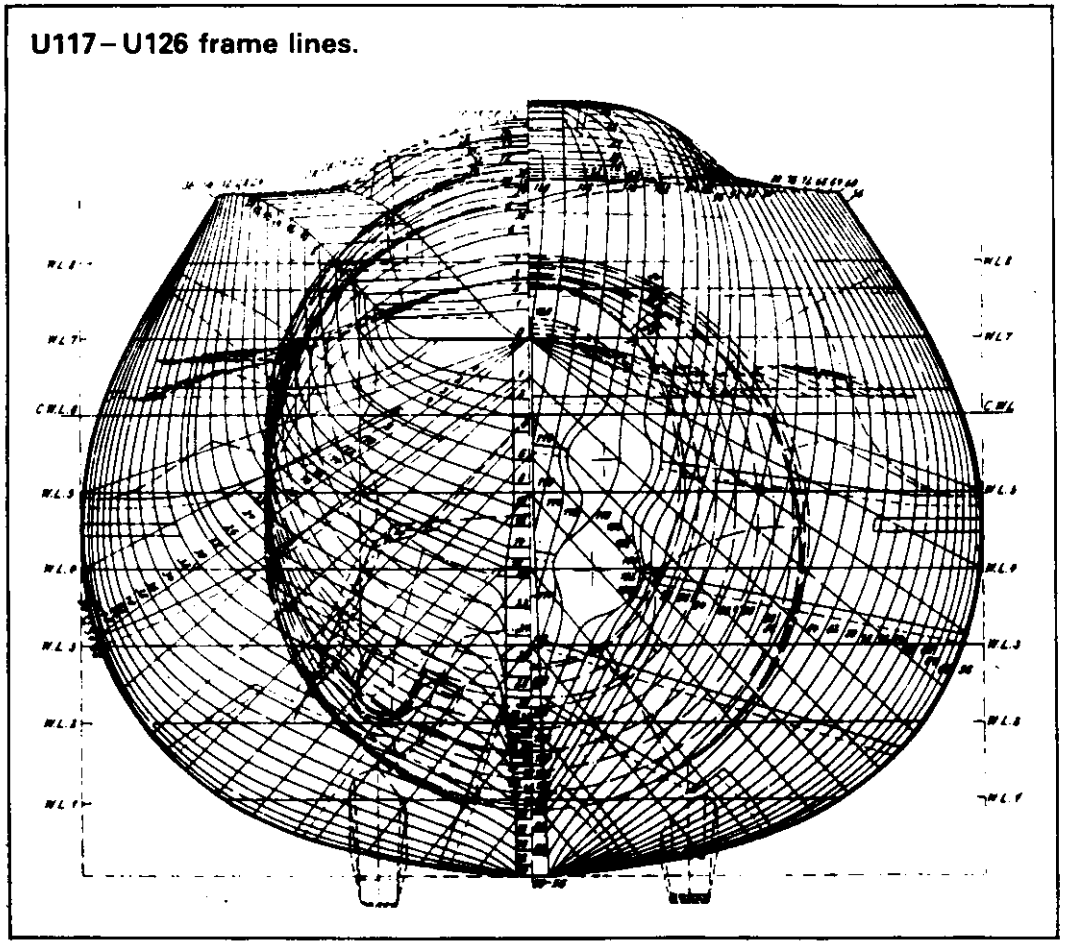
113 Mr Shaw provided technical assistance in studying the designs of the UE boat, and also assisted in liasing between Mr Thompson and Naval Architects at the Greenwich Maritime Museum.

Figure 14 (a,b): Plans of the UE II Class [114]

beginning of 1916, when it was planned to resume the campaign against merchant shipping. This UI Project 45 depended, in its principal features (internal fittings, and all structural members, especially external frames), on Project 43. The stern compartment, however, requiring space for mine storage, was changed and was based upon that in *U71–U80*. Armament consisted of two 10.5cm U-boat guns and four submerged bow torpedo tubes (six G/6 torpedoes) and a minimum of 32 and a maximum of 40 UC/200 mines. Surface speed was 14 knots, and surface range was 5–6,000 nautical miles at 9 knots. The submerged range was less than that of the Ms U-boats because mine storage had increased the displacement to approximately 1,000 tons, but battery capacity had remained the same. The length was increased to 77m.

The UI assumed that, bearing in mind the quantity of engines available, 9 boats of this type could be built by Vulcan and B&V during the summer of 1917, as Vulcan was experienced in the construction of mine installations of an appropriate type. However, during verification of the plan, it became clear that the pressure hull shape of Project 43 was inadequate for the exceptional space requirement in the after part of the boat. The profile and cross-section measurements of the pressure hull had to be changed several times. In fact, the mine compartment had to be made elliptical, but, because of the double-hull form, the outer lines of the boat were not changed. On the surface, total propulsion efficiency was 50 per cent, which was reckoned to be good. But, as a result of the numerous projections and additions, including the two 10.5cm guns and a large navigating bridge, the submerged propulsion efficiency was naturally inferior, amounting, after towing trials had been made, to 32 per cent. A peculiarity of this design was the storage of a further ten torpedoes in pressure-tight containers, positioned in special troughs on the port and starboard sides of the upper deck. In place of these torpedoes, 30 additional mines could be carried in deck storage boxes and could be slid along rails to the after launching position.

On 13 May 1916, the UI suggested building 10 of these Project 45 boats, and tenders were received from Vulcan and B&V on 25 May. On the 27th, contracts for 5 boats from each yard were awarded: *U117–U121* to Vulcan, *U122–U126* to B&V.

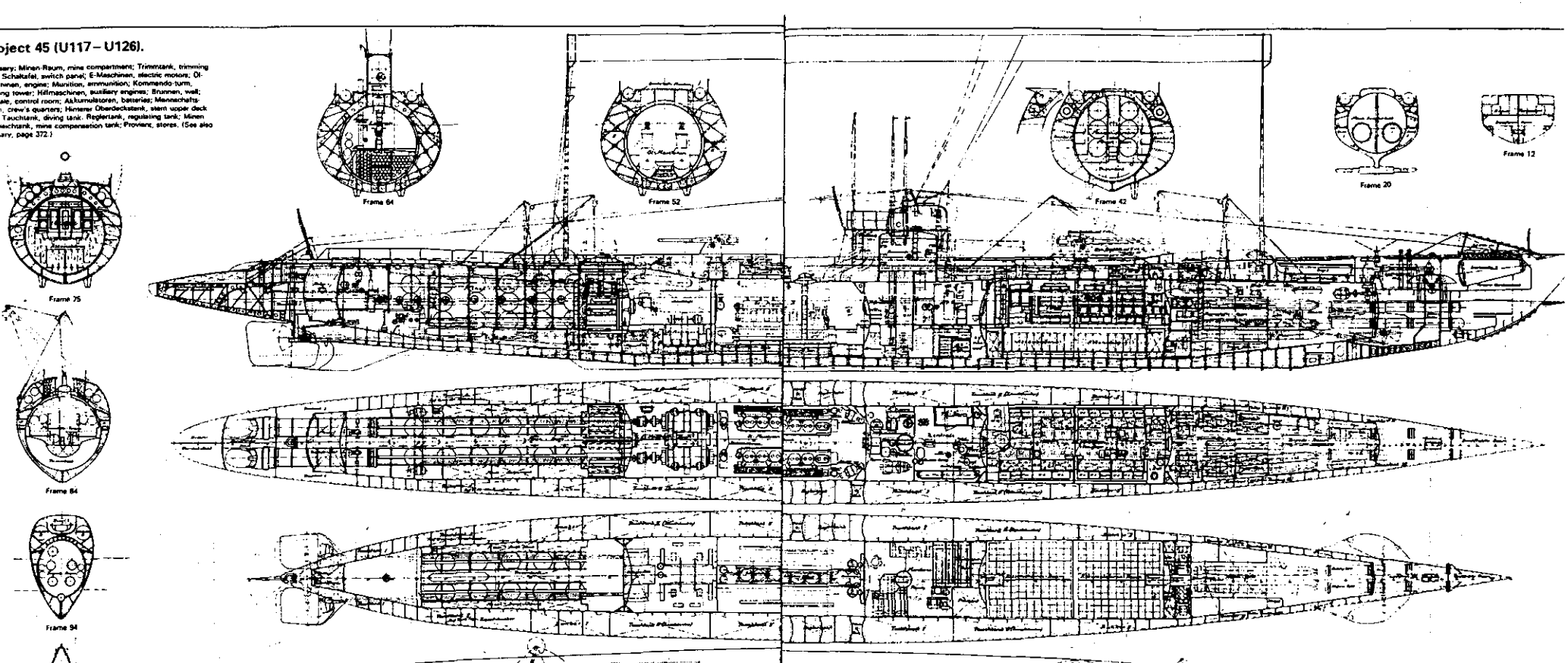


Left: Slipway launch of an UBIII boat at B&V. These series boats were not built entirely on the building-slips; the fittings were added only after the incomplete boats had been transferred to a floating dock.

[114] From Rossler, op. cit., p. 88.

Project 45 (U117–U126).

...lowery; Minen-Raum, mine compartment; Trimmtank, trimming ... Schaltafel, switch panel; E-Maschinen, electric motors; Öl-...schinen, engine; Munition, ammunition; Kommando-turm, ...ong tower; Hilfmaschinen, auxiliary engines; Brunnen, well; ...rale, control room; Akkumulatoren, batteries; Mannschafts-..., crew's quarters; Hinterer Oberdecktank, stern upper deck ... Tauchtank, diving tank. Regiertank, regulating tank; Minen ...auchtank, mine compensation tank; Proviant, stores. (See also ...sary, page 372.)



Mr Thompson's and his associates findings were,

> Initial research showed the design of the German *U117* was purchased by the Japanese Imperial Navy from Germany in 1920.[115]
> The German *U117* was a UE11 design and was a development from the earlier UE class submarine. The UE class was introduced in 1916 as a 'Dry Storage Mine Laying Submarine'.[116]
> Four boats were built to the UEII plans in Japan between the years 1924 and 1926 under German supervision.[117] Comparisons were made between the plans of the German UE11 and photos of the Japanese *I 124*.[118]
> It could be seen that some modifications were made by the Japanese, namely the aft gun was omitted on the *I 124*. Other modifications appear to be the fitting of aviation fuel tanks to the upper decks of the *I 124*.[119]No other modifications have been found to date.
> In order to gain an understanding of the design development of the German UE11 boat, the design of its predecessor the UE boat was also studied.
> In making the following observations, the Specific Gravity of mercury was taken as is generally accepted at 13.5 tons/cubic metre.[120]
> Consideration was first given to the possibility that mercury may have been used as a trimming medium in either of the German designs.
> From the outline and frame plans of the UE boat the volume of the trim tanks was measured and these were found to be in the order of 34 cubic metres.
> This volume indicated that sea water was used to trim these boats and also used to compensate for the loss in weight of these boats during mine laying exercises. No further consideration was given to the trim system...
> ...Careful studies of the UE11 drawings failed to find the existence of any likely compartment that would indicate that mercury was used to ballast these boats.
>
> Discussion
>
> 1. In studying the two German designs the author [Thompson] feels that the confusion arising over the possible use of mercury as a ballast in the *I 124* arises from the possibility that mercury was used in the early German UE boat.
> 2. Discrepancies have been noted in various publications with respect to the length and tonnage of the German UE 11 boat and the Japanese *I 124*. The author has mentioned two known modifications that were carried out by the Japanese Navy.

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113 Rossler, op. cit. p.88
116 ibid., p. 44.
117 Watts & Gordon, op. cit., p.320, 321.
118 Janes, op. cit. p. 339.
119 Watts & Gordon, op. cit.p. 321.
120 Encyclopaedia Brittanica.

> However, to evaluate the design in more detail a set of the Japanese plans would be needed.
> 3. Studies of the designs of the UE 11 type revealed that spare torpedoes were carried either side of the deck casing. These torpedo racks were supported by the saddle tanks. The author feels that future consideration should be given to what the effect of the eventual corrosion of the saddle tanks and decking would have on these torpedoes.
>
> **Conclusion**
> From the information available, the author [Thompson] concludes that the U boat design purchased by the Japanese and used in the construction of *I 124* was a design that is not consistent with that of a mercury ballast design.

Query was also directed to the Australian Department of Foreign Affairs and Trade as the best means of contacting informed German and Japanese sources such as Rossler and others on the possibility that the *I 124* contained mercury as a trimming ballast. Reply was received to the effect that,

> In recent months we have through diplomatic channels pursued the historical evidence thoroughly with the appropriate authorities in Japan, the United States and Federal Republic of Germany, and in archives both classified and unclassified. The principal conclusions are as follows :
> *I 124* was not equipped with a mercury ballast system, nor was it carrying a cargo of mercury.
> No historical evidence has emerged that any submarine in the Imperial Japanese navy was equipped with a mercury ballast system.
> The West German Ministry of Defence has advised that no German Submarines had mercury trim or ballast, although a few present day submarines have an external trim that operates with oil and mercury.
> It is therefore certain that the German design upon which the *I 124* was base, did not provide for a mercury trim or ballast system, but instead had provisions for trim and ballast to be effected by other means.[121]

In response to continued inquiry and requests on my part for primary sources rather than secondary sources such as those above, it was advised by the German and Japanese Governments through the Department of Foreign Affairs and Trade that the *U 125* class on which *I 124* was based used iron ballast and sea water as trimming ballast. A meeting was also held in June 1989 between representatives of the Japanese Government and DASETT, the Commonwealth Department responsible for shipwrecks and the environment. On that occasion it was again stated by the Japanese Government that the submarine had not been to Penang en-route Darwin, and that it carried no mercury either as ballast or as cargo.[122]

---

121 S. Kentwell, Director Japan Section, Dept of Foreign Affairs and Trade to McCarthy, 16/2/1990.
122 See footnote 111.

Mercury in Fish collected from near *I 124*

Thus it has been concluded from a number of sources that mercury was not present on the *I 124* in any form other than in instruments carried on board.

Having reached that conclusion it now remains to assess the source of the supposedly high mercury content of fish recovered from the region of the submarine as reported by Captain Tomlinson at the start of this project and which has caused concerns at all levels in Australia.

These reports that *I 124* carried mercury and that it was leaking into the sea producing an un-acceptably high level of mercury in fish, led to various articles in the press, on radio and on television.

These assertions were tested on the 1989 inspection of the site by the taking of fish, mud and water samples from the vicinity of the wreck.

Following that inspection, in a letter of 4 July 1989, Captain Tomlinson stated that 'over 50% of the fish collected had a mercury reading above the allowable limit set by the National Health and Medical Research Council'. Though Captain Tomlinson noted that the sample did not give a 'true indication of the mercury source associated with the wreck because there is no comparative data available', and though he also noted that the figures 'cannot prove that mercury exists', he nevertheless stated that 'in my [his] mind the likelihood of its existence is a strong possibility'.[123]

This will now be examined.

Water and Mud samples taken from the site produced 'background levels' of mercury, though it must be noted that the sampling methods used were crude and unreliable.[124]

With regard to the fish, the levels of mercury found in the fish sampled from above and around the wreck was also considered to be 'not unusual'.[125]

> The level of Hg [mercury] in fish recovered from the site is not high, and does not differ significantly from levels recorded in fish elsewhere in Northern Waters and throughout Australia.[126]

None of the fish sampled exceeded the maximum permissible concentration of 1.5 mg/kg in any individual sample accepted by the National Health & Medical Research Council and only one fish, a blue spotted trevally, equalled the maximum limit of 1.0 mg/kg accepted by South Australia and Tasmania. The following comment casts some light on the subject.

> Little is known about the mechanism for uptake of mercury by fish, uptake probably occurs through the gills. Accumulation through the trophic levels is also possible. Because of this tendency, biomagnification of mercury can then occur.... magnifications of the order of 600 have been reported for fish...high concentrations of mercury are found in predatory marine fish and in whales, it is probable that these levels are due to background levels of mercury in the oceans not related to anthropogenic release. There is a distinct relationship between age and size of animals and the level of mercury in tissues.[127]

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123 *Capt. D.Tomlinson to Dr C. Jack Hinton, Director Northern Territory Museum,* 4/7/1989. IWAM *I124* File, op cit.

124 *Dr J. Fabris Dept. of Conservation, Forests and Lands, Victoria to McCarthy* 20/7/1989 *& Fabris to Dr I Macleod, Head Materials Conservation Dept. WA Museum,* 18/5/1989, ibid.

125 *Dr D.C. Ramm, Fisheries Research Branch Darwin to McCarthy,* 4/7/1989, ibid.

126 *Dr D.C. Ramm to McCarthy,* 25/05/1990, ibid.

127 National Advisory Committee on Chemicals of the Australian Environment Council, (1982), MERCURY POLICY STATEMENT AND BACKGROUND PROFILE, Australian Government Publishing Service, p.7

In a recent review of the data, Fisheries Research Branch, Darwin, have concluded that the data supplied to them and on which Captain Tomlinson's claim, above, was made are

> 'very patchy' [sic] and reflect the opportunistic nature of sampling. The small number of samples available for the species under consideration, and the lack of controls, preclude comparative analysis.

It is concluded that the biological data collected to date from the site does not indicate that the *I 124* is a source of mercury contamination into the environment.

Gold and Vital Documents

Wrecks, especially intact submarines, are a fertile breeding ground for rumour and speculation that continues to flourish long after they have been sunk. Such was the case with the German submarine U853 in American waters[128] and is now the case with *I 124*. Having made this comment, it also needs to be noted that submarines were used to carry gold and other precious metals in wartime. In 1942, for example, the Pearl Harbour based submarine *USS Trout* took onboard the 'Philippine reserves' of two tons of gold, eighteen tons of silver, currency and negotiable securities for shipment to safer waters.[129]

The *I 124* has been targeted before as a possible source of documents pertaining to the Japanese war effort.[130] In as much as any warship is expected to have carried code books and other documents this is a valid assertion. Whether anything new, controversial, or of historic significance would be gained in the retrieval of these is a matter for conjecture. There is also some considerable doubt that such documents would still be legible given the circumstances of the loss of *I 124* and the severe depth-charging it received.

Similar could be said of any documents supposedly on board relating to buried 'spoils of war'.

With regard to the gold theory, it can only be asserted that the same arguments as those pertaining to the carriage of any other precious or valuable cargo by operational submarines would also hold in this case. On the basis of the argument propounded above by both Japanese and American sources in relation to the carriage of mercury into battle, to send a submarine containing a substantial tonnage of gold or any spoils of war worth a great deal more to any nation's war effort than the vessel carrying it or alternatively any it may sink is again inconceivable. The amount of gold mentioned, 30 tons, if true, is clearly enough to warrant a specific-purpose voyage from the source to Japan.

It is argued then that *I 124* would not have been chosen for such a role on its last voyage.

On the other hand, the argument has been put to me in personal communications that the presence of the Division Commander on board *I 124* when it sank is further evidence that it was engaged in more than routine warfare. In analysing this claim, it needs to be noted that the *I 123* & *I 124* comprised the Ninth Submarine Division of the Sixth Submarine Squadron. In January 1942, the four minelayers of the Sixth Squadron were split into their two Divisions of two submarines each to began preparations for mine-laying in the Darwin area and in the Torres Strait. The Division Commander Keiyu Endo with two submarines under his charge then had a 50% chance of being on *I124*. To claim anything more than an unfortunate co-incidence in his presence onboard is unreasonable. When the number of 'flag officers' in the form of the much higher ranked Admirals, Vice Admirals and

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[128] Keatts and Farr, op. cit., p.135.

[129] Creed, op. cit, P. 7.

[130] M. Montgomery author of two controversial books on the loss of *HMAS Sydney* to McCarthy, 4/11/1981. *HMAS Sydney* file, 830/81, WA Museum. See also 'Does Sunken sub have the Answers?' *Northern Territory News*, 8/6/1989.

Rear Admirals lost on allied and other vessels, or engaged in life threatening hostilities in WWII, is considered, such a proposal can be seen to have little substance.[131]

Unless reliable information is found that would identify the carrier of the supposed cargo of gold and the 'treasure' maps, the 'gold' story may again be a 'fanciful justification for diving on sunken subs that has been used before by promoters seeking funds for their venture'. Such reasons were identified by the Submarine Warfare Library in America as the rationale behind the mercury story. They also hold true in this case.

Finally it should be noted that the Japanese Government have not relinquished their claim to the wreck, and that they asserted their ownership when the first proposals to salvage it came to their attention in the 1970's. If they had any inkling that gold, precious metals or potentially valuable documents were on board, they would, as the German Government did in the case of the *U859*, have much more strongly asserted their claims to ownership of the vessel and its contents.

Recommendations and Management Proposals

Discussion

The wreck of the sole submarine in the Beagle Gulf is, without any doubt, the *I 124*. It contains no dangerous amounts of mercury and from this aspect alone any claims that it must be salvaged in order to remove a potential hazard to the waters of the Darwin region are discounted.

It must be noted however, that *I 124* was in a wartime mode when lost and does contain highly explosive materials some of which could prove dangerous in the case of diver access, salvage, or decay in the future through corrosion.

With this in mind, if the corrosion process is allowed to continue to the level of that noted on the WW II German submarine *U 853* where the relatively thin outer hull has begun disintegrating, consideration should be given, as was done in the case of *U 352* off the coast of North Carolina, to the presence of torpedoes and mines.[132] In the *I 124* case, some of these munitions appear likely to have been stored between the outer and inner hulls.[133] This is an important element in the future management of *I 124*.

On *U 853* and on some other submarines of an older vintage, the thin outer hull has almost totally degenerated leaving the much stronger and thicker inner pressure hull exposed but otherwise intact.[134] It is within this relatively strong capsule that the main working compartments of the sunken submarine lie and it is expected that in being so enclosed within this strong unit, they will be safely preserved for many years, possibly decades, even centuries.

In general, by virtue of its shape and the strength of the pressure hull, an intact sunken and undisturbed submarine has the potential to provide a medium with which to preserve machinery, information and artefacts for examination in the future. There is however a point beyond which even the pressure hull will begin to break down.

The process of corrosion on iron or steel wrecks is the subject of a number of variables such as water movement, oxygen content, colonising fauna and so on. In some circumstances corrosion may be enhanced or inhibited due to these and other factors. The corrosion study originally mooted for the *I 124* would have been able to give an indication of the expected life of the vessel as it lies today.

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131 Vice and Rear Admirals, Lockwood, Christie and Fife, Submarine Fleet Commanders at Pearl Harbour and Fremantle all made operational patrols onboard submarines under their command, for example. Creed, op. cit., p. 29.

132 Keatts and Farr, op. cit., pp 80-87.

133 ibid., p. 40.

134 ibid, p. 140.

The wreck of *I 124*, and most other sunken submarines, also contains a relatively large number of human remains enclosed within defined and sometimes watertight compartments. As such the sunken submarine is a 'tomb' in the true sense of the word.

The 'war grave' issue is central to official attitudes towards the *I 124* and its contents. Some insight into the development of that position can be seen in discussions held nearly twenty years ago about requests to salvage relics from *HMAS Perth* (in Sunda Strait by D. Burchell), *HMAS Voyager* (a WW 11 wreck in Betano Bay, Timor by Harold Baxter) and *I 124*. Further to this, in February 1972, it was noted by officials that when rumours began circulating re the possible salvage of HMAS *Perth* by Japanese interests, that the Japanese Government advised that such was not the case and that 'if in future any proposals for salvage operations were received Australia would be consulted'. In this context, it was advised that Baxter and Tyers be informed that *I 124*,

> is a war grave under the jurisdiction of the Commonwealth of Australia and that any attempt at salvage could result in interference to wrecks of HMA Ships containing Australian war dead.[135]

Further to that, an independent legal opinion received by T & L Salvage in February 1973 indicated that the submarine and its contents remained the property of the Japanese Government. This Australian legal opinion was reiterated at the same time by the Japanese Consul General.[136]

Despite this most unequivocal stance, and though most of the original partners had by then departed the scene, Baxter and others continued in their attempts to salvage the wreck. In so doing so they forced the hand of the Australian Commonwealth Government as indicated earlier.

In that context, the discussion that emanated at the second reading of the the 'Historic Shipwrecks Bill' and which has been quoted above is important and is reproduced again as it gives insights into the official stance in the period 1972-1976, the time when salvage of I 124 was being considered.

> The Australian Government shares the view of the Japanese Government that the submarine and the remains of its crew should be regarded as a war grave, and that it should be left in peace.

This view has been strongly reiterated in discussions held recently between the author, the Department of Foreign Affairs and Trade and by DASETT.

There are obviously compelling reasons that such a position be maintained. If the current views of the Japanese Government as the owners of the wreck and the Australian Government as its managers are considered, then the wreck must be left alone as they jointly require.

Should circumstances change and the respective governments alter their position, the following are presented for future consideration.

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135 Director of Operations, *Minute Paper re Salvage of Warships. HMAS Voyager off Betano, Timor. Japanese Submarine off Darwin.* 8/2/1972. Copy on WA M *I 124* file, op. cit.

136 Nason Papers, op. cit.

The Management Options

The management options are:

i) To allow the site to decay untouched and to rely solely on the protection of the Historic Shipwrecks Act.[137]

ii) To proceed as in (i) above, but to protect the site from future human incursions by sealing hatches and openings.[138]

iii) to stabilize the site in situ using anodes in similar fashion to the much smaller SS Xantho(1872) in Western Australian waters, such that it be better preserved.[139]

iv) to raise the wreck as 'a unique historic artefact', as an evocative and most impressive display of 'the only full-sized Japanese submarine sunk in Australian coastal waters in World War II', and the first Japanese submarine to sink Allied vessels in World War II.

In all cases above, further recording is vital, though as a minimum in all cases an adequate film and video record of the site should be obtained.

Recommendations.

Mindful of the technological and historical significance of the wreck, the possible presence of torpedoes, mines or fuel drums between the outer and inner hull, and the interest now, or once, held in some quarters in raising the wreck, the following recommendations are made.

(A) What appears to be extensive corrosion is evident on the upper deck casing. It also appears that torpedoes, mines or fuel drums may be housed outside the pressure hull in containers and that one day they will become exposed and at risk. With these two factors in mind, I recommend that a complete physical examination of the site be made and that it be recorded in colour and black and white using still photographs in conjunction with a video/film record of the quality we now know can be obtained at neap tides with high ambient light. Following that, the wreck should be monitored at regular intervals e.g. once every five years with particular attention being paid to the stability of the outer hull in those areas where torpedoes and other armaments lie.

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[137] This viewpoint, as indicated, is that held by the Japanese and Australian Governments (Kentwell, Dept. of Foreign Affairs and Trade pers. com., to McCarthy, 25/5/1990), WAM *I 124* file, op. cit.
Until now the *I 124* has been adequately protected, not only by the act and fear of prosecution, but also by the great difficulties experienced in locating it even with the relatively sophisticated 'Satnav' systems carried on most large vessels today. It should be noted from our experience in Western Australia that divers are drawn to such 'exotic' or 'rich' sites of their own nature and that with the advent of accurate, cheap hand held GPS systems, the Act and its provisions may not serve to deter some in the *I 124* case. Experience will tell and the MV *Leisure* case mentioned above is an indication of the continuing interest in the wreck. The willingness of divers to defy the Act and risk their lives on the wreck of the VOC ship *Zuytdorp (1712)*, a site currently being excavated by this author and the only site with a restricted area in WA, is a clear indication of what some will do.

[138] With hand held GPS systems now available at around $5000, the *I 124* could easily be found and dived upon. A Japanese submarine *I 161* was dived upon in Truk Lagoon some time ago and after a furore was raised when human bones were displayed in a film based on the wreck, the vessel's hatches were sealed. The sealing of the wreck was also featured in a film by noted underwater film maker Al Giddings.

[139] McCarthy, M., (1988): The Excavation of the SS Xantho, in McCarthy, M. (ed) *Iron Ships and Steam Shipwrecks*. Papers from the First Australian Seminar on the Management of Iron Vessels and Steam Shipwrecks. W.A. Museum. & MacLeod, I.D., (1987) *Conservation of Corroded Iron Artefacts-new methods for on-site preservation*, IJNA 16.1:49-56.

(B) I suggest that a committee comprising representatives of the Japanese Government, the Australian Government, the Northern Territory Museum and the Northern Territory Government, be convened to discuss how to manage the site with special reference to (A) above. This group could also advise on what management option, if any, will be pursued.[140]

(C) All written, oral and audio-visual material; local, American, German and Japanese on this vessel, its construction, loss and its human and other contents, should be compiled and housed in a central repository for public purposes. The Northern Territory Museum should be central to that process as its Director is responsible for the wreck on behalf of the Australian Government.[141]

(D) The material gleaned in (C) above should be published, in a suitable form. The *I124* saga is a most notable one, worthy of documentation in all its various contexts be they technical, human, wartime, salvage, management or otherwise.

(E) Those charged with the future management of the wreck should bear in mind that *I 124* is unique, historically important to both Japan and Australia, and a monument to their respective navies. It is possibly watertight in some sections, it is readily accessible and from all accounts still salvable.

From my experience with the SS *Xantho*, (1872) and from the positive reports received regarding the raising and display of the ninety year old submarine *Holland 1*[142] in England, the *I 124* is also capable of being conserved and displayed to advantage.

If this were to be done, the *I 124* would become one of Australia's foremost maritime attractions and would be a compelling monument not just to the men who, bravely and very effectively, served in it, but to submariners world-wide.

It must be noted here, that this is an Archaeologist's and Historian's perspective and that there are clearly other perspectives from which to view this issue, most notably the social and humanitarian position adopted today by the Australian and Japanese Governments.

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140 In preliminary discussions on this matter, DASETT have advised me that the proposed committee may not be 'cost effective' and that a 'consultative process' such as that involving the Japanese embassy, Australian Department of Foreign Affairs and Trade and the Northern Territory Government in relation to the mercury question would be 'most efficient and effective' L. Neilson to McCarthy, 4/10/1990, WAM *I 124* File, op. cit.

141 This report and the *I 124* files have been made available to both DASETT and the NT Museum.

142 The Submarine *Holland 1* was built in the UK in 1901. It was the first submarine built for the RN and was recovered from the seabed for display at the RN Submarine Memorial Museum, Gosport, Hampshire, England. Brouwer, N. J. (1985), *International Register of Historic Ships*. Anthony Nelson, pp 96-97.

Ann Millicent

On 22 March, the *Flamingo Bay* departed Darwin after examining the *I 124* and set sail for Cartier Island and the wreck of the Iron Barque *Ann Millicent*. This mysterious wreck was reported to the WA Museum on 25 November 1986 by Hugh Morrison and Simon Jones of Perth Diving Academy. At the time, an attempt was made to inspect it using RAN facilities, but just prior to the projected departure date, it was advised that Cartier Island was in NT waters and that *Ann Millicent* was the responsibility of the NT Museum. That attempt was then abandoned leaving *Ann Millicent* un-inspected until this particular voyage. On arrival at Cartier Island four Indonesian fishing boats were seen. After a preliminary exchange of greetings and the topping up of their water, the inspection of the wreck, which could be seen just breaking water at the southern end of the reef, was made. The following report was then made and has been submitted to the NT Museum for their consideration. Mr Nick Burningham of the NT Museum is continuing work on the history of the wreck and is expected to report in the following year.

Figure 15 : Indonesian divers at the bow of the Ann Millicent. (Photo Jon Carpenter)

WRECK INSPECTION REPORT (WA MUSEUM)

Site Name: ***Ann Millicent***

Date of Inspection: 24 March 1989 and 25 March 1989

Personnel: Mike McCarthy (Officer in Charge)
Pat Baker
Jon Carpenter
Graham Thompson
Chris Jones
Laurie Etheridge
Master and crew of RV *Flamingo Bay*.

Approximate Location: On the reef top south of Cartier Island

Chart No: AUS 319 **Lat**: 12° 32.5' S
Long: 123°32.2'E

File No: WAM 17/85 **File Name**: ***Ann Millicent***

Sailing Directions: Sail to Cartier Island visible on BA 1472 and AUS 319 at the coordinates above. When the island becomes visible, proceed to the south end of the fringing reef around the island. To find the site it is advisable to await low tide when the wreck will become visible and can totally dry. The bow breaks at mid water.

Compass Bearing : N/A

Sextant angles for A-D Above : N/A

Visual Transits: N/A

Note. The lack of discernible landmarks makes the use of compass bearings and sextant angles impractical. The position of the site is clearly marked on the charts, it is visible at low water and appears in the video and photographic records.

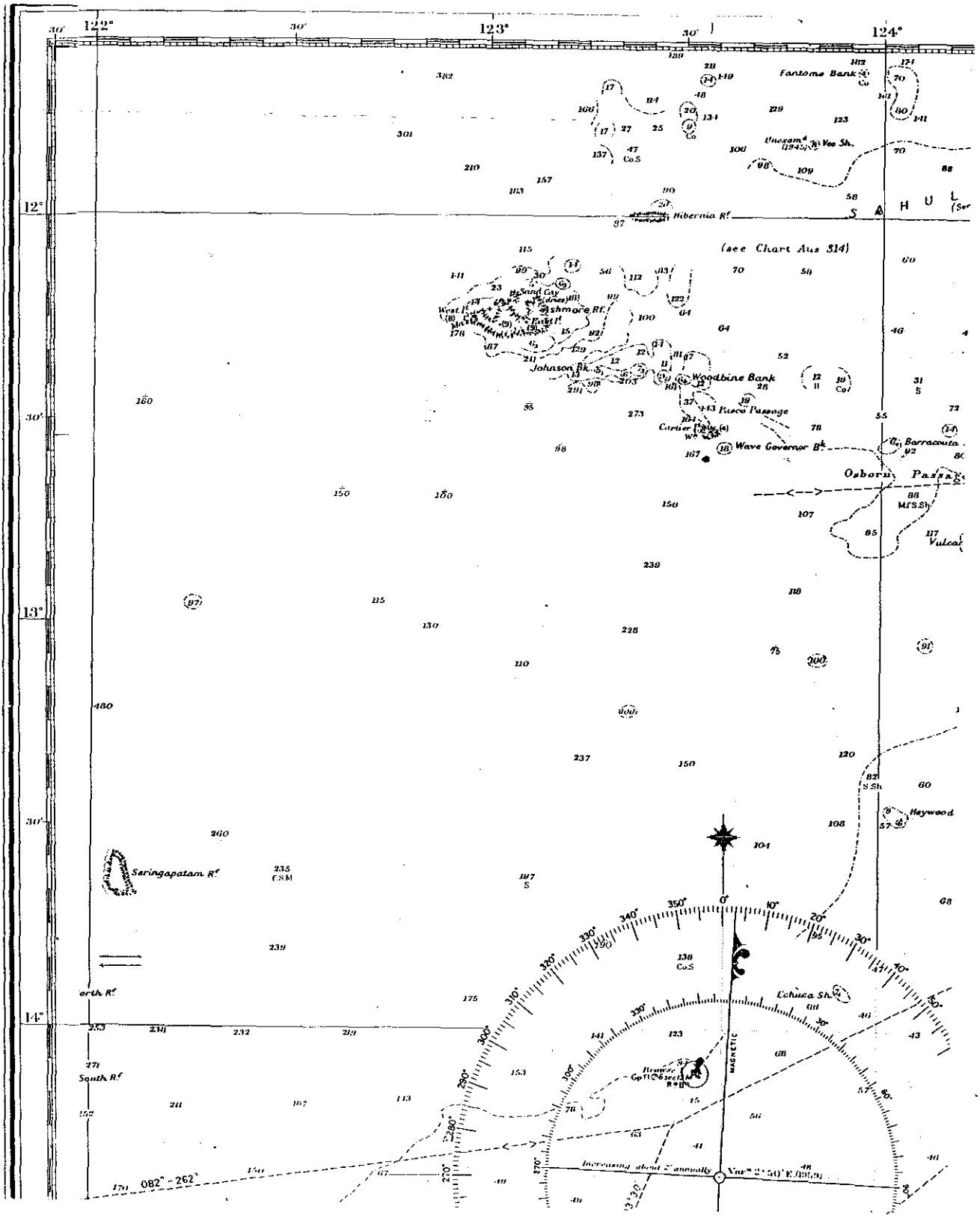
Site Photographs:

Black & White: *Ann Millicent*

Colour: *Ann Millicent*

Video: Flamingo Bay Inspections: *Ann Millicent*, Film North and Channel Ten film coverage. These are housed at the WA Maritime Museum.

Figure 16 : Chart showing Cartier Island and the wreck, Excerpt from AUS 319[143]



143 Australia North West coast, Western Australia. Penguin Shoal to Browse Island.

Description of Site:

The vessel lies on an E/W axis (bows W) on the reef top immediately south of Cartier Island. The remains totally dry at low water and are accessible from the sea over a gently shelving reef. Care needs to be exercised in making the transition from the sea to the reef edge in all but the slightest swell.

The hull is totally broken up measuring 60 m stem to stern and lies in a fairly compact mass with masts and other wreckage spread as expected with the prevailing swell, towards the north in the lagoon beyond. An anomalous cluster of wreckage lying to the SE approximately 50 metres from the stern consists of a mast or large spar section and what appears to be a donkey boiler.

No wreckage was visible to seaward. No sherds or any loose attractive items were seen as expected of such sites in areas visited by the Indonesians. In this regard the site is similar to the equally barren wreck-sites at the Rowley Shoals and Scott Reef where Indonesian fishermen are expected to have removed all loose attractive and useful material. A group of fishermen who were moored in the vicinity during our stay were seen harvesting Beche-de-mer on the wreck and on reefs opposite.

The wreck lies completely broken up, but it is most attractive with all elements of its original construction clearly visible and capable of detailed documentation if so required. A small amount of scroll work remains around the hawsepipe, for example and adds a fine touch to what certainly would have been a very pretty barque indeed.

Figure 17 : Indonesian divers with the *Ann Millicent* in the Background.
(Photo Jon Carpenter)

Salient features of the vessel are :

An intact bow structure revealing 'in and out' plates measuring alternatively 56 -, 58 - 64 - 74 - 95 cm from the forefoot to the hawse pipe. The overlapped plates were not measured. The hawse has some scroll work evident, being the remains of a vestigial headboard.

Five anchors were noted. Two of these were set with straight iron stocks in place on the remains of on the bow. One (A), presumably a bower, of Rodgers small palmed type 2.95 m length over all, (LOA), measured 2 metres from bill to bill. The other (B), a Trotman type, also with straight iron stock and LOA 3.2m had also provision for a wooden stock as noted by the presence of a 'nut' on the shank.

Three other anchors lie aft of the bow near the chain mound and would have been stored in or near the forecastle. These were, (1) a 'sheet anchor' a 3.48m. LOA Trotman pattern anchor measuring 1.6 m bill to bill with a stock nearby, (2) a folding Admiralty pattern anchor measuring 1.4 m bill to bill and of LOA 2.20 m; and (3) a small kedge? LOA 1.76 m 1.2 m bill to bill. The chain mound nearby is substantial consisting of stud link chain 25 cm long to 17 wide. A windlass 3.6 m long is visible forward as is a small 1.5 m gun, possibly a carronade of indeterminate bore, with trunnions set in centre at a distance 75 cm from the button at the cascabel.

Further aft, what appear to be keelson sections are visible amongst the general mass of wreckage in the form rivetted 'I' bar 38 x 18 cm in section. The frames are alternatively 'Z' bar 8x8x8 cm. also rivetted with 'L' bar of similar dimensions in between.

The visible hanging knees are of bulb section. Iron mast and spar sections are visible throughout the wreck and some lie very distant in the lagoon itself.

A pump dale is visible amidships and small capstan abaft. Other machinery is not evident. The anchors are an interesting group indicative of a late 19th century vessel of small tonnage.

No cargo or personal items were evident.

Conditions on Site when inspected:

Sea and Swell:	Mod swell. Flat calm. Nil wind
Surge:	Mod
Visibility:	Wreck totally dry
Current:	1/2 kt

Material Raised: (Code)

As expected with such sites often visited by Indonesian fishing groups, there is nothing loose or attractive apart from the large fittings and hull sections that has not been already removed. A brass porthole (scuttle) raised in 1981 by Simon Jones of Perth Diving Academy WA was sent to the NT Government some years ago.

Site Identification Comments:

The general impression is of a well built, though quite small iron three- masted iron sailing vessel with rivetted frames, keel and keelson and 'in and out plating' all reminiscent of the 1870's type.

As the site is the only wreck visible on the reef fringing Cartier Island and is in the position recorded in early journals there is little doubt that it is the remains described thus of the

> fine iron barque *Ann Millicent* of Liverpool. She was lying nearly high and dry at low water, with the main mast over the side, the fore and mizzen masts and bowsprit being apparently in perfect condition..... when boarded..,. she appeared to have been abandoned by her crew for at least a year and not to have been since visited, as a large portion of her stores and fittings still remained intact...removed everything of value. (A).

A comparison of the anchor sizes and types, LOA, rudder length and other features fit a vessel of the 600-800 ton^{+} range of circa 60 m or 180 feet long. It appears from frame spacings and type, which are identical to the Sunderland-built *Yarra* (1870-1884), to be British built.

Records of the vessel have not been found in Lloyds Underwriter's Register.

Recommendations:

That the finders Hugh Morrison and Simon Jones of the Perth Diving Academy, Wanneroo Road, Nollamara WA be rewarded for reporting the site and that it be declared an historic wreck of significance and of interest to visitors. It is a fine and easily accessible example of the late 19th century iron sailing vessel albeit in a complete state of ruin.

Management Proposals:

The gun could be raised along with the anchors which would make a striking collection as one of the few complete collections of anchors carried on board any vessel. They would be a striking exhibit and useful in any Maritime Museum. The bow is another striking and quite intact feature feature which could be presented to advantage. According to conservator Jon Carpenter, whose comments appear in the appendices following, these possibilities are quite practicable. It may be better to leave the site intact however.

References:

(A) *Narrative Journal of the Survey Voyage of HMS Penguin* Vol.1, 7 Feb 1890, 31 May 1891.

(B) Government Gazette, 5/2/1891:112
Wreck of barque *Ann Millicent* found on the reef around Cartier Island on 18/5/1890.

Ann Millicent Appendices

(A) **Comparisons** between this site and the *Yarra* on Scott Reef are of interest in any attempt to gauge the size of *Ann Millicent*.

	Ann Millicent	*Yarra*
Anchors	1 : 2.95m. Rodgers 2 : 3.2m. Trotman 3 : 3.42 m. Trotman 4 : 2.2m. Admiralty 5 : 1.76m. Admiralty	1 : 2.4m. Admiralty 2 : 2.4 m. Admiralty
Length	60m. from stem to stern i.e. C. 55m or 180 feet	43.5m. or 143 feet.
Frame spacing	0-52-108mm.	0-52-106mm.

Height of Rudder	9.3m.	6m.
Built	Liverpool ?	Sunderland 1870
Lost	1889 ?	1884

Thus it could be argued that *Ann Millicent* certainly appears British built, in excess of 500 tons and around 180 feet in length. Unfortunately it has not been found in the Underwriters Registers consulted.[144]

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(B) Report on the condition of the iron barque *Ann Millicent* wrecked Cartier Reef 1890 : Jon Carpenter, Dept of Materials Conservation and Restoration, WA Museum.

Due to tidal influence the *Ann Millicent* wreck is exposed and inundated on a daily basis. During the transition from one environment to the other the vessel is subject to the pressures of water movement - surf and swell, surge and currents. Over the years this has caused the collapse of the vessel, which would have experienced a number of cyclones also. The vessel is not widespread, despite these influences, having largely collapsed within and around its own dimensions. Weight and strength, attributed to its iron construction, has contributed to the *Ann Millicent*'s stability.

Metal structures appear sound (wrought iron) to the extent that complete spars and large sections of iron masts exist. Most dramatic is the *Ann Millicent* bow which lies proud on the reef top, losing none of its classic form and little of its structure. This would make a marvellous and unique museum attraction. Total exposure and total submergence provides ideal working and recovery conditions for the bow. Alternatively, a large helicopter may be used.

As with the *Ben Ledi* (lost 1879 Pelsaert Island in the southern group of Abrolhos Islands) the only remaining organic material is a series of wooden deadeyes. The degree of preservation is not as good as *Ben Ledi* examples.

Other than one or two bricks nothing of the *Ann Millicent* cargo or crews' possessions were seen. The presence of Indonesian divers/reef walkers suggests the likely scenario for the disappearance of artefacts over the years.

A single, well worn/corroded cast iron cannon (1500 mm long) lies to the port forward side of the vessel. The cannon does not warrant recovery based on its poor condition (appearance). Five anchors of different types were scattered about the bow of the vessel. All were sound and retain structural integrity. Relatively thin corrosion/concretions cover the metal structures, attributed to reduced formation time due to daily exposure to the air. Water blasting effect with return and drop of tide would inhibit concretion formation also. As a consequence construction features remain visible, hull plates are individually defined as are rivet heads. Metal has laminated in places and corrosion cracks are evident due to expansive nature of oxidation processes. Corrosion potential and pH readings acquired indicate the vessel is still actively corroding.

The original position of the wreck can be gauged from a distinctive scouring in the reef a few metres to port of the wreck as it now lies. It appears that it has been moved bodily to starboard in a heavy storm or alternatively was thrown onto its starboard side.

(B) **Corrosion Measurements** (Jon Carpenter)

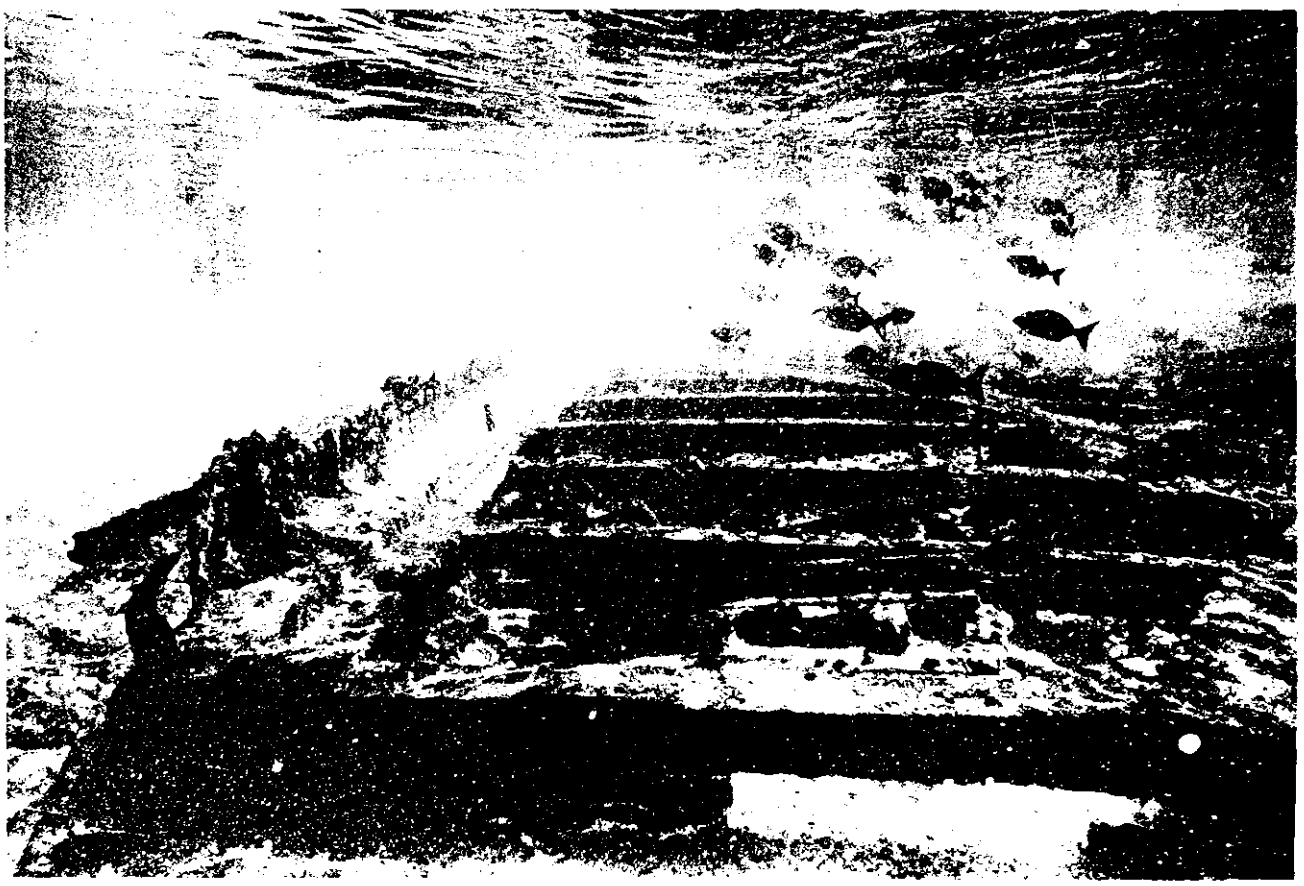
Object	Measurements *Potential Measurement*	Depth drilled
Trotman Anchor	-813	8mm -Bad Contact
Chain	-816	20mm-Bad contact
Chain	-104	20mm-good contact
Chain Mound	-130	80mm-hollow mush inside
Cast Counter weight	-113	10mm

[144] Mr Nick Burningham of the NT Museum and Art Gallery is conducting further research on the wreck and is examining other registers not available to us.

Ships plate	-197	5mm
Donkey boiler	-212	10mm
Mast (gas evolving)	-106	10mm
Gypsy (gas evolving)	-134	15mm

	pH Measurement
Anchor chain	4.85
Chain Mound	3.6
Gypsy	3.09

Figure 18. Midships on the wreck at high tide. (Photo Mike McCarthy).



Indonesian Divers at Cartier Island

As *Flamingo Bay* steamed towards Cartier Island and the wreck of the *Ann Millicent*, four single-masted Indonesian vessels were sighted at 1500 on 24 March. The vessels were photographed and filmed. These records are now housed at the WA Maritime Museum.[145]

The visits of these craft to areas such as the Kimberley, Arnhem Land, Islands and reef formations such as Ashmore Reef, Cartier Island Seringapatam Reef, Scott Reefs, the Rowley Shoals and other off-shore islands have been the subject of considerable publicity in the Australian press of recent years. Some of this publicity is decidedly adverse and though some of the criticism is deserved much of it has not taken into account the fact that some of these islands and reefs, notably Ashmore Reef and Cartier Island are much closer to Indonesia than Australia and that the visits dated back to the eighteenth century at least. In order to understand the reasons for these visits and to place the activities that we recorded into a context, the following background is presented.

Background to Indonesian visits to Australian waters

'Macassans' i.e. people from Makassar, now Ujung Pandang in Sulawesi (Indonesia), apparently began frequenting the north of Australia some time between 1650 and 1750 in search of trepang (sea-slug, sea cucumber, Beche-de-mer) an edible Holothurian. [146] In some cases the fleets involved up to 200 prahus carrying 6-8,000 men.[147] In general the fleets were much smaller. They left their homes with the North-west Monsoon in December or January and returned with the South-east Trades in April.

The 'Macassans' apparently tended to head for what is now Arnhem Land, *Marege* or *Marega,* in the Northern Territory and to the Kimberleys or *Kayu Djawa.*[148] A fleet of between 24 and 26 'Macassan' prahus[149] was seen in 1803 by the French under Baudin in the vicinity of Cassini Island and on the Holothuria Banks. He was warned by the Macassans of the hostility of the Aborigines who were described as extremely fierce, probably as a result of their contact with the 'Macassans' themselves.[150]

In February 1803, Matthew Flinders in the *Investigator* met six 'Macassan' 'prows' of around 25 tons each with 20-25 men each on board at Cape Wilberforce. He was told that there were 60 prahus then on the coast. They were fishing for trepang and the only navigation aid was a small compass.[151]

In June 1818 'Macassan' trepang fishing was noted by Phillip Parker King in the vicinity of Port Essington.[152]

R.J. Sholl, the Resident Magistrate at Camden Sound observed the visit of a fleet of seven 'Macassan' Prahus with around 300 men on board in 1864.[153] He believed that they

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145 Maritime Archaeology Department, B/W, Slide and Video files.

146 Makassar. One of the great emporiums of native trade in the region in the 19th. century. Trepang, 'Sea slug', or Beche-de-mer was much sought after in China and Japan.It was often the object of the voyages of the Macassan, Bugis and others 'freely' and incorrectly called 'Malays'...'by most European observers'. Macknight. C.C.,*Voyage to Marege. Macassan Trepangers in Northern Australia,* (Melbourne University Press, 1976), p. 97

147 Crawford, I. M., (1969), *Late Prehistoric Changes in Aboriginal Cultures in Kimberley, Western Australia.* Unpublished Ph. D. thesis. Part 11 Cha 3. Documentation of Indonesian Voyaging to Kimberley.

148 *MacKnight,* op. cit., p.33.

149 Prahu , Prau a generic name given to Asian, Malay, Indonesian or Singaporean vessels.

150 Crawford, op. cit., p.103.

151 ibid., p.97.

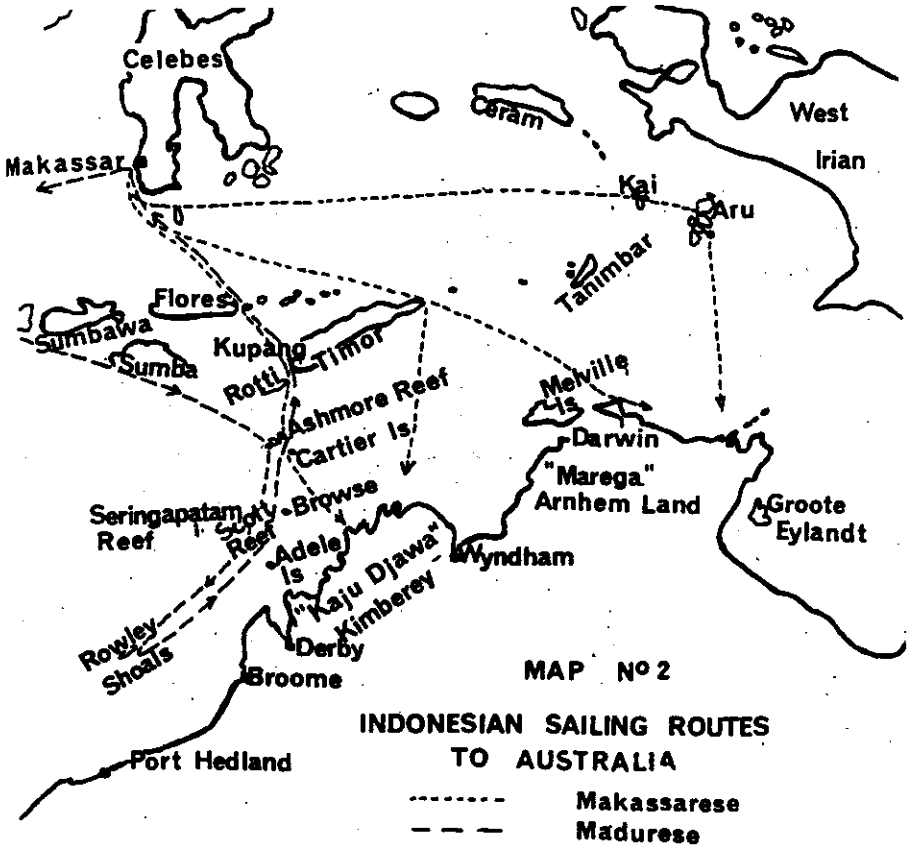
152 ibid., p. 98.

153 *Sholl to Col. Sec., CSR* 581/126 16/2/1866, BL, and *GRO* of 20/5/1865 appearing in the *Inquirer* of 26/7/1865 and the *Exploration Diaries, Vol 6, 1865-1871,* pp. 26-27, Battye Library, WA. See also

made kidnapping raids and ranged not only in that region but as far south as Roebuck Bay where 'quite a fleet was seen around 1866.[154] Sholl believed that they did not venture south into other areas such as Nickol Bay due to the absence of Trepang there.[155]

The 'Macassan' voyages ceased sometime in the late nineteenth century and their place was taken by other sailors operating from elsewhere in the Indonesian Archipelago. An important piece of research which provides the vital link between the records of the 'Macassan' voyages and those of the twentieth century manned and organised by people from Indonesia is a doctoral thesis entitled *Late Prehistoric Changes in Aboriginal Culture in the Kimberley's Western Australia.*[156] In generally examining Indonesian contact with Australian Aborigines in the late nineteenth and early twentieth centuries, it's author, Dr Ian Crawford of the Western Australian Museum, commented that in the late late nineteenth and early twentieth century the voyagers came not from Makassar as they had done previously but mainly from the islands of Timor, Ternate, Aru, Bonerate and Madura.[157] In a chapter entitled 'Indonesian Voyaging to Australia Post 1900', Crawford attempts to 'collate all of the relevant data, both documentary and verbal on the post -1900 voyages'. In this and in his descriptions of his own stay onboard an Indonesian Prahu in 1968 lie the relevance and importance of his thesis to those studying the Indonesian contact with Australia.

Figure 19 : Indonesian Sailing routes to Australia.
from Crawford [158]



Macknight, op. cit., p. 86-88. According to one account a 'great many ships and boats and junks' came into Camden Harbour. *Notes and Reminiscences of Mrs John McManus*, in McCarthy, M., op. cit., p.

[154] Burges, L.C., *Pioneers of NW Australia's Pastoral and Pearling*, (Constantine and Gardner, Geraldton, 1913). p. 12.

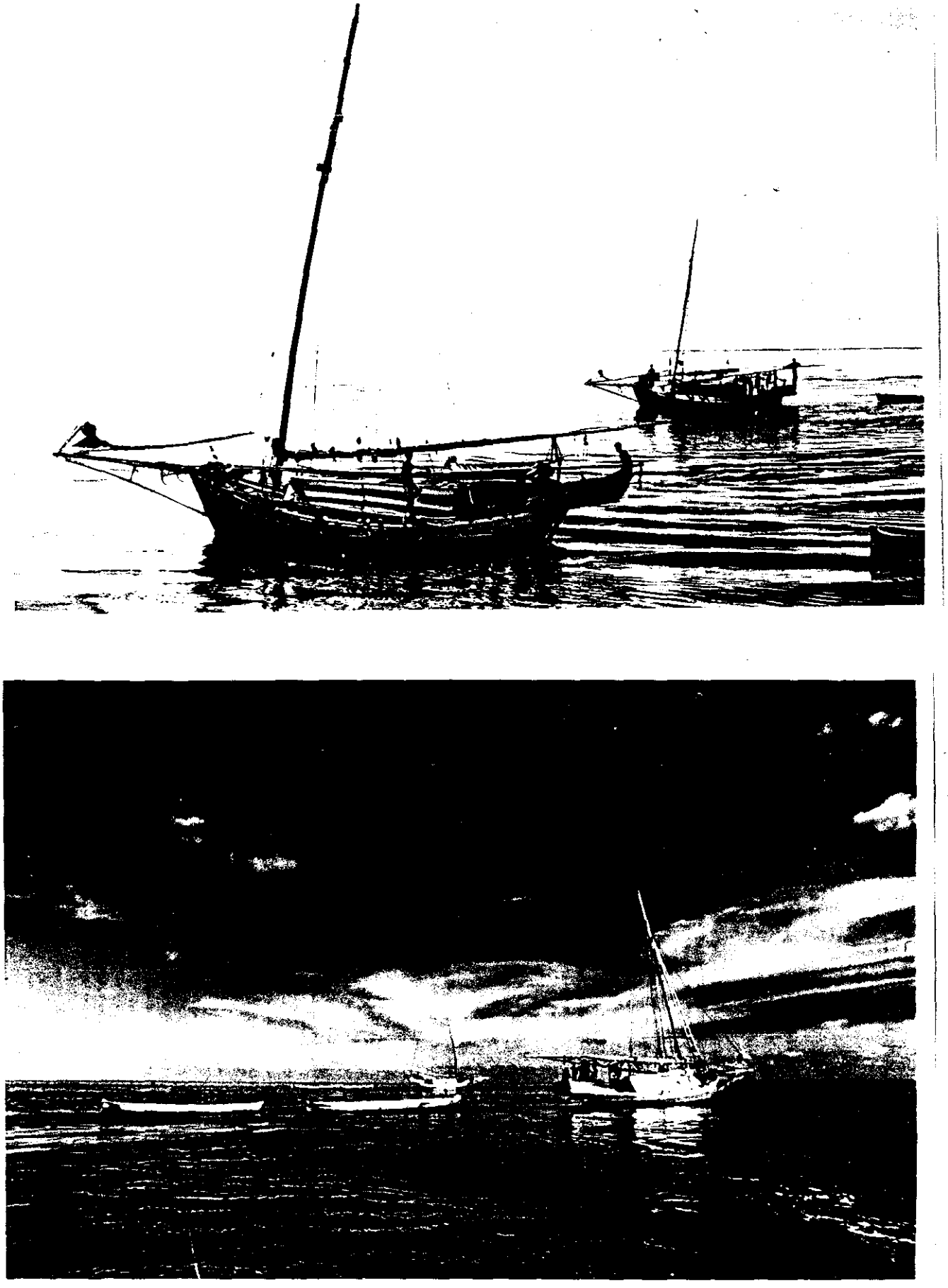
[155] *Sholl to Col. Sec., CSR*, 581/126 16/2/1866, Battye Library, WA.

[156] Crawford, op. cit.

[157] ibid., p.115, 127.

[158] ibid., p. 86.

Figure 20 : Indonesian Vessels sighted at Cartier Island.
(Photo Pat Baker)



In his most useful analysis, Crawford gives details of the *Bintang* a prahu which was met at Sir Graham Moore Island in 1909 by a Mr H.V. Howe, then a pearling master.

The *Bintang* had sailed from Kupang and was part owned by a Chinese merchant and the family of the Indonesian skipper. In discussions conducted with the Indonesians it was noted that they usually made two trips to the Australian coast each year. The first trip commenced in January or February, returning in August, the second leaving in September and returning in December. Mr Howe noted that the 'normal sailing time from Roti, an island off the south-east tip of Timor, to the Kimberley coast was three to four days and that the winds were favourable during most of the year.'[159]

In 1911 two vessels were arrested at Scott Reef resulting in a great outcry in Western Australia.[160] It appears that in this particular era a fleet departed Kupang annually and made Roti their first stop obtaining as much water and firewood as they could hold. Some of the larger vessels at this time were skippered by Europeans and were owned by Dutch, Arab and Chinese merchants, whilst the smaller 'native built prahus' were under the command of Indonesian skippers. Having stocked up, they then sailed on to the Ashmore, Cartier, Scott, Seringapatam and 'even as far south' as the Rowley Shoals where firewood and water were not available. According to Crawford the 'supplies onboard the ships dictated the length of stay on the reefs'.[161] Once the supplies of water and wood were exhausted, the boats would then sail for the mainland to replenish their stocks. Once on the coast they would work the reefs nearer the shores 'particularly Long Reef and Holothuria Reef' and would return to the mainland to prepare the catch. Around May these ships congregated at Jones Island to catch turtles and from there sailed to the outer reefs and then returned home in July.

In 1916 a combined State/Commonwealth expedition was sent out with orders to apprehend further transgressors but failed in sighting any vessels.

Other voyages were recorded such as that in 1924 of ten prahus which left Kupang for Roti with the intention of proceeding to Ashmore Reef, the mainland and off-shore islands.[162] It was stated that,

> the reefs and islands north of Kimberley had become an international fishing ground, and that vessels from many ports probably congregated there because experience had shown that it was a profitable area.... similar to that in northern Europe when trawlers from different ports congregated off Iceland. [163]

In 1933 Ashmore and Cartier Islands were placed under the authority of the Commonwealth.The Indonesian voyages were apparently disrupted during WWII, but were resumed after the war. D.L. Serventy recorded a contact in 1949 and, according to Crawford, his are the 'only detailed records of Indonesian activities after Mr Howe's description of 1909'.[164]

Serventy saw 30 prahus in early October 1949 and estimated that they contained at least 300 men. He believed that they had visited most of the reefs and islands on their odyssey, leaving some 'debris' such as shells, old boxes and two graves on the east island of the Ashmore Reef. Four vessels were boarded. Three vessels had apparently proceeded direct from Kupang and one was going to Roti.

In 1909 Howe had listed trepang and trochus shell as the principle cargo, and in 1949 Serventy noted that the bulk of the cargo consisted of trepang, turtle shell, dried fish and

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[159] ibid., p. 125.
[160] ibid., p. 118.
[161] ibid., p. 119.
[162] ibid., p. 126.
[163] ibid., p. 127.
[164] ibid., p. p 170 & Serventy, D. L., 1952, Indonesian Fishing Activity in Australian Seas in the *Australian Geographer*, Vol VI, no 1 June 1952, pp. 13-16.

shell-fish including trochus and clam. Serventy also reported the large scale killing of many birds.

The next contacts with Indonesians were recorded by a company drilling for oil at Ashmore Reef in August 1965, February 1967 and late in 1967. The last group of Indonesians stayed from October to late December and consisted of 5 prahus with at least one woman onboard. These visits are described by Crawford. Another visit in February 1968 resulted in a detailed report by Crawford following the five days he spent onboard living with, conversing and observing the Indonesians. Eleven prahus were sighted by Crawford and four were boarded, including the*Djindarius*, the largest of the prahus at 40 feet long, 13 feet wide and a maximum depth of 4 feet. He describes the vessel in some detail, noting that it appeared to be fitted out in a 'superior style' to the others seen. He was told that it was registered at 16 tons (probably the larger Dutch ton) and had a crew of 12 men in addition to the skipper. Crawford conversed in a mixture of 'Trade Malay' and the more modern Bahasa Indonesia, which only the younger members of the crew and the skipper could speak.

It appears from his observations that all the prahus in this particular fleet were from Madura a large island in Eastern Java close to Surabaya. En route, they had sailed throughout East Java carrying produce from one port to another. From Surabaya they carried salt to Lombok, from Sabu they carried a small amount of treacle. After leaving Sabu they had sailed to Ashmore Reef with an intention to sail further south. According to Dr Crawford they were able to recognise 'on a map islands as far south as Rowley Shoals'.They also indicated that when they had filled their ships, they would sail via Timor to Makassar (Ujung Pandang) where everything would be sold. From Makassar they intended taking on a cargo of coconuts and copra to sell at Surabaya. From there they would return to Madura. They estimated that the round trip would take five lunar months.

When Crawford stayed with the Indonesians in 1968, the principal food collected was meat from clam shells (Kima). He described their methods in considerable detail and estimated that around 700 clams were taken by twelve sailors in two and a half hours of observation. In observing the drying process on the nearby islands, Crawford estimated there were about 4000 Kima hanging.

Crawford also noted that at times they stopped collecting the clams and concentrated on finding trochus shell. He indicated that their search for trochus 'probably entailed diving, as all of the sailors went fishing equipped with diving glasses'. He noted that the men bought the trochus back to the prahu unprepared and that there they hooked out the flesh from the shell with a 'metal hook on the end of a wooden handle'. They then stowed the shell in both the forward and aft hatches and spread the flesh on the deck to dry in the sun. Crawford illustrates this procedure and noted that the men ate most of this meat commenting that 'unless it is well boiled, it is tough and tasteless'.

When Crawford left, the *Djindarius* had on board 400 trochus shells. The smaller prahus apparently concentrated more on the trochus fishing and subsequently carried greater quantities.

Crawford also noted that while the men searched the reef they occasionally disturbed other fish which they attempted to spear. If successful they were taken back on board, 'split in two' and sun-dried'. Other species seen on board were 'marine eels' and stingrays. It also appears that sharks were caught for sale to the Chinese for eventual export to Hong Kong.The meat of Baler shells was also collected, the flesh diced and sun-dried. A few turtle eggs were also seen onboard and the sailors ate those boiled. Crawford's impression was that 'all fish and clam meat were intended for resale' and that all other shell fish meat was eaten during the voyage. He was surprised that there was not a lot of trepang in evidence, seeing only one rattan basket on board containing about 25 specimens.

The captain indicated that the 'principal items' of the cargo were trepang, kima (clam meat) and ikan (fish). Crawford felt that as he did not see a lot of trepang that it was collected further south later in the voyage. This was supported by comments from the master who indicated that the trepang was 'abundant' at the reefs south particularly at Cartier Island.(Pulo Dato).

> Almost all of the produce from this trip was intended for Chinese consumption, and the dried fish, sting rays, trepang, trochus shell, clam meat and pearls were to be sold to Chinese at Makassar.

Crawford also analysed the economics of the voyage noting that the *Djindarius* was valued at 150,000 Rupiah (then £200) and the smaller prahus were worth between 100-120,000 rupiah. The men were not paid a wage, but if the cargo exceeded 100,000 rupiah at Makassar the men shared the amount by which it was exceeded. If it did not the men received nothing and they only benefitted in respect to their keep. Crawford noted that this system appeared similar to that described by others.

In the context of his study of the effects of contact with the Aborigines of the Kimberleys, Crawford had hoped that these descriptions would 'bear a close resemblance to those documented in the nineteenth century' but found to his disappointment that this was not the case'. He was led to comment that,

> The prahus and their people and their culture were different from those which visited the coast in the nineteenth century, although there is a strong resemblance between these voyages and those of the twentieth century described by Serventy .[165]

In examining the actual vessels used in the twentieth century, Dr Crawford noted in a later analysis that there were three different prahu types that ventured here, the *Lambo*, *Leiti* and *Belang* prahus. In his opinion, the *Leiti* is a Madurese design reflecting 'Arabic or Hindu traditions in its design and lateen sail'. It was one of this type that Crawford spent time living onboard in 1968. The *Belang* Prahu is a type from the Aru islands and uses a tripod mast and a rectangular sail. They are no longer made.[166] The *Lambo* is the most westernised form and in his estimate 'possibly results from the introduction of western designs in the 1830's. It is used by the people of Roti who comprise the majority of the visitors to our waters since Crawford's time.

Illustrations and descriptions of the many types of Indonesian craft, including those above, appear in publications by C. W. Hawkins[167] and A. Horridge.[168] In many cases their lines and other details have been taken.

On 7 November 1974, six years after Crawford's activities, a Memorandum of Understanding (MOU) between Australia and Indonesia was signed allowing traditional fishing around Ashmore and Cartier Islands, Scott and Seringapatam Reefs and Browse Island. From that time details of the visits and various prosecutions for breaches of the rules have been reasonably well kept. The arrests that are made are for breaches of the MOU and the use of non-traditional vessels with motors. Part of the reason for the upsurge of arrests is the increase in market price for the trochus shell and fish products.[169] A recent comment on the economics of the fishery was made by Dr. Trevor White. He noted that there is a 'rising demand' for trochus 'caused to some extent by dwindling supplies from the South Pacific region'. The price fluctuates from between $AUS 2,500-4000 per ton. Dr White has indicated that there is also a 'steady demand' for some species of trepang and that the price ranges from about $400-$600 per tonne.

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165 Crawford, op. cit. p, 156.

166 *Sama Biasa* file, 219/80, WA Maritime Museum.

167 Hawkins, C. W., (1982), *Praus of Indonesia*, Nautical books, London.

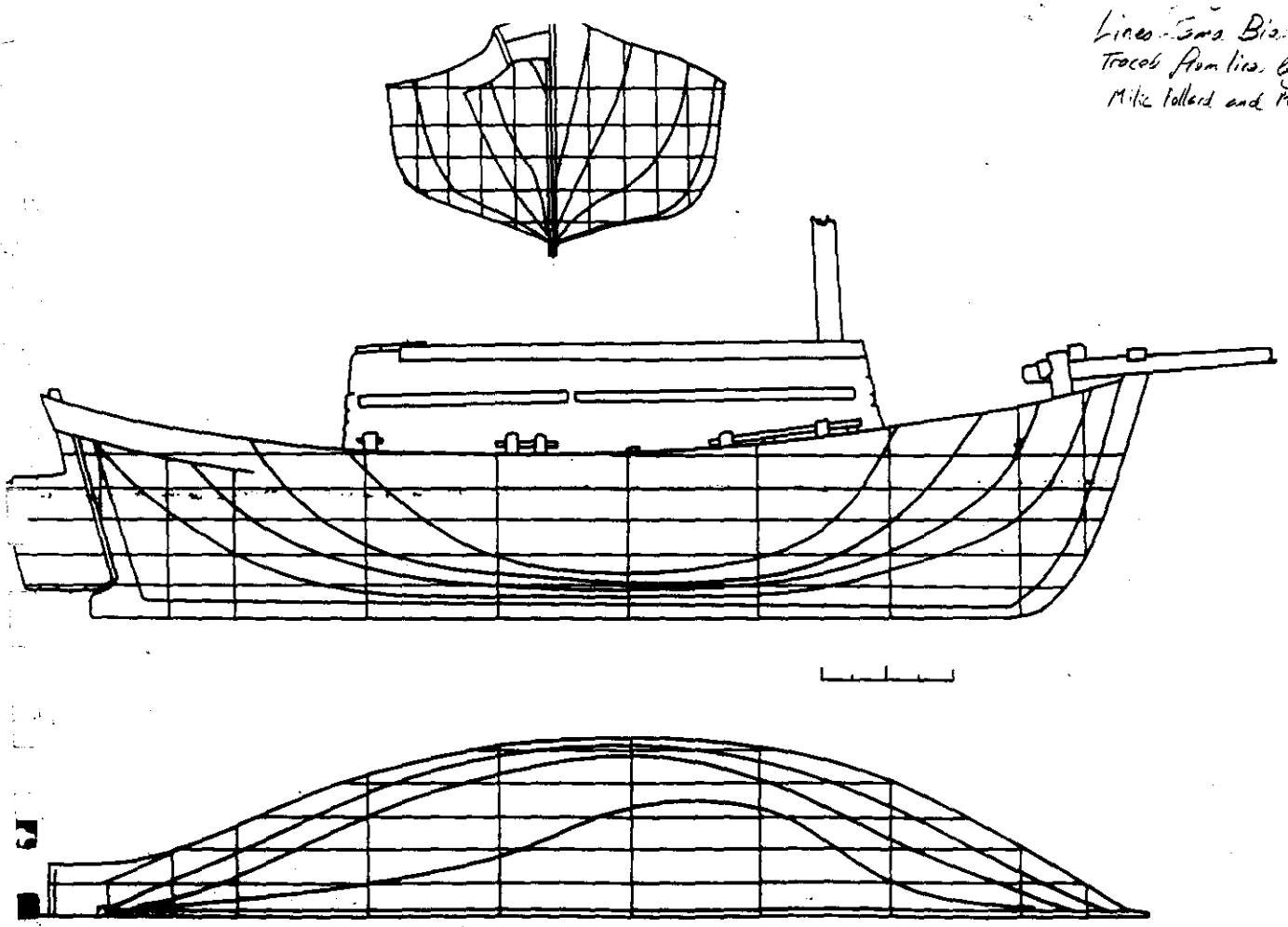
168 Horridge, A., (1986), *Sailing Craft of Indonesia*, OUP. & (1979), *The Lambo or Prahu Bot : a western ship in an eastern setting*, National Maritime Museum, Maritime Monographs and Reports, No. 39-1979.

169 Vail, L., And Russell, B., (1989-90) Indonesian Fishermen of Australia's North-West, in *Australian Natural History*, Vol 23, No. 3 1989-90, pp 210-219.

> As a result Indonesian fishing excursions into Australian waters in search of these products have become increasingly commercial in nature in recent years... Many of the crews are not fishermen, but local villagers, paid a wage on catch. Unfortunately, the present high prices being paid for trepang in particular encourage these people to risk prosecution by entering closed areas in search of greater catches...Predictably there has been an alarming rise in the number of Indonesian vessels arrested.[170]

In July 1980 for example an Indonesian prahu, the *Sama Biasa* (Same as Before), was apprehended at Gregory Island near the Australian coast. Dried fish, clam and squid meat were found on board with a 'home made' speargun and harpoon along with rice, water personal effects and 250 kilos of live trochus shell. Seven fishermen aged from 17 to 35 were later found and they indicated that they had come from Pepela a village on the island of Roti.

Figure 21 : Lines of the *Sama Biasa* from Roti
(McCarthy & Pollard)



170 White, T., F., (ND) A Report on Indonesian Fishing Excursions in North West Australia. In *A Submission to reduce the number of incursions into Australian Waters by Indonesian fishermen.* Prepared by the M. G. Kailis Group of Companies, p. 4.

On the grounds that it was illegally fishing, the vessel was impounded and then towed to Koolan Island. It is now on display in the WA Maritime Museum complete with its contents (apart from the fish and food) found onboard. Its lines were taken by the author and the vessel has been the subject of considerable documentation as a part of the museum's historic boat collection. On the following day another vessel *Jangan Taya Lagi* (Dont Ask Again) was found beached on Bedford Island. The vessel tried to escape under cover of darkness and when boarded was found to have been previously apprehended under another name in May 1980.[171] Similar material to that found onboard *Sama Biasa* was noted, with the addition of eight pairs of hand-made goggles. The vessel had also come from Pepela Roti with eight crew ranging from 16 to 27 years of age. The prahu had cost 650,000 Rph financed by a bank loan. The owner apparently did not know that the vessel was in Australian waters and it appears that the Indonesian Government had warned them not to come here.

White indicated in his analysis that, in 1988, there were 38 vessels based and owned at Pepela Roti and that practically 'every male' in the village is directly involved in the 'Australian' fishing operations. The captains and crew were 'contracted' by the owners of the various vessels and they usually make three trips per year usually between March and December. In this way they avoid most of the Cyclone season. According to Dr White,

> The catch (trochus and trepang) is all transported directly back to Sulawesi for sale. There is no market for these products in Roti. When catches are low, product [sic] may be stockpiled at Pepela until they have a full load. The Roti vessels usually carry a crew of about 12.[172]

The list of confiscations and arrests of Rotinese and other vessels goes on and on and is recorded in many repositories. In January 1984, for example five men from Roti aged between 22-30, who were found in the engine driven *Teluk Bayar,* were charged with taking trochus from King Sound. The vessel was destroyed.[173]

In recent times Andre Malan, a senior staff writer with the West Australian, has looked into the social implications of the MOU and the many confiscations and arrests. These appear published in a number of articles on Roti, the most poignant are titled 'Islands of Hope and Despair' and 'Village of Widows'.[174] The last deals to some extent with the social circumstances and fate of some of the Rotinese men and boys whose activities are described below.

On our visit, *Flamingo Bay* was moored near the wreck of the *Ann Millicent* at the south end of the reef and a visit was paid to the four vessels moored in line abreast about a kilometre to the north. On ascertaining that they were short of water, containers (of all descriptions) were taken from them and transported back to the *Flamingo Bay* for refilling. The Indonesians interest in *Flamingo Bay* was exceeded only by their interest in the inflatable *Zodiac* in which we first made contact.

Unfortunately our command of each other's language was less than rudimentary. It was ascertained however, that the men were from the island of Roti and that they normally did a seven week round trip Roti-Ashmore-Cartier-Scott Reef-Ashmore-Roti. They were apparently staying at Cartier Island due to the lack of breeze.

During our two day stay in close proximity to these four vessels and their crew, further filming was done together with some bartering for shells and other objects. More importantly dives were undertaken in association with them. This was filmed by Jon

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171 In this case 'Jagan Taya Lagi' may be an example of Indonesian humour.

172 White, op. cit., p. 5.

173 *West Australian*, 10/1/1984.

174 *West Australian, Magazine* 29/9/1990, & 24/6/1989.

Carpenter and Pat Baker from the WA Museum team and by Mick Barron of the Commonwealth Fisheries who was then on leave.

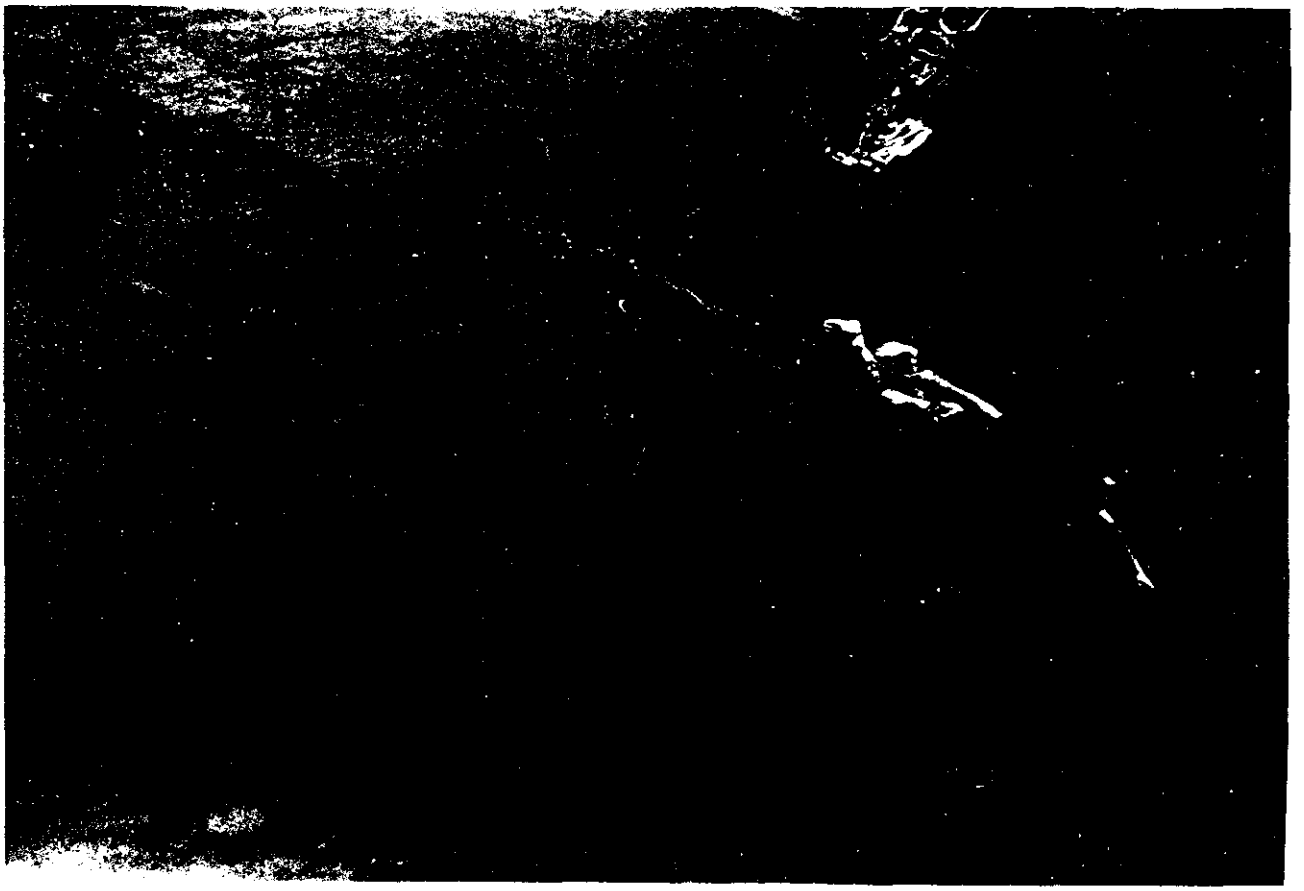
Their diving techniques were the centre of my interest as these had apparently not been previously recorded. I was also in the process of completing a study involving an analysis of 'naked diving' in the Australian pearling industry and was keen to assess the Indonesian's methods in that they were expected to mirror those used in the nineteenth century by Aborigines and 'Malays' in the search for pearls.[175] There methods are best described by quoting our various journal entries and by viewing photographs and film of the contact itself. These now follow.

McCarthy
25 March 1989

Up 0300 writing up the *Ann Millicent* report. Pat and Jon up early. Saw the Indonesian men paddle past in small canoes c.0800 hours. We elected to swim across and study their diving techniques.

In approaching the group they were found dressed only in shorts and loose shirts with painted wooden goggles with glass lenses their only diving aids. There were a number of canoes in the water each with between 4-6 men and all had paddled into the prevailing current up-stream of the mother boats as much as 1-3 kilometres. Having reached what appeared to be a position that enables them to drift back to their mother craft by mid-day and after adjusting their goggles they all go overboard. One, apparently the leader of the group, towed the canoe behind him with a rope loosely looped over his shoulder.

Figure 22 : A leader towing the sampan and searching for good trochus beds.
(Photo Jon Carpenter)



175 McCarthy, M., (1990) *Charles Edward Broadhurst (1826-1905) A Remarkable 19th Century Failure.* Unpublished M.Phil. Thesis, Murdoch University, Chapter 3, Pearling.

The others were spread out from the canoe sometimes over 100 metres, yet all were drifting slowly towards the mother boat at a constant rate. The divers search from the surface for beds of trochus, occasionally capturing the odd sea snake, some of which we later saw hanging from the mother boat booms. The leader appears to monitor the progress of the divers and to give encouragement to them.

When looking for shell beds whilst on the surface, the men maintain a back up head down posture frog kicking and/or using hands to move with the current. When raising their heads for anything more than a breath of air, e.g to talk to their companions they utilize the 'egg beater' kick taught to water polo players in Australia.

When they decide to dive, they slide underwater backwards (feet first), invert and frog kick very gracefully to the bottom with some assistance from their hands and arms.

Figure 23 : An Indonesian diver returning slowly to the surface.
(Photo Jon Carpenter)

The kick appears much like the 'frog kick' swimming style used by competitive and other swimmers engaged in 'Breaststroke' in European societies. The hands pull alternatively and almost languidly, sometimes not at all. They dive for 30+ seconds but not much more than one minute, easily attaining the 25-30 feet (7-10 metres) depth in which they were diving in this instance. Their movement to the seabed using the method described was smooth and fast and allowed adequate time for closer inspection of the seabed. On reflection it is evident that without the aid of fins (flippers) or rocks this is the most efficient diving method with the possible exception of initiating the dive by lifting the feet above the surface of the water as additional gravitational drive towards the seabed. The returns were not good and it is apparent that they would clear the beds over a stay of a few weeks and may be already diving depleted beds. All this was filmed by Pat Baker and Mick Barron. Jon Carpenter took 15 mm colour slides.

Having by now progressed almost a mile from our vessel we then began the long swim back, and the Indonesians continued on to their mother boats in the tide. Looking up we found ourselves accompanied by them and/or others paddling back upstream smoking 'roll your owns' of a thick variety. Apparently they had decided to abandon what appeared to be a poor bed and to come over to our vessel.

Patrick was taken on board one canoe being somewhat tired pushing his camera. Mick, Jon and I swam in behind and arrived at the *Flamingo Bay* to find all the canoes tied up astern complete with their occupants. There followed much exchange of signs and signals which resulted in bartering for shell and Coke, the universal drink, with Graham Thompson off the stern of the *Flamingo Bay*.

Drinks, my hat and shirt, water, items such as face masks and an underwater compass changed hands in exchange for shells and traditional goggles. Patrick paid for his lift with a packet of David Tomlinson's cigarettes. The men then departed for their vessels.

The Film North crew onboard asked me to take them for more filming to another group sighted astern to which I readily agreed. There we found the recipient of one my *Zuytdorp* shirts from the previous day dressed in the shirt and towing his boat with his crew in attendance.

One of his crew flicked a sea snake clear of the water, and in demonstrating his familiarity with them, then held it behind his head grinning mischievously as he swan to our inflatable. We realised he was about to profit from our discomfiture in some manner, but our TV men bravely filmed on. He made to drop the serpent into the boat amidst shouts of undisguised alarm from the occupants. With a laugh he then flicked the snake away only to have it swim savagely with head raised towards him and the boat at remarkable speed, much to the consternation and laughter of all. We then departed leaving them to their work amid friendly waves and much further laughter.

Again the weather for this day was remarkable, flat calm on a low swell with underwater visibility 40-50 feet. How the Indonesians would have fared in poor conditions with bad underwater visibility is a matter of conjecture but considerable interest.

Their simple lifestyle makes a mockery of our gadget-oriented existence and need for a continual food and drink intake. Their humour and friendliness adds weight to the old observation that money and material things do not necessarily add to our happiness. On the other hand, my willingness to part with my shirts, hat etc and other nick-knacks was, I feel, seen by some as patronizing - I hope it was not as it was not intended to be so.

After lunch, a group of Indonesians paddled to *Flamingo Bay* and in indicating that they required medical aid came on board complaining of sinus and ear pain. Bernadette, a trained nurse, looked at them. One blew air out

both of his ears when compensating indicating that both eardrums were perforated and was advised through sign language to stay out of the water for a while. I doubt if he will though.
We then returned back to the *Ann Millicent* wreck. All went well, Jon leading the corrosion study, Pat photographing, Mike assisting. While we were working on the site, three Indonesian fishermen came past walking on the reef after trochus and sea slug which they carried in small baskets. They stopped and watched our activities in bemused acceptance of our strange ways and continued on around the reef, filmed by Pat on video and with colour stills.
We almost lost the 'rubber duck' which returned to pick us up when David, who was driving it, was caught stern on and driven onto the reef whilst loading cameras and gear.
After some difficulty we got her off and swam out to board in safer water.
I then took the last drum of water that remained to be returned back to the Indonesians in darkness and said our goodbyes.
We then departed the island for Port Hedland.

Notes:

(a) The 4 prahus are from Roti and from what I could gather do a 7 week? trip, Roti -Ashmore- Cartier Scott Reef- Ashmore-Roti. They were staying at Cartier due to the lack of breeze. In bartering the most prized objects to them were diving masks and an underwater compass. They also produced a very small map asking for a better one
(b) Cartier Islet is entirely of sand with no vegetation and clearly is almost awash at low water springs. A WWII plane that ditched there was not seen though fragments of aluminium and an iron drop tank or defused bomb was found. A grave-like structure was also seen.

Pat Baker (WA Museum Photographer)
25 March.
Just after arrival Mike had gone off to the Indonesians and came back with nautilus shells and minus a shirt. He and David traded face-masks for wooden goggles. We then motored past all four prahus filming and photographing, Mike giving out shirts, football and tennis ball to boys on board. Trading was something that had not even crossed my mind.
26 March.
8.00 and Indonesian canoes were paddling by with divers in water between *Flamingo Bay* and reef on a smooth sea.
Jon, Mike and Mick snorkelled over to them with me following with wide angle video. Water depth 10 metres. The Indonesians were wearing their wooden goggles and treading water in a straddle legged 'egg-beater' kick. To dive they just seem to duck their heads below the surface then languidly 'frog-kick' their way down. I only saw one get to the bottom-the trepang and trochus here may well be fished out. My video was useful and Mick had some good material on his camera.
By this time the current had taken us far from 'FB' and we began to swim back. Slow progress and I began to worry about making it... so I swam over to one canoe, (they were just beginning to paddle west past our boat) and asked them for a lift, which they gave willingly. At least it gave me a chance to film them in their small craft.

Figure 24 : The divers in their sampans at the stern of *Flamingo Bay*
(Photo Pat Baker)

Gave my rescuers a packet of cigarettes and they were keen to trade.
[After lunch] Indonesians came aboard and had ear problems and an infected finger administered by Bernie... As the *Ann Millicent* site became uncovered many of us went over... to film...look and record. I had thought that I would make a sketch plan, but three Indonesians arrived carrying wicker baskets and collecting sea cucumbers and trochus. Mike said that the priority was recording them...They found only one shell in a quarter of a mile walk.

Jon Carpenter (WA Museum Conservator)

25th.
Dived with Indonesian trochus divers to observe their technique and record on u/w camera. Indonesians paddled upstream of current, and with one retaining hold of their dugout canoe, by line, the others proceeded to dive down-stream. Each wore wooden goggles with separate eyepieces of plain glass. Goggles are shaped to encompass each eye, no sealing material is evident, though goggles are painted to waterproof the wood.
We followed the divers downstream and had a hard swim back to *Flamingo Bay* against the current.
Showed Indonesian divers video of themselves diving while medication was administered by *Flamingo Bay* nurse. Cuts and ear trouble treated. Crews of vessels, elderly men, middle age and down to young boys.
Later returned to *Ann Millicent*...becoming dry we returned to do corrosion measurements and video the site. Noted Indonesians are walking the reef for Trochus and Beche-de-mer, of which there appear few. The Indonesians are intrigued by our activities around the wreck.

Figure 25 : An Indonesian diver with a trochus shell and goggles.
(photo Pat Baker)

These three accounts are useful, along with the film and still photographic record, as some of the few known records of the diving techniques used by Indonesians fishing in a traditional manner.

With regard to the Indonesians diving in a state of ill health, in pain and with their inner ears open to the environment through having burst their eardrums, it should be noted that this was common to any group using 'naked diving' techniques. The following comment about diving in the nineteenth century is relevant in this context.

> [They, the divers] discharge water from their mouths ears and nostrils, and frequently even blood. But this does not hinder them...They will often make from 40 to 50 plunges in one day [176]

Pressure in the ears and other air spaces, notably the sinuses, causes severe pain at depths exceeding around two metres. This requires 'compensation' or the forcing of air through the nasal passages to the inner ear to counteract the acute pain produced by the increased pressure. This is accepted practice in sports diving today, but it was common practice in early diving and with the Indonesians today not to do so and to continue on downwards, despite the pain, until the eardrums were burst. This allowed the ingress of water into the inner ear and released the pressure on the ear drum, thereby easing the pain. It also opened the inner ear to infection. Streeter in his account of pearling life in the late nineteenth century for example, noted that men from the island of Sooloo, following a 'lay off', experienced 'great pain' in the ears which was slightly alleviated by 'oil and laudanum' but once their 'ears were broken', the men did 'fairly well'.[177]

The depths dived and the times spent underwater by the Indonesians at Cartier Island in 1989 i.e. about 30 seconds to depths around 10-15 metres are similar to those recorded in the Ceylon (Sri Lanka) fishery in 1869. Here the 'ordinary period' for each dive was 30 seconds to depths around 12-15 metres. Though dives to around 22 metres and times of around 80 seconds were recorded there, they were considered the 'very utmost' attainable,[178] and add credence to the statement made in the period that 'as a rule the naked diver does not stay underwater more than a minute and a half, or go lower than 75 feet', (23 metres)'.[179]

Streeter also recorded the use of small boats by 'Malay'[180] and Aboriginal divers on the north-west coast of Australia in late nineteenth century. In contrast with the Indonesians who were operating many nautical miles from shelter, they were diving in the cyclone season, in the period between November to March each year. They operated from dinghies containing six to eight divers and often out of sight of land. Each dinghy was under the control of one white man and was part of a fleet of three to six boats operating from a larger vessel. In this respect the techniques are similar as the Indonesians use sampans (canoes) based from a mother boat.

Streeter's observations indicate that in those days the men awoke at dawn and scraped opened and stowed the 'catch' from the previous day. After breakfast, often of an indifferent quality, they dived between seven o'clock in the morning and six at night, according to the state of the tide. The divers went overboard mostly feet first, rarely diving head first, and the white man stood in the stern of the dinghy 'sculling' against the tide and drifting until good beds were found. These were often located up to 10 kilometres from the 'mother boat' to which they had to return at the end of the day. The divers went down in

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176 ibid., p.197. (check)

177 Streeter, E.W., *Pearls and Pearling life*, (Bell and Sons, London, 1886), p 177.

178 Figuier, L., *The Ocean World. Being a Description of the Sea, and its Living Inhabitants*, (Chapman and Hall, London, 1869), p. 356.

179 Davis, R.H., *Deep Diving and Submarine operations. A Manual for Deep Sea divers and Compressed Air Workers*, (Siebe Gorman and Co., London, 1955), The times are also consistent with those produced by good spear-fishermen and women today.

180 'Malay' A term incorrectly used in the nineteenth century to describe any diver or person bought to Australia from the Indonesian Archipelago and 'Straits Settlements'.

groups 'partly for the sake of frightening the sharks but also to more systematically search'. They did not use stones to speed up their descent, nor did they use 'goggles' or 'face masks' of any sort as is the practice of the Indonesians. The Aborigines usually entered the water feet first, turning as they progressed towards the bottom. According to Streeter, a 'fair days work' for a 'naked diver' at this particular stage in this fishery was considered to be the recovery of 10-25 pairs at a general rate of one 'pair' of shells in eight dives. Two to three pairs were frequently bought up in the one dive however.

The comparison between the techniques of the nineteenth century and those recorded today are interesting. The use of small boats operating from a larger vessel, the use of the tide to enable a large amount of 'ground' to be covered with minimal effort and the actual methods used appear similar. The main physical difference appearing to be the use of 'goggles' and canoes or 'sampans' by the Indonesians.

We reluctantly departed their company in the night of 25 March for Port Hedland. Around 9 AM the following morning we saw a Prahu headed for Scott Reef. Two others were seen a short time later.

At this time, a warning was received of a cyclone in the vicinity of 16.5 S., 117° E., moving east at 7 knots measuring 998 mb. in the centre. We were following a low southwards at 9-9.5 knots towards the Tomlinson/Barron site which was located to the south of our position at 19° 18'S., 118°09'E.

While we were to receive only the usual good weather that precedes such cyclones, it appears that our Indonesian friends were less fortunate and received the full force of the gale while sheltering at Ashmore Reef near Cartier Island. It appears that some of their crew were lost and a number of boats sunk.[181]

The dangers of their navigating in these waters without engine power, with insufficient water in the hot months preceding, and just after, the cyclone season cannot be overstated. The tragic deaths of some of the men and boys that we encountered have continued a tradition going back some two hundred years. Whether such regular loss of life needs to continue in the present day and whether some mutually satisfactory arrangement could be made whereby the Indonesians could be allowed to operate in the traditional fishing ground in safety is open to debate. I for one believe it should be so.

The comments made by Howe, (who was not only a pearler in the late eighteenth and early twentieth century but also was once secretary to former Prime Minister, Billy Hughes)[182] that the area was akin to an international fishery are valid today. The comments made in more recent times by informed journalists such as Andre Malan should, in my opinion, be given a wider credence as very important social comment on the inequities of the situation. The submissions made at other levels by scholars such as the anthropologist Crawford and the biologist White deploring the situation and the deaths are also of relevance. In the latter case White suggests searching for a licensing arrangement allowing the Rotinese and others to fish in a traditional fashion with the added safety of engine power. These comments are of significance given the backgrounds of the respective authors and their understanding of the problem.

The well publicised negative opinions of those Australian people who have had no contact with the Indonesians other than as incarcerated foreigners in primitive boats, and who accordingly have no sympathy for their position and plight, are to my mind unacceptable.

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181 Malan, op. cit, and Vail and Russell op. cit.

182 Crawford, op. cit., p.

The Tomlinson/Barron Site, believed to be the *SS Koombana.*

28 March -2 April

As indicated in the introduction, the rationale for the entire voyage was the inspection of a site reported by Mike Barron and David Tomlinson. This was believed to be the SS *Koombana,* a wreck that was lost with large loss of life and which has been the source of much speculation and many searches since the vessel was lost in a cyclone in 1912.

As the site did not prove to be the elusive 4399 register ton, passenger steamer *Koombana,* further historical detail will not be given except to note that it was built of steel, was 340 feet long, 48 feet in breadth with a depth of hold 28 feet. On this evidence alone, its echo sounder, side scan sonar and magnetometer traces are expected, to be substantial.

Flamingo Bay arrived in Port Hedland on 27 March. There an official reception was afforded the combined Flamingo Bay/WA Museum/Port Hedland team by the Mayor and harbour dues were waived in the anticipation of a successful trip. After provisioning and receiving Mr K. H. (Kerry) Thom and Mr Ted Graham of the Port Hedland Region Maritime History Association, Associate Professor John Penrose of the Centre for Marine Science and Technology at Curtin University and their equipment, the vessel then departed for the search area.

On arriving in the area in the early hours of 29 March, a marker buoy was dropped and search with side scan sonar commenced. After losing the GPS 'window,'[183] the search then continued using buoys provided by the Port Hedland group. When the 'window' reopened it was continued with GPS.

It was not until 31 March that the Tomlinson/Barron site was located in 84 metres of water at

19° 18. 44'S.
118° 09. 51'E.

This site was within 500 metres of the buoy laid at the beginning of the search and was in the only area not completely covered at the time. A side scan sonar and echo sounder analysis of the site was attempted and it soon became apparent that though it consisted of two 'high' areas around 8 metres off the sea bed it did not have anywhere near the bulk or continuity of that expected of the SS *Koombana.* It was substantial however and required analysis as it could have been a section of the *Koombana* or alternatively a smaller wreck.

The ROV was deployed and skilfully flown by Graham Thompson in an assessment of the cause of the echo sounder and side scan sonar trace. On this particular inspection the ROV, with Mr Thompson's permission, was fitted with a 90° wide angle lens by WA Museum photographer Pat Baker. The photographic results were outstanding and attested to the quality of the record possible had the lens been available in the case of the inspection of *I 124.*

Much to the disappointment of all onboard, two large fishing nets, complete with foot ropes, bridles, head ropes with floats and cod end, were seen attached to an unknown object which appeared to be quite small dimensions i.e not much greater than 3-5 metres square and about 2 metres above the sea floor.

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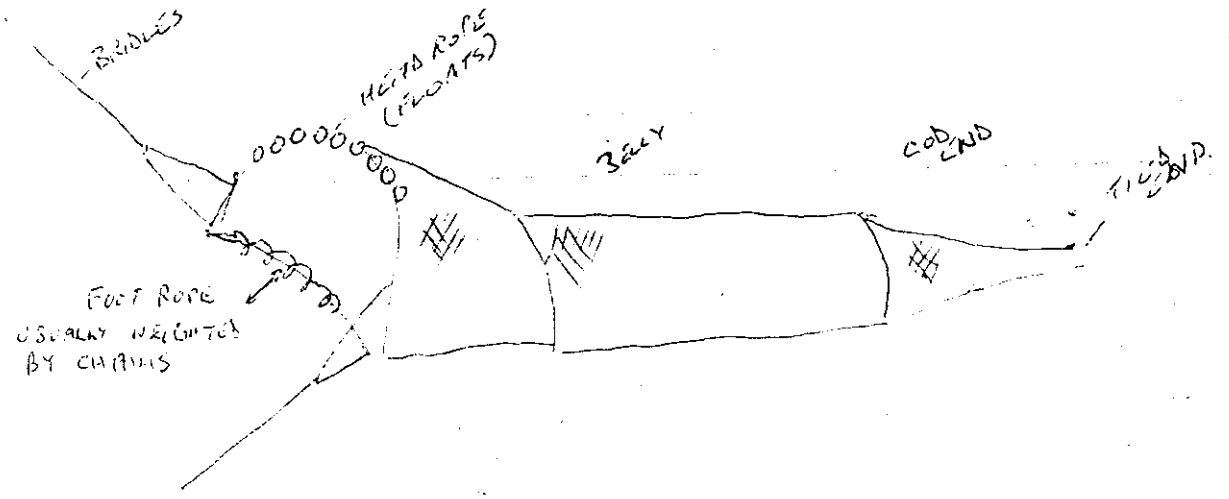
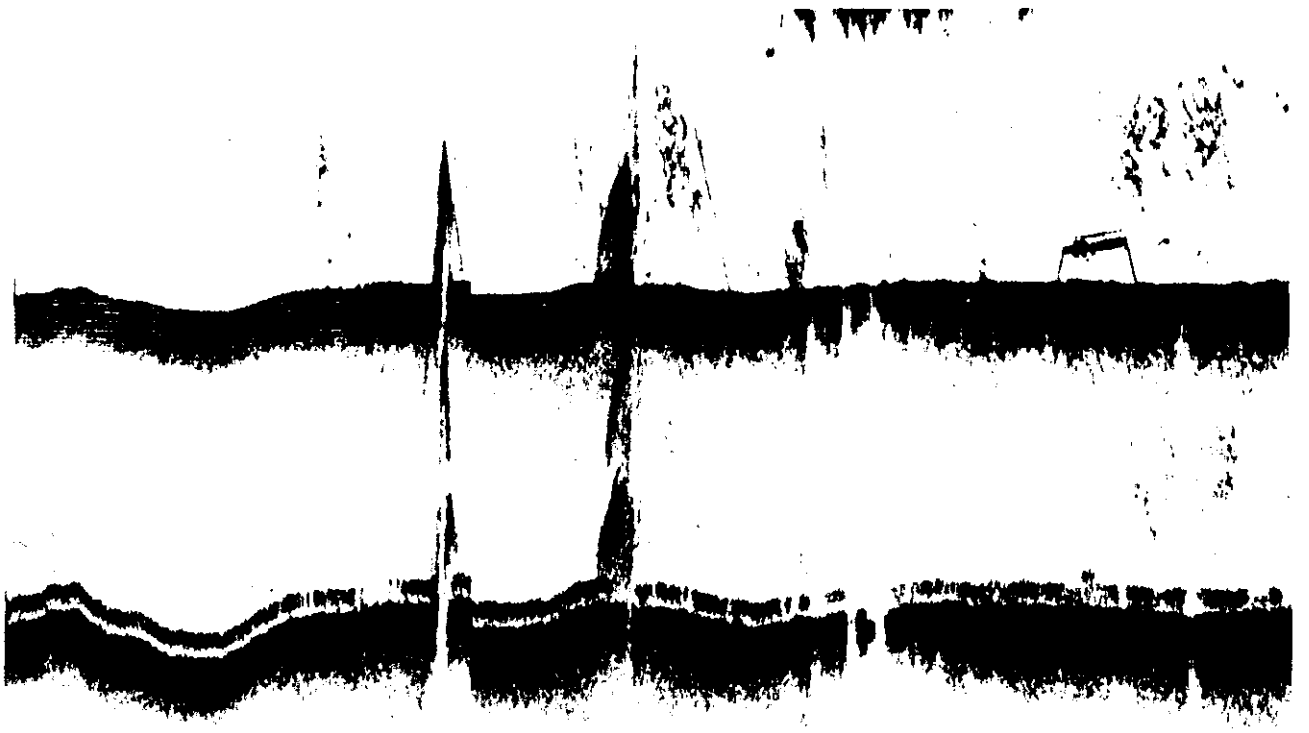
[183] The GPS systems rely on a 'fix' from at least three satellites. At the time of the expedition there was not sufficient satellites in space to provide a 24 hour coverage of all areas of the earth's surface by the required three satellites i.e. the 'window' has been lost. Thus there are times when there are not enough satellites to allow the GPS System to operate and other position fixing systems must be used.

Figure 26 : An Illustration of fishing nets underwater showing how they are suspended in the water column.
(By Graham Thompson)



The floats attached to the nets had caused them to remain suspended in the water column. This combined with another net and the prolific fish life to present quite a striking echo sounder and side-scan sonar target. Though the cause of the snag could not be assessed at the time as it was completely covered, it was clearly not the *Koombana*. The suspicion that it was of a modern origin was reinforced when pictures of a crushed plastic container and a glove were received from the ROV.

Figure 27. The echo sounder trace produced by the suspended nets and associated fish life [184] (Photo Pat Baker)



[184] These original echo sounder traces were not produced until the closing stages of the voyage.

A magnetometer search of the region was undertaken and some anomalies noted nearby. As the side scan sonar search of the area revealed no other visible targets it was concluded that the *Koombana* itself did not lie in the area, though the source of the anomalies found was not known at the time.

Research conducted later, with the assistance of the Department of Mines in Western Australia, showed that *Woodside Poisonnier,* an oil well, was 'dry plugged and abandoned' at 19° 18.34'S., 118° 09.19'E. Though this 'dry plug and abandon' procedure is designed to result in the removal of all artificial projections above the sea bed at the site of an abandoned oil well, my (verbal) advice is that such is not always the case. It also appears that even if the procedure is correctly applied, seabed changes can cause a portion of the old well to again project above the ocean floor and this can prove to be an obstruction to trawling operations.

As the position of *Woodside Poisonnier* varies from the *Flamingo Bay* site by 0.1-0.4 of a nautical mile to the south and to the east respectively i.e at the very most 700 metres, it can be assumed that the two are associated especially when it is noted that the well was abandoned before the advent of accurate position fixing devices such as those onboard *Flamingo Bay*.

The Results of the Flamingo Bay Voyage

Despite the deep disappointment that this last discovery engendered, there were a number of very useful results from the Flamingo Bay Voyage.

From the WA Museum's point of view, the 'package' prepared and the overall sponsorship of the voyage enabled it to inspect, at very little cost, a most promising site off Port Hedland which was believed by various groups to be the SS *Koombana*. As an offshoot of this, the relationships between the Port Hedland Regional Maritime Historical Society, the WA Museum and Flamingo Bay Research Pty. Ltd., were positively enhanced and mutually beneficial lines of communication were opened.

Another useful result was the partial inspection and report on *HIJMS Submarine I 124* which by the time the team embarked on its voyage had become a very controversial issue indeed and of its nature almost destroyed the entire venture.

It is hoped that the *I 124* report that has resulted will prove of use to all concerned in regard to the much publicised 'mercury contamination', the 'two submarine' and other theories. It should also prove a useful document for those wishing to undertake further research on the submarine itself. As a result of the compilation of this report and its May 1990 precursor, the Australian Federal Police, DASETT, the Department of Foreign Affairs and Trade the NT Museum, and the NT Archive will all have a useful document with which to refer further official enquiry and for use in the proper management and protection of the wreck.

One step in that direction has been the revoking of the Gazettal Notice of 19/12/1978 relating to *I 124* and the declaration of a new restricted zone around the wreck centring on 12° 07' 12'' S., 130° 06' 23" E.

As a result of this study, the public and the press will also have a modern compilation of information on the wreck such that their judgements and opinions can be better informed. 'Wild' rumours and unfounded speculation with regard to *I 124* and its contents should now tend to ease. In order that the NT Museum and DASETT may best manage the site, which is outside our area of jurisdiction, the WA Museum's files and all material on *I 124* have been made available 'in toto' to both groups for copying.

Another useful result of the Flamingo Bay Voyage was the inspection of the 'fine iron barque *Ann Millicent* of Liverpool' which, in 1890, was found abandoned but in an almost perfect state on the reefs surrounding Cartier Island. This site like *I 124* is under the care of the Director of the Northern Territory Museum and Art Gallery as the Delegate to the Federal Minister responsible for DASETT and for historic wrecks. The *Ann Millicent* report, film and the associated files which have been copied and sent to the Northern Territory and will now enable the Director of the NT Museum and his staff to build on the information presented here. They will be a good starting point with which to solve the mystery surrounding the circumstances of the wreck and the fate of its crew. The information will also enable the Director to properly manage the site and to decide on its historic status.

A further useful result was the recording and filming of Indonesian divers engaged in trochus shell collecting and Beche-de-mer gathering in the Cartier Island area. The unearthing of Dr Ian Crawford's thesis as a vital link in documenting Indonesian voyages between 1909 and 1968 has been a very important development. The comparisons made between the diving methods used by the Indonesians and those Aborigines and 'Malays' (as the inhabitants of the islands to the north of Australia including Indonesia were then called) in the formative years of the Australian pearling industry helped fill the gaps in my understanding of both those processes.[185]

Another useful result was the lessons learnt in relying on the reports of fishermen and others to the effect that a 'snag', the retrieval of wreckage and other indications such as

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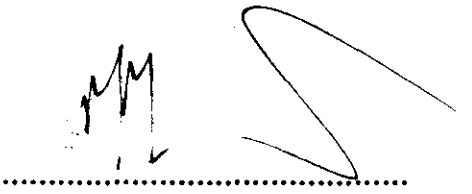
[185] This subject was a major part of my recent thesis on Charles Edward Broadhurst, an early pearler in Western Australia and the man who introduced steam and the 'Hard Hat to the industry in the late 1860's and early 1870's. McCarthy, M., (1990), op. cit.

surface fish life, and 'strong' echo sounder traces are sure signs that a wreck lies in a particular area. In this context, it is now clear that when fishing nets tangle on an underwater obstruction some may remain suspended in the water column producing an enhanced side scan sonar and echo sounder image, adding further credence to claims that a wreck may be the cause. The fish life that then make the structure their home and breeding ground add further to this illusion.

The belief that abandoned oil wells do not project above the seabed and therefore do not present an obstacle to trawlers is, as a result of this study, possibly a tenuous assumption.

Finally, in the investigation of any supposed wreck in open water, it is now clear that the records pertaining to the position of former oil rigs needs to be consulted.[185] Caution must then be exercised in the case of any supposed wrecks in proximity to former rigs and wells.



Mike McCarthy, Dip. P.E., B. Ed., Grad. Dip. Mar. Arc., M. Phil.
7 January 1991

[185] These were supplied by the Department of Mines in Western Australia.

Addendum

In 'The First Submarines' and 'The Submarine since 1919', Preston and Batchelor note that the German UE II design, which was the forerunner to the *I 124*, was much copied. UE II Submarines were given to the Americans, Italians, Japanese and French after WW I. Features of the design then appeared in a variety of forms after WW I, as the German Type IXA, in a number of Japanese submarines, the American *Argonaut,* and in Italian designs. Thus the *I 124* has considerable significance as a representative of a very significant type.[186]

[186] Preston, A., & Batchelor, J., 1974, *The First Submarines, & The Submarine Since 1919*, BBC Publishing, Leeds.

References

Published Works.

Alden, J. (1985) *Japanese Submarine losses in World War II*, in Warship International, Vol. XXII, No.1.

Bagnasco, E. ( ) *Submarines of World War Two.* *

Blair, C., *Silent Victory. The US Submarine War against Japan .**

Brouwer, N.J., (1985), *International Register of Historic Ships.* Anthony Nelson.

Burges, L.C., (1913), *Pioneers of NW Australia's Pastoral and Pearling*, (Constantine and Gardner, Geraldton.

Carpenter, D. and Polmar, N., (1986), *Submarines of the Imperial Japanese Navy*, Conway, NY.

Conways, *All the Worlds Fighting Ships. 1922-1945.**

Creed, D., (1979), *Operations of the Fremantle Submarine Base, 1942-1945*, The Naval Historical Society of Australia, Sydney.

Davis, R.H., (1955), *Deep Diving and Submarine operations. A Manual for Deep Sea divers and Compressed Air Workers*, Siebe Gorman and Co., London.

Department of Defence, (1989), *Australian National Tide Table*, Australian Government Publishing Service, Canberra.

Figuier, L., (1869),*The Ocean World. Being a Description of the Sea, and its Living Inhabitants*, Chapman and Hall, London.

Gill, G. H., (1957), *Royal Australian Navy, 1939-1942*, Canberra War Memorial.

Hawkins, C. W., (1982), *Praus of Indonesia*, Nautical Books, London.

Hiroyuki Agawa, (nd),*The Reluctant Admiral. Yamamoto and the Imperial Navy. Kodansha Internationa*l. Tokyo.

Holmes, W. J. ( ) *Double Edged Secrets. US Naval Intelligence Operations in the Pacific during World War II.**

Horridge, A., (1979), *The Lambo or Prahu Bot : a western ship in an eastern setting*, National Maritime Museum, Maritime Monographs and Reports, No. 39-1979.

Horridge, A., (1986), *Sailing Craft of Indonesia*, OUP.

Keatts, H., and Farr. G., ( ), *Dive into History U-Boats*, American Merchant Marine Press, NY.#

Le Fleming, H. M. ( ), *Warships of World War 1 : 5, Submarines* (British and German), Allen, London.*

Macknight. C.C., (1976), *Voyage to Marege. Macassan Trepangers in Northern Australia*, Melbourne University Press.

Masanori Ito and Roger Pineau, (1962), *The End of the Imperial Japanese Navy*, Weidenfield and Nicolson.

McCarthy, M., (1988), The Excavation of the SS Xantho, in McCarthy, M: (ed) *Iron Ships and Steam Shipwrecks.* Papers from the First Australian Seminar on the Management of Iron Vessels and Steam Shipwrecks. WA Museum.

McMurtrie, F.E., (ed) Janes Fighting Ships, 1943-4, Sampson, Low, Marston, London.

Mochitsura Hashimoto, (1954) *Sunk, the Story of the Japanese Submarine Fleet, 1942-5.* Cassell.

National Advisory Committee on Chemicals of the Australian Environment Council, (1982), Mercury Policy Statement and Background Profile, Australian Government Publishing Service.

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* References marked thus were supplied in excerpt form by the Submarine Warfare Library. Full details have not been obtained.

This reference was supplied in excerpt form by the Department of Foreign Affairs and Trade. Full details have not been obtained.

Navy Department, *Dictionary of American Naval Fighting Ships, Vol 1 1959*, Washington.*
Powell, A., (1985), The Shadow's Edge. *Australia's Northern War*. Melbourne University Press.
Rohwer, J., ( ), *Axis Submarine successes 1939-1945*, Naval Institute Press.*
Rossler, Eberlard, (1981) *The U Boat (The evolution and technical history of German submarines)*. Arms and Armour Press, London.
Shibuya Tatsuwaka, Japanese Monograph No 102. *Submarine Operations December 1941-April 1942*. USN.*
Streeter, E.W., (1886) *Pearls and Pearling life*, Bell and Sons, London.
Taylor, J. C. (1970), *German Warships of World War I*, DoubleDay, NY.
Watts, A. J., and Gordon, B. G., ( ), *The Imperial Japanese Navy*, Double Day, NY.*

Archival Material.

CO USS Edsall to C. in C. US Asiatic Fleet, US Asiatic Fleet, Destroyer Division 57, USS Edsall (DD 219) 31/1/1942, *& Commander Destroyer Squadron 29 to Commander US Naval Forces South West Pacific*, 10/2/1942, Examination of *I 124*, 20 January 1942, *Action Report, USS Holland*, supplied by Flamingo Bay Research. (Note the cover of this file is dated 5/10/1965. The identification of the *I124* was not known in 1942).
Commonwealth Archives Melbourne, file 1932/3/51 *Sinking of Submarine I124*. Including reports from HMA ships *Deloraine, Lithgow, Katoomba*, US ships *Edsall, Alden, Holland*, OIC HMA Anti Submarine school, messages and other relevant information. Note that the submarine was not identified in 1942 and that the name *I 124* was not established until later.
Director of Operations, *Minute Paper re Salvage of Warships. HMAS Voyager off Betano, Timor. Japanese Submarine off Darwin.* 8/2/1972. Copy on WA Museum *I 124* file.
Gregory, J. W., C.O. USS Holland to C in C Asiatic Fleet, 1/2/1942 'Sunken Enemy Submarine - investigation by divers and to NOIC Darwin, 'Diving Operations- Report of.' Copy on Wa Museum, I *124* File.
RACAL Survey, Daily Log: *Japanese Submarine Location Survey. 22/3/1989*, Copy on File 3/89/1 WA Maritime Museum, Dept of Maritime Archaeology.
Sholl to Col. Sec., CSR, 581/126 16/2/1866, Battye Library, WA.
Sholl, R. J., to Col. Sec., CSR 581/126 16/2/1866, BL, and *GRO* of 20/5/1865 appearing in the *Inquirer* of 26/7/1865 and the *Exploration Diaries, Vol 6, 1865-1871*, pp. 26-27, Battye Library, WA. *Notes and Reminiscences of Mrs John McManus*, in McCarthy, M., op. cit., p.
Wiley, H. V., Cmdr Destroyer Squadron 29 to Cmdr. US Naval Forces South West Pacific, 10/2/1942. FF 6-8 A16-3, supplied by Flamingo Bay Research.

Maps and Charts.

AUS 722, Australia, North Coast. Cape Hotham to Cape Fourcroy.
BA 1047, Australia North West Coast, Cape Fourcroy to Cape Leveque.
AUS 319, Australia north West Coast, Penguin shoal to Browse Island.

Newspapers

Australasian Post.
Herald.
Northern Territory News.
The Age.
The Sun.
West Australian.

Periodicals

MacLeod, I.D., (1987) *Conservation of Corroded Iron Artefacts-new methods for on-site preservation*, IJNA 16.1.

Serventy, D. L., 1952, Indonesian Fishing Activity in Australian Seas in the *Australian Geographer*, Vol VI, no 1 June 1952.

Vail, L., And Russell, B., (1989-90) Indonesian Fishermen of Australia's North-West, in *Australian Natural History*, Vol 23, No. 3.

Unpublished Theses and reports.

Crawford, I. M., (1969), *Late Prehistoric Changes in Aboriginal Cultures in Kimberley, Western Australia*. Unpublished Ph. D. thesis.

Anon., *History*, an un-provenanced contemporary document relating to the early attempts to salvage *I 124*, copy of which is in the Flamingo Bay Research Pty Ltd archives and on AFP *I 124* file.

McCarthy, M., (1990) *Charles Edward Broadhurst (1826-1905) A Remarkable 19th Century Failure*. Unpublished M.Phil. Thesis, Murdoch University.

White, T., F., (ND) A Report on Indonesian Fishing Excursions in North West Australia. In *A Submission to reduce the number of incursions into Australian Waters by Indonesian fishermen*. Prepared by the M. G. Kailis Group of Companies.

I 124 Appendices

Appendix 1
Newcomb's Assessment of the engagements in which I 124 was sunk.

Appendix 2
Dive Reports

USS HOLLAND
Harold BAXTERS REPORTS
SUBSEA SERVICES
HMAS CURLEW

SECRET

Royal Australian Navy.

From The Officer-in-Charge, H.M.A. Anti-Submarine School.

Date 16th. February, 1942. *Reference No.* 200/3/1

To The Secretary to the Naval Board, Navy Office, MELBOURNE.

Subject OPERATIONS AGAINST SUBMARINES.

Submitted for the information of the Naval Board with reference to N.O.L. 07833 of 6th. February, 1942 that the information contained in the included reports has been sifted and analysed as far as possible, but insufficient data is available for complete analysis.

2. I am of the opinion that it is probable that only 2 submarines were present and that one of these was almost certainly destroyed and that it is highly probable that a second was also sunk.

3. There appear to have been 6 series of attacks as follows:-

Target (a) Attacked by "DELORAINE" at 1535/20/1

Target (b) Attacked by "DELORAINE" at 1430/20/1

The reports do not make it clear as to whether it was Target (a) or (b) which was subsequently attacked by "LITHGOW" at 1710, followed by "KATOOMBA" byt probably it was (b).

Target (c) Attacked by U.S.S. "EDSALL" at 0749/21/1.

Target (d) Attacked by U.S.S. "ALDEN" at 0900/21/1

Target (e) Attacked by "KATOOMBA" at 0965/21/1 and later by "DELORAINE".

Target (f) Attacked by "KATOOMBA" at 1308/21/1.

4. Insufficient detail in reports and lack of accurate fixes make a complete picture of what happened on 20th. and 21st. January difficult to portray, but it is considered that the following deductions are reasonably sound.

(i) Target (a) This was obviously a submarine as it was sighted by "DELORAINE" at 1349/20/1. There is little doubt that this submarine was not destroyed by "DELORAINE" but as indicated in para 3 it may, after having been crippled by "DELORAINE", have been attacked and sunk by "LITHGOW" and "KATOOMBA". The credit for the 'kill' must however go to "DELORAINE".

(ii) Target (b) I am of the opinion that this submarine is identical with that of Target (e). There is no evidence of the aircraft which reported the position of this submarine having sighted anything other than oil. It would therefore seem reasonable to surmise that this submarine was the one attacked by "DELORAINE" at 1440/20/1, that she was damaged and oil tanks were leaking, that she crept away to the North East and some hours later the trace of oil was spotted by aircraft. Without further evidence it is not considered that a 'kill' can be claimed though from "KATOOMBA's" report (Enclosure No. (ii) to N.T. 0579/1 of 29th. January, pp 3 second para. the destruction of this submarine is considered very probable.

(iii) with reference.....

(iii) With reference to Target (c) I am of the opinion that this was a 'non-sub - and that the increase of speed by U.S.S. "EDSALL" at 0743 to 15 knots gave rise to the Hydrophone Effect which was, and can to inexperienced personnel, be easily mistaken for enemy Hydrophone Effect.

(iv) Target (d). There is no evidence to formulate an opinion as to whether this target was, 'Sub' or 'Non-Sub'. I am inclined to the latter view.

(v) Target (e) See para 4 (2).

(vi) This target was, I consider, 'Non-Sub'. The D.C. pattern produced little oil apparently - and I am of the opinion that this was only the 'scum' normally produced by D.C. explosions.

5. I consider therefore that if the sinking of Target (a) is substantiated the credit must be given wholly to "DELORAINE".

If the sinking of Target (b) can be substantiated, the 'kill' must be given to "KATOOMBA" though the initial cause of her ~~of her~~ presence being made known to "KATOOMBA" must be traced back to "DELORAINE".

6. Whilst the following comment has not been requested it is submitted that the A/S Operations of H.M.A. Ships "DELORAINE" "KATOOMBA" and "LITHGOW", especially the former, have shown a very satisfactory degree of efficiency, observing that no instructional practice has been available on actual submarines, and that in turn this efficiency reflects considerable credit on Lieutenant H.S. Middleton R.A.N.V.R. and C.P.O. W.C. Beer R.N. of H.M.A. A/S School who have been largely instrumental in the A/S Instruction of the Commanding Officers, 1st. Lieutenants and A/S C.O's respectively of the above ships.

A/COMMANDER R.N.

IN REPLY
REFER TO:

U. S. S. HOLLAND

DECLASSIFIED

10-bh

~~C-O-N-F-I-D-E-N-T-I-A-L~~ SECRET

February 1, 1942.

A33/S94

Serial 003

From: The Commanding Officer.
To : Commander in Chief, Asiatic Fleet.
Via : Commander Submarines, Asiatic Fleet.

Subject: Sunken Enemy Submarine - investigation by divers.

1. At the request of the Naval Officer Commanding, Darwin, a HOLLAND diving party verified the sinking of an enemy submarine off Port Darwin. The party was in charge of Lieutenant Commander H.E. HAWES, U.S. Navy; H.M.A.S. KOOKABURRA (Net Tender) was diving tender and our party landed on the deck of the submarine January 26, 1942.

2. The following items of information resulting from these diving operations are of interest. I have not reported this information to the Office of Naval Intelligence.

(a) The submarine lies upright in 25 fathoms on sandy bottom, there being a "furrow" astern of her where she evidently struck bottom. Little oil and no debris was seen when she was depth-charged and during diving operations the air bubbles arising were very small and there were only occasional oil bubbles.

(b) Divers walked on her deck from aft to about fifteen feet forward of the conning tower, along the starboard side.

(c) No gun was seen either forward or aft.

(d) The conning tower structure was reported to be about the size of those on our submarines on this station; the deck extends aft about 80 feet from the conning tower; there are three hatches abaft the conning tower spaced about 20 feet apart; the hatches are about 24" above the deck, the two after ones having streamlined fairwaters and appearing to be about 24" hatches but the one near the conning tower is not faired and is about 30" diameter.

(e) At the starboard side of the conning tower there is a 24" hatch and outboard of that is a well in the deck extending for the length of the conning tower and bridge structure. There is no door in that side of the structure but a handhole cover was swung open displaying valves which may be the salvage air connections.

(f) There is no radio antenna forward; the after antenna extends from the bridge structure to stanchions which are just forward of the after hatch

IN REPLY
REFER TO:

U. S. S. HOLLAND

10-bh

C-O-N-F-I-D-E-N-T-I-A-L

February 1, 1942.

AS3/394

Serial 013

Subject: Sunken Enemy Submarine - investigation by divers.

- -

(g) The superstructure sides are not vertical but are rounded from the hull to the deck. The sides of the bridge structure are vertical.

(h) Of the hatches abaft the conning tower, the forward one was wide open and its dogs beat; the gasket of the next hatch was bulged out and that of the after hatch was blown out - a sample of this was brought to the surface. There was no spider type quick-closing device.

(i) This gasket is of new white rubber, recently installed. Its cross-section is 9/16" wide and 9/16" high, rounded at the top. It taper at the bottom indicates that the retaining searfing is only about 3/16" deep. The knife-edge marks thereon show that the bearing surface of the gasket on the knife edge is only ¼" wide. Compated with our large square-cross sectioned gaskets this appears to be a very flimsy installation and a source of great weakness. It may be the result of the conserving rubber?

3. Because of the few air and oil bubbles rising from the submarine it is believed that he hull is intact and that she sunk from the water taken through the hatches. At each hatch there are two pad eyes and an air connection. The hatches could probably be made tight with lead gaskets and a strong-arm secured to the pad-eyes. Salvage is believed possible if suitable equipment were made available.

4. Attempts at further investigative diving were made on the two succeeding days but conditions were not favorable. Currents will be too strong until the next Neap tides about February 9th. The KOOKABURRA had no air compressor. HOLLAND's portable bank of air flasks were used and an unsatisfactory gasoline air compressor was borrowed from the Australian Army Command. Using the PIGEON the submarine might be blown light enough to be lifted and moved to shallow water, taking advantage of the large rise and fall of tide.

J.W. GREGORY.

OCCUPATION: SALVAGE CONTRACTOR
AGE: 34 YEARS

S T A T E S :

I am 34 years of age and have lived in Darwin for fourteen years. I went to Darwin in the Airforce in 1958. I left the Airforce in 1962 and became a professional diver in 1964.

When I arrived in Darwin Japanese Salvage Contractors were cleaning up various wrecks which had been sunk off Darwin in 1941-42. I heard talk about a Japanese submarine which the Salvage Contractors were looking for but could not find and I became interested in searching for it.

I have been reading Naval records and doing other research about likely places in the area where the submarine might be for the whole of the eight years I have been diving. I spent a great deal of time and money in fruitless searches for the submarine and finally became convinced that it was somewhere in the Clarence Strait between Bathurst Island and Darwin.

I enlisted the aid of a friend who is the skipper of a Prawn Trawler who had good echo sounding equipment and on the 15th November, 1972 we made what we believed to be a firm contact with the submarine. We made two dives in a cage because there were many sharks in the area. On the second dive, just on dusk, another diver and I discovered the submarine. We left the cage and swam to the Conning Tower. There were many sharks around and our emergency air supply had failed so we placed bouys over the submarine and waited until the next morning.

We inspected the submarine at first light the next morning and discovered one open hatch. Inside the hatch were the bones of a Japanese crewman who had apparently tried to escape; there was escape apparatus in the form of oxygen bottles and harness lying on the deck. There was a small hole through the lower half of the Conning Tower which seemed to have been made by a depth charge. We were unable to gain access to the submarine due to the hatch opening being made for Japanese seamen and being too small for us. I am 6ft 1 inch tall and weigh 13 stone.

I have inspected the submarine five times altogether. There is a 10 ft. shark which is always in the Conning Tower.

The Conning Tower also contains a great deal of pearl shell. The submarine is surrounded by sharks, man eating gropers and sea snakes which seem to make it their home.

We originally estimated the length of the submarine at 300 ft., approximately 25 ft. high and 15 ft. wide. It has light armament on the deck consisting of 5.5 gun and what appears to be some machine guns. The torpedo tubes were open and appeared to have been fired shortly prior to the submarine being sunk. Our research leads us to the firm conclusion that the submarine was the I.124 which was sunk by a depth charge attack by U.S. Edsall and Deloraine in McLaren Strait on the 20th January, 1942. Attached hereto is a page describing it from the book "Imperial Japanese Navy" written by A.J. Watts and B.G. Gordon published by McDonald & Co. Publishers Limited, 49 Poland Street,London W.1 and printed in Great Britian by A. Wheaton Pty. Ltd.

Sounding equipment used on the hull of the submarine leads us to believe that half of the submarine is still water tight and the other half filled with water. The submarine should contain the skeletons of a crew of approximately 85, records, a safe and valuable war relics. The salvage value of the scrape material would be approximately $1.5 million and it is possible that the ship also contains Mercury which was used for ballast which would be worth $1 million. It is believed that apart from its value as scrape the submarine might be a valuable war relic for the Japanese or U.S. Governments or private museum.

Only four of these submarines were ever built and this is the only one recovered. Of the other three one was surrended and scraped in 1946 and the other two were sunk in deep water in 1942 and 1945 respectively.

I have recently entered into a contract with a Company in the New Hebrides to raise the submarine.

.....

HAROLD BAXTER

SUBMARINES
(SENSUI-KAN)

I 121 TYPE:

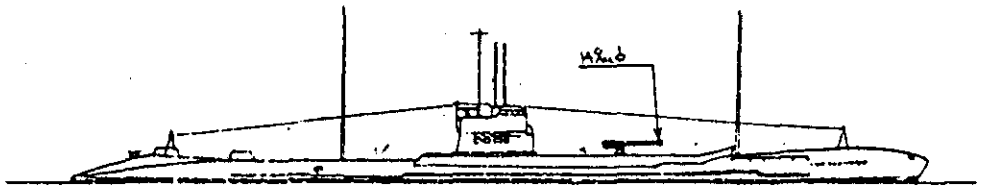
I 121, *122

MINE LAYER TYPE.

LoA 85M.20
B 7.50
d 4.31
DISPT. 1,163 NORMAL ~~1,468~~ TONS
(1,142 STAND'D)
SPEED 14.5/17 KNOTS

ENGINES 2 DIESELS
S.H.P. 2,400
RADIUS 10,500-8/~~10~~-45 MILES-KNOTS.

ARMAMENTS
- 1 14cm.6 GUN
- 4 53cm T.T. (BOW) WITH 12 TORPEDOES
- 42 MINES



NOTES: THEY ARE THE ONLY MINE-LAYING SUBMARINES IN THE JAPANESE NAVY. THEIR DESIGN WAS MODIFIED FROM THE GERMAN MINE LAYING SUBMARINE OF THE UE II TYPE, OF WHICH ONE BOAT (U 125) WAS DELIVERED TO THE JAPANESE NAVY BY THE VERSAILLE CONFERENCE.
4 BOATS OF THIS TYPE (I 21 ~ 24) WERE BUILT BY KAWASAKI, COMPLETED BETWEEN 31/3/'19 ~ 10/12/'20.
THEY WERE RENAMED AS I 121 ~ 124 IN 1939.
THEY TOOK PART IN THE OPERATIONS AT THE FIRST PERIOD OF THIS WAR, BUT SINCE 1942 ~ 43 THEY WERE USED AS TRAINING BOATS IN THE INLAND SEA.

I 121 (Ex. I 21) AT MAIZURU AT THE END OF WAR.
* 122 (Ex. 22) MINED & SUNK NEAR NOTO PENINSULA, 1°/6/'45. REMOVED FROM LIST, 15/9/'45.

WAR LOSSES:
I 123 (Ex. 23) SUNK IN SOLOMON WATERS, AUG. ~ SEPT. '42.
I 124 (Ex. 24) " NEAR PORT DARWIN, JAN. '42.

P.O. BOX 322,
SAIRNSDALE, 3875

Telephone:
(051) 56 6559

SUB-SEA SERVICES PTY. LTD.

UNDERWATER CONTRACTORS AND ENGINEERS

8th March, 1973.

Garrick Gray & Co,,
10th Floor,
570 Bourke Street,
MELBOURNE, VIC. 3000.

Dear Sirs,

PROJECT: SUBMARINE HULL INSPECTION

I wish to advise the following details re Hull Inspection of your Submarine off Darwin.

DIVER: STANDBY:

DEPTH: 160'

L.S. 11.11
A.B. 11.13
L.B. 11.25
A.S. 11.36

VISIBILITY: 30' +

Net Cutter is 5' high. Starboard side elevators are O.K. Hatch is at a angle of 25^{0} and Cannon is apt of hatch but forrard of conning tower. There are two holes, one in the bow and one man made. Diver left the wreck to clear hose and owing to current could not get back to wreck.

DIVER: STANDBY:

L.S. 15.53
A.B. 15.55
L.B. 16.30

There is a Plate missing on deck. Behind this there are two open hatches, one has a door, the other has not. There is no visible damage to Port side Bow and no damage around gun emplacement. There is an open hatch on port side near gun emplacement, and blown hatch apt of

.....2/

conning tower and minor damage to hatchway. On port side, behind gun, grating is missing from the deck. Behind gun on port side there is no visible gun damage. Forrard of conning tower is an open hole. Port side of conning tower is a bad hole. Port and starboard lights are intact. 40' astern of conning tower on port side is an open hatch badly overgrown. On port side 4' from stern is round hole 1½" in diameter.

INSPECTION OF SUBMARINE

DIVER: STANDBY:

DEPTH: 160'

L.S. 0903
A.B. 0904
L.B. 0905
A.S. 0806

HOSE BLEW - DIVER BROUGHT TO SURFACE

DIVER:

L.S. 0922
A.B. 0934
A.S. 0947

Found mortor bomb at conning tower.
Vessel has list of approximately 30^{0} to starboard. Under side of hull is exposed from rear to well forrard past propellor shafts. Propellors are intact. Apt of conning tower is rack of depth charges or mines. There is no visible damage to the hull.

There is no visible damage to hull other than a hole in conning tower and open hatches. All open hatches have the dogs opened on them with the exception of the stern hatch, which appears to be twisted from an explosion. No salvage valves were located owing to the amount of growth on the hull and the absence of drawings. As you will realise these valves would have to be covered and a major search would have to be carried out and even then, without a drawing or approximate location of the valves, they would be difficult to find. My opinion is that the vessel can be salvaged intact but the operation would require a well equipped barge with several compressors and perhaps a cox gun. The cost, as you will realise, is difficult to estimate but I would put it in the vicinity of $50,000 to $75,000 and the best time to commence this would be after the Cyclone season had finished. We do not know for sure whether the torpedo tubes are open or closed, as we were not asked to check for this, just for damage to the hull.

.....2/

Near the bow there is a towing hole still intact, so the vessel after being raised, should be able to be towed to whatever destination is required.

Scrap value of the vessel would be difficult to estimate but most of the deck fittings would be non-ferreous metal and if it is loaded with mercury, the figure to salvage the vessel would be paltry in comparison to the value of the mercury. The other alternative would be to approach the Japanese Government on the value of the vessel as a war memorial, but I feel this last approach, should be made with caution, as they could decide to have the vessel made a war grave, which would leave everyone out in the cold. I feel you will be better able to evaluate the situation after seing Henri Bource's photographs.

Yours faithfully,
SUB-SEA SERVICES PTY. LIMITED.

P. J. Washington

P.J. WASHINGTON, M.D.
Managing Director.

DEPARTMENT OF DEFENCE
(NAVY OFFICE)

RUSSELL OFFICES
CANBERRA, A.C.T. 2600

N84/16303

IN REPLY QUOTE:

07 March 1985

The Secretary
Department of Arts, Heritage
and Environment
G.P.O. Box 1252
CANBERRA ACT 2601

Attention: Mrs J. Amess 14/3/85

HISTORIC SHIPWRECK - JAPANESE SUBMARINE I-124

References:
A. Navy Office letter N84/16303 dated 21 May 1984

B. Your letter 79/2783 dated 16 August 1984

C. Your letter 79/2783 dated 15 October 1984

1. At Reference A permission was sought for a Navy diving team from HMAS CURLEW to dive on the wreck of the Japanese submarine I-124 off Darwin. This request was made at the behest of the Naval Officer Commanding Northern Australia who reported local concern over unsubstantiated reports that the wreck had a number of unexploded mines on deck. You advised your conditions relating to the dive at Reference B and subsequently issued a permit at Reference C.

2. A total of seven dives by divers from HMAS CURLEW was made on the wreck on 5 and 6 November 1984. The wreck lies stem to stern, North to South in approximately 45 metres of water. Mine carrying rails are visible from the stern to protrusions aft of the conning tower. Two of these protrusions are hatches, one shut and one fully open. The identity and function of the other two protrusions could not be determined.

3. The after section of the conning tower is detached from the main structure for a distance of about one metre and it is now littered across the starboard side of the wreck (see diagram at Annex A). This damage is consistent with Mr Baxter's claim in the Australasian Post on 12 March 1981. An estimated 75% of the conning tower remains attached to the hull upright and with aerials intact. The

direction finding aerial is clearly visible as can be seen in the photographs at Annex B. There are no extraneous objects visible forward of the conning tower to the bow except for the 5.5 inch gun which is in good condition with the barrel trained level fore and aft.

4. Growth on the hull casing is prevalent everywhere and this made identification of many objects difficult. However, no minelike objects or explosives were found on or in the vicinity of the wreck to indicate that it is a danger to shipping. Further, the hull appears sound with no evidence of damage that originally sank the submarine. The only apparent damage is to the conning tower.

R. PARTINGTON
Captain, RAN
Director of Naval Operations

Annexes:
A. I-124 Diagrams
B. I-124 Photographs

ROYAL AUSTRALIAN NAVY

TELEPHONE 985 4600

IN REPLY QUOTE 5/5/14

HMAS CURLEW
at Sea.
03 December 1984.

Flag Officer Commanding
HER AUSTRALIAN FLEET

For Information:

Commander
AUSTRALIAN MINEWARFARE AND PATROL BOAT FORCES

SURVEY OF JAPANESE SUBMARINE I-124.

References: A. Home Affairs and Environment letter 79/2783 of 16 AUG 84
B. COMAUSFLT LAA/LOE/EAE 310817Z OCT 84.

1. During the period 05-08 November 1984 HMAS CURLEW located the World War 2 Japanese submarine I-124 in the Beagle Gulf and carried out an external hull survey of the vessel in order to determine the presence of mines or explosives in accordance with reference B.

Location

2. On 05 November with data from HMAS COOK that the location of the wreck was 300 metres South West of the charted position CURLEW departed landfall at Cape Fourcory, Bathurst Island and layed a danbuoy datum by dead reckoning. Some minor problems were experienced fitting the soft dome prior to conducting a sonar search for the wreck. These where however overcome and after 15 minutes of hunting a contact fitting the description of the I-124 was located and dived on. At 1830 the diver returned to the surface indicating he had shackled onto the submarine with the datum marker and that it appeared to be level on the seabed.

Surveys

3. Owing to the substantial tidal range, currents and as yet inaccurate depth of the hull the initial and subsequent two dives were carried out on SCUBA (MIX) equipment using 32½/67½ Nitrox gas. All dives other than the initial confirming dive were conducted using paired swimmers. This provided greater diver safety as approximately 50% of dives recorded little or no lifeline signal response in the medium to high flowing currents.

4. A total of seven dives were made to the submarine, three using SCUBA (NIX) and four using SCUBA (AIR). Three dives were aborted due to excessive currents.

Data

5. As indicated at Annex A the hull lies stem to stern, North to South in approximately 45 metres of water. Approximate measurements are as indicated at Annex A. Mine carrying rails were visible from the vicinity of the stern to the protrusions aft of the Conning Tower. Two of these protrusions are clearly hatches, one closed and the other fully open. The identity and function of the other two protrusions could not be determined.

6. The after section of the Conning Tower for a distance of one metre has been torn from the main Conning Tower structure and is now littered across the deck on the starboard side as shown at diagram one Annex A. An estimated 75% of the structure remains upright with aerials intact. The Direction Finding aerial is clearly visible as shown at Annex B photographs. Forward of the Conning Tower to the bow no extraneous objects are visible apart from the 5.5 inch gun. This appeared to be in excellent condition with the barrel level.

7. Growth on the hull casing was prevalent everywhere and made identification of many objects difficult, however, no minelike objects were found on or in the vicinity of I-124. No explosives were found in the area of the ruptured Conning Tower which may have accounted for it's present state.

Conclusions

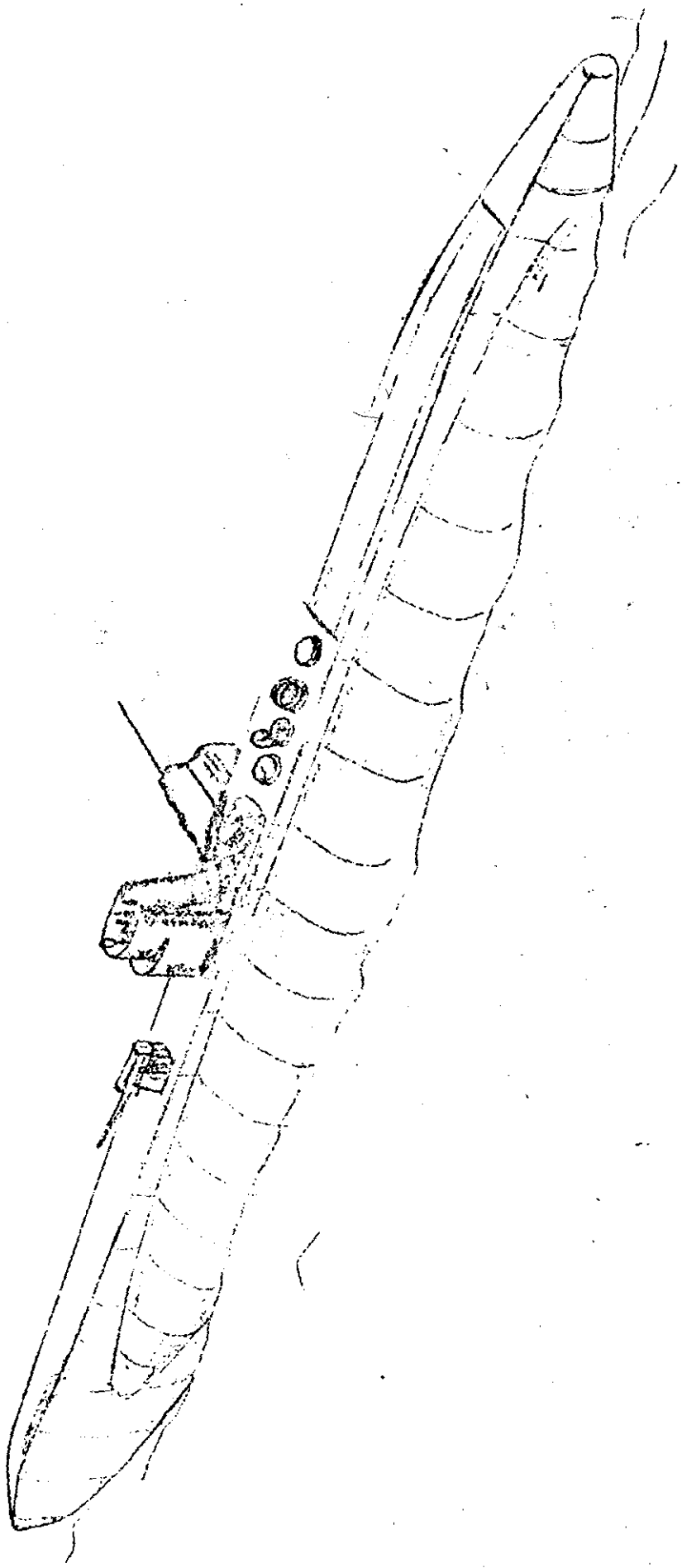
8. No evidence was gained as to the damage that originally sank the I-124. The Conning Tower's present state may indicate damage by depth charges, as considerable force must have been used to separate the structure. The hull of the submarine appears to be in good condition for salvage, however a much more detailed survey would be required should this ever be attempted. No explosives were found to indicate that the wreck is a danger to shipping.

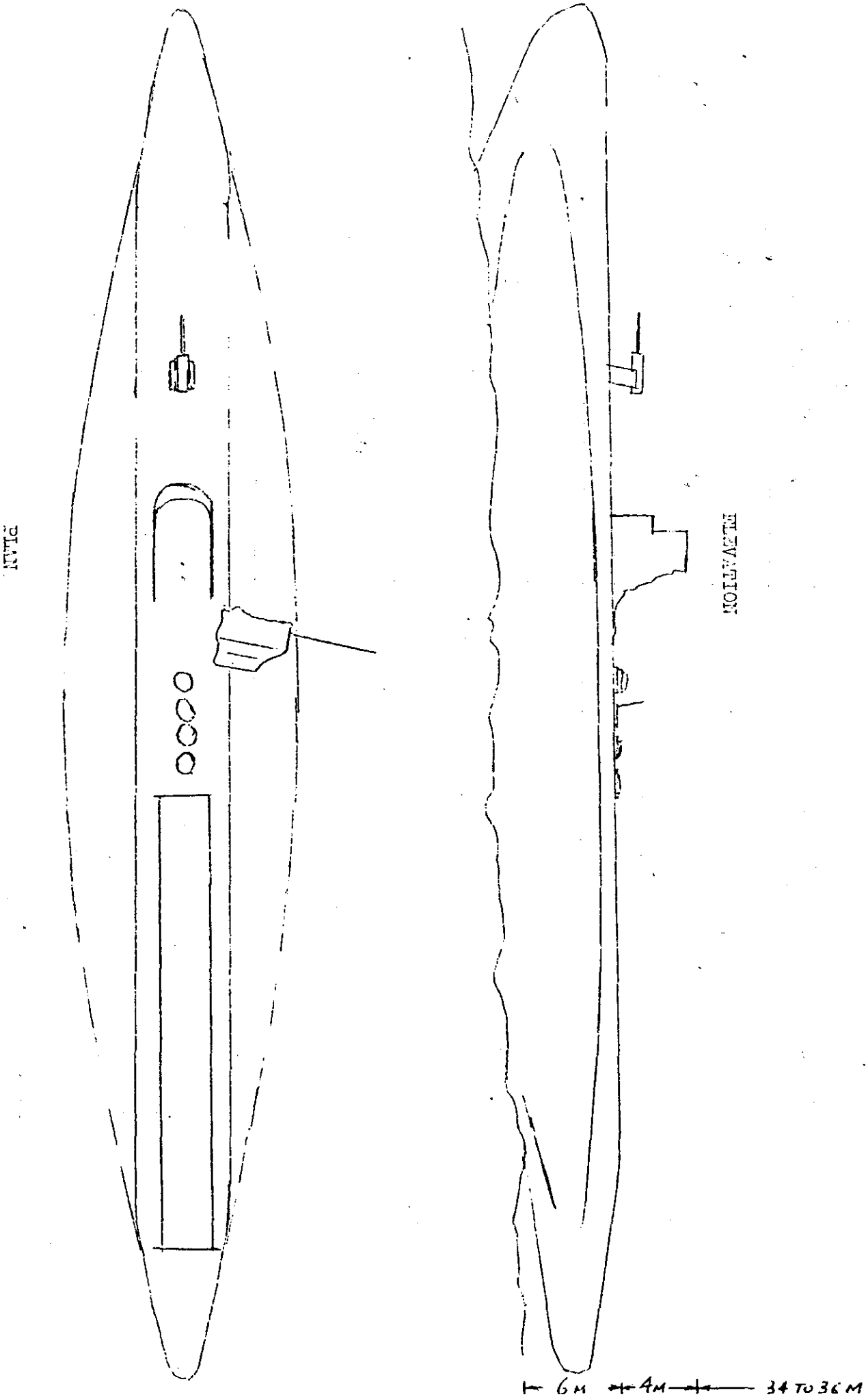
9. Although the position of the ship when anchored in the vicinity of the submarine could not be fixed due to the range of the nearest point of land, dead reckoning of the position of the datum daily indicated it's position was approximately 4 cables East of the charted position.

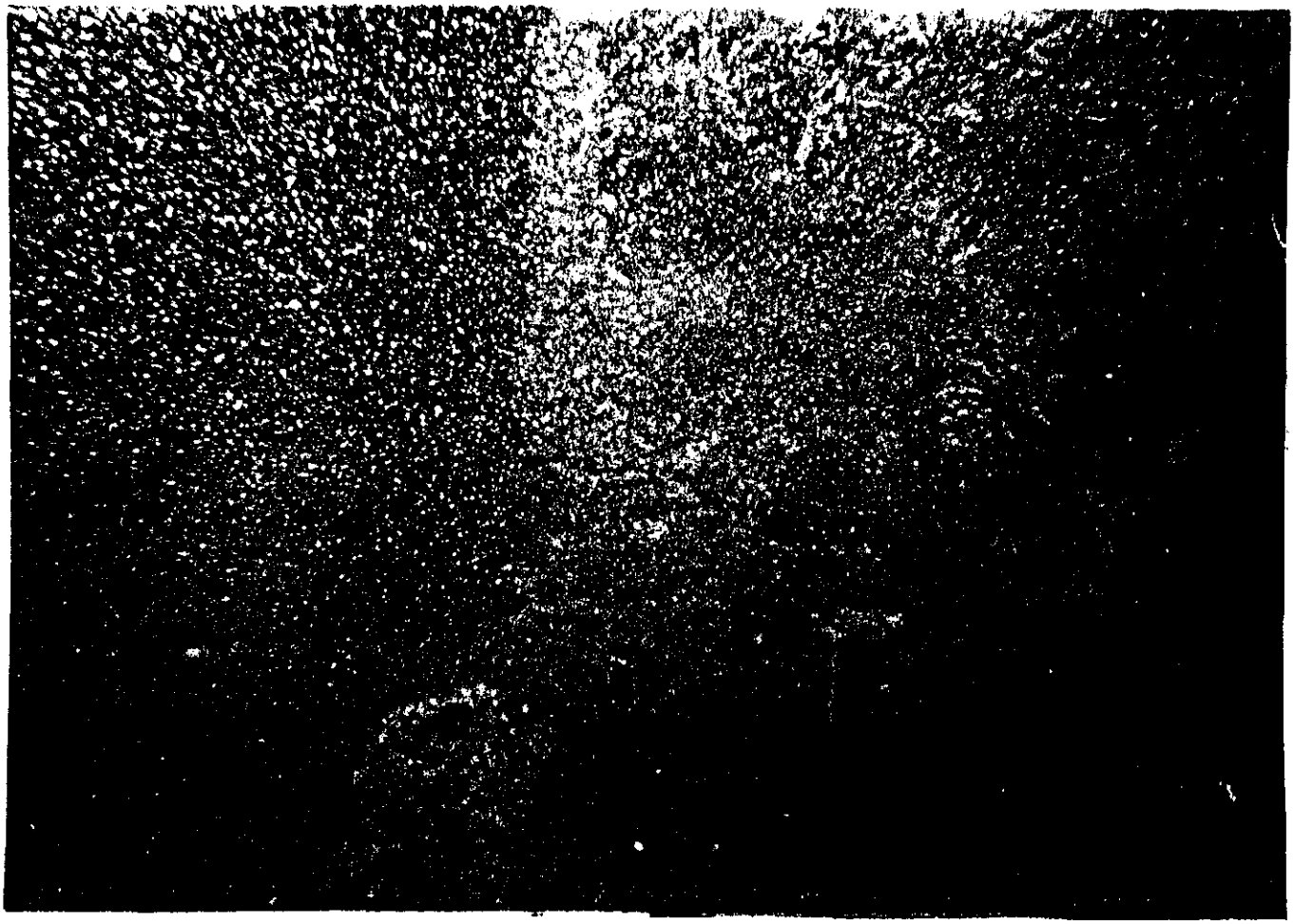
(RH CRANE)
Lieutenant Commander RAN
Commanding Officer

Annexes: A. Submarine I-124 diagrams.
B. Submarine I-124 photographs.

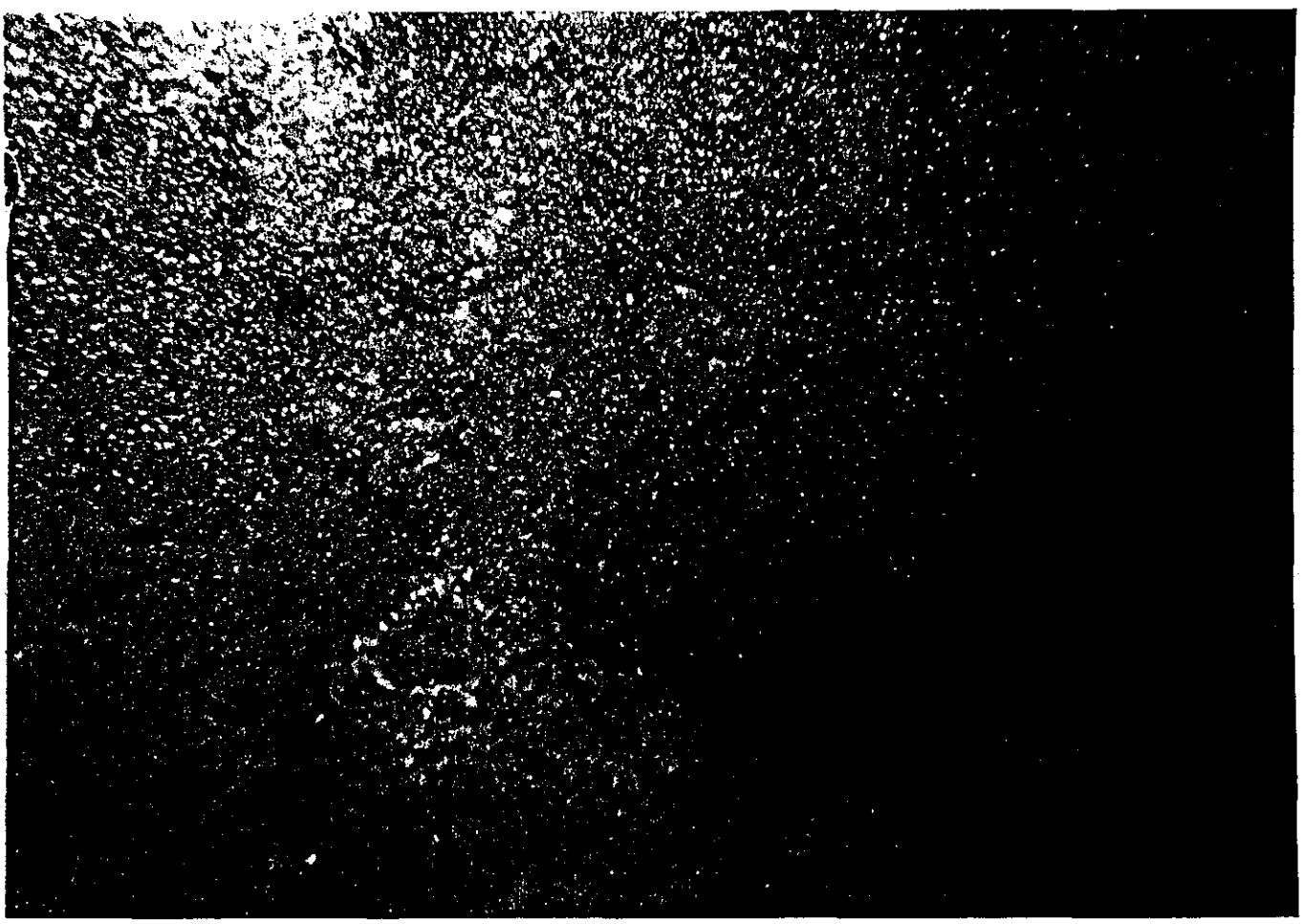
RESTRICTED



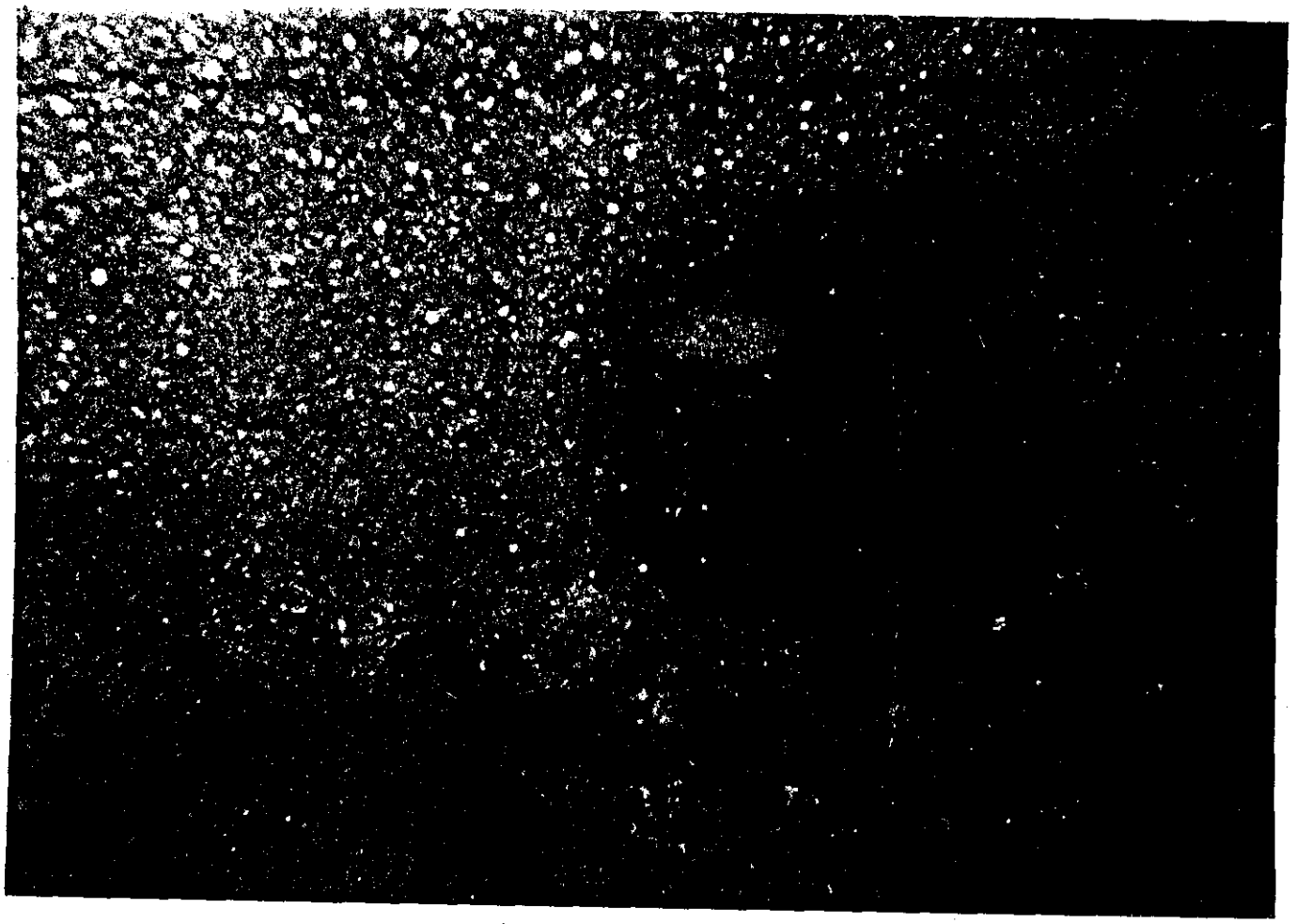

PLAN
ELEVATION
6M
4M
34 TO 36 M



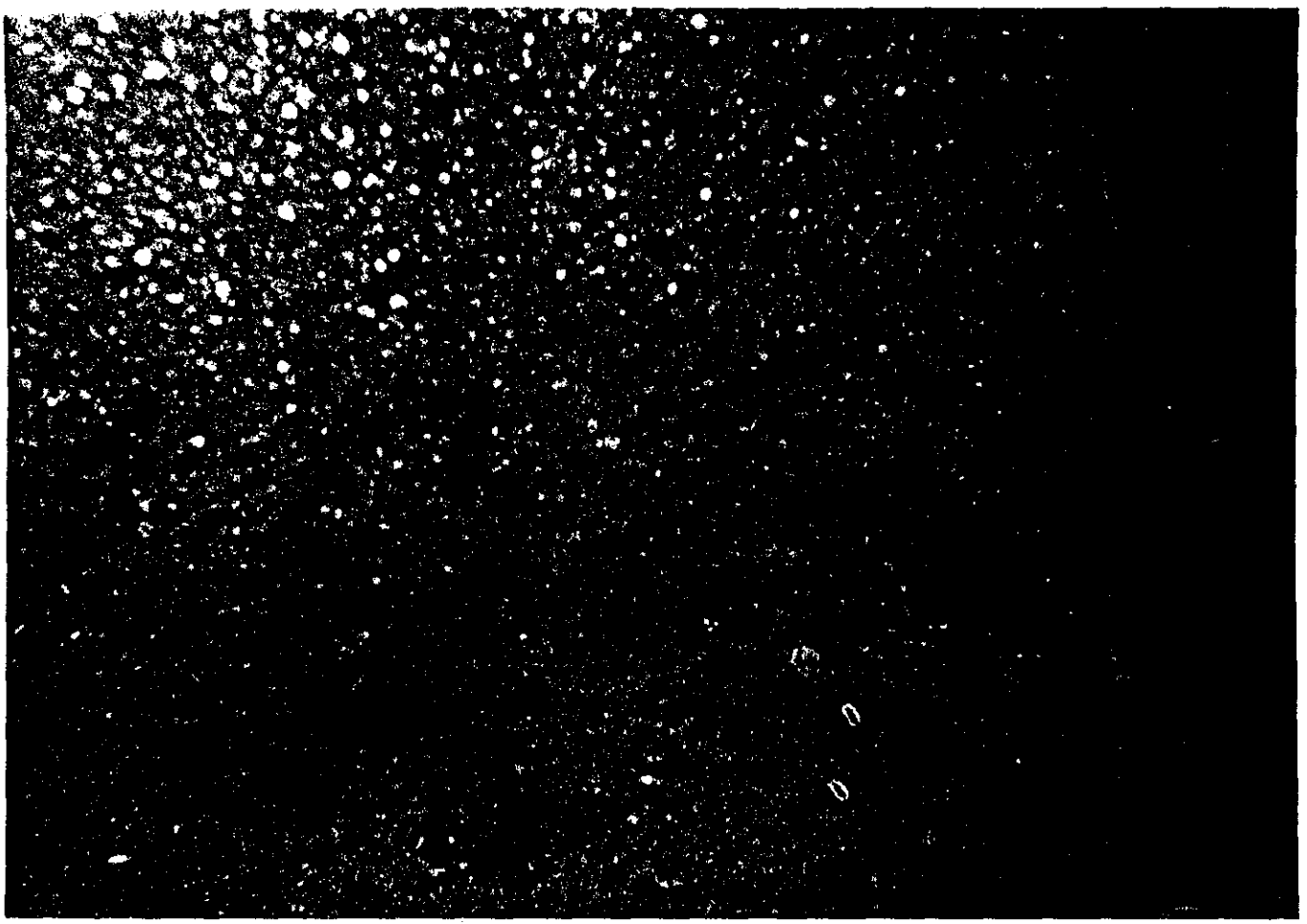
OPEN HATCH



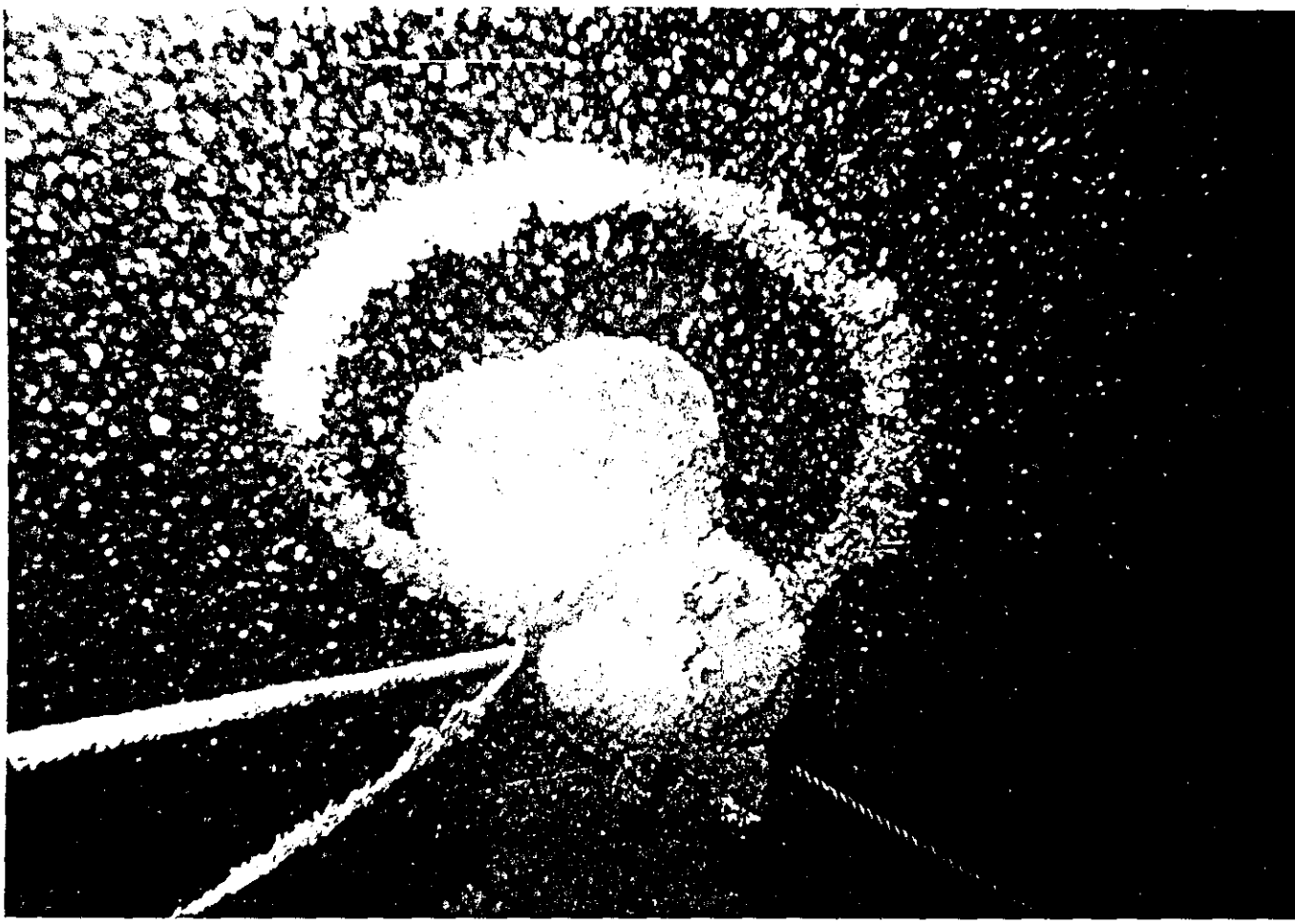
INTERNAL VIEW



INTERNAL VIEW



UPPER DECK GROWTH



DF AERIAL

SECTION OF DAMAGE

ADDENDUM

39 Hinston Rd
Sheldon Qld.
4157

24 January 1991: Your "Flamingo Bay Voyage" arrived safely today, thanks. I'd like to keep it long enough to read the other material before copying the I-124 material. Plan to send it back on Tuesday, Monday being a holiday.

I have my strengths and weaknesses in this maritime work. I could probably work out co-ordinates and attack plans, but I find it excruciatingly boring and avoid it if possible. And, for example, my approach to the mercury question: your method of obtaining information is, of course, the most objectively convincing, but I came to the same conclusion by another method. Mercury was expensive, and it was in short supply in Japan; the idea of four subs having mercury ballast was economically never on the cards. (If one of the class had mercury ballast, they would all have had it.) The idea of a cargo of either gold or mercury was never worth a pinch of snuff; on an operational trip, the space could have been used much more usefully by torpedoes or rice or water.

My current book is on Naval Intelligence and secret service in Australia to 1945, concentrating on the work of Commander Long, DNI. In connection with this, I did a lot of research into Wireless Intelligence and Ultra in Washington and London and I came across some interesting material on I-124. If it does come to publishing a book on I-124, you had better have this, with the archival reference. However, although I shall tell you what I found, I want to keep the reference for my own book. If, however, I get hit by the proverbial bus, you could ask my husband to check through my Washington notes for it.

The messages being sent by the submarines I-121, I-122, I-123 and I-124 were being read, and it looked as though they might have been read fairly currently. If, indeed, I-124's messages were being read, this may indicate that there was not all that great pressure to get any code books she was carrying. Sequence of messsages:

This is not verbatim.

12 January: I-121 reported laying 37 mines in Darwin area.
12 January: I-124 reported laying 27 mines near Darwin.
13 January: I-121 reported stalking an Allied convoy in Banda Sea.
18 January: I-121 reported sinking 10,000 ton ship in Rembang area, going to Port Darwin area.
15 January: I-122 reported laying 30 mines in Torres Strait.
17 January: I-124 reported approaching Darwin Harbour mouth.
25 January: I-123 reported laying 30 mines 5 & half mines from Capeton Light.
30 January: I-121 reported that I-124 had failed to keep their rendezvous on 29 January.
12 March: I-121, I-122 and I-123 ordered to return to Japan to have mine-laying gear removed and to be re-assigned to 6th Division.

From this it seems certain that Naval Intelligence knew that it was I-124, and I-124 alone, which had been lost, but let people go fumbling about looking for a second or third sub.

I have a few other comments to make on the report, but I'll leave them until next week.

[illegible] successes in cypher breaking. [illegible] way to explain some of the later US [illegible] book story probably

Addendum

(i) In 'The First Submarines' and 'The Submarine since 1919', Preston and Batchelor note that the German UE II design, which was the forerunner to the *I 124*, was much copied. UE II Submarines were given to the Americans, Italians, Japanese and French after WW I. Features of the design then appeared in a variety of forms after WW I, as the German Type IXA, in a number of Japanese submarines, the American *Argonaut,* and in Italian designs. Thus the *I 124* has considerable significance as a representative of a very significant type.[1]

(ii) Barbara Winter, a noted author and researcher (*HMAS Sydney*, Fact Fantasy and Fraud and Atlantis is Missing) now researching Long and the Australian Intelligence services in WW II advised me in February 1991 that radio signals between the Japanese minelaying submarines were being intercepted by the Allies in the period before the loss of *I 124*. They knew at the time that only one submarine had been lost from the attacking fleet. She will be addressing this in her coming book. Note on *I 124* File, WA Museum and NT Museum.

(iii) The Capt Williams referred to on p.28 'anxious' to use explosives on *I124* in 1942 was Capt J.P. Williams, Managing Director of the United Salvage Proprietary of Melbourne. He was OIC of the famous SS *Niagara* salvage expedition in NZ. This was completed in December 1941 after raising almost 8 tons of gold from the then unhears of depths of 438 feet. Their story is one of the landmarks in marine salvage. From NZ they went to Darwin to work the *I124* but were caught in the Japanese air-raid and 'escaped with their lives, but little else'.

From: Taylor, J.R.W. (1942) *Gold from the sea....epic story of the recovery of* Niagara*'s bullion,* Australasian, Sydney, p.264.

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[1] Preston, A., & Batchelor, J., 1974, *The First Submarines, & The Submarine Since 1919*, BBC Publishing, Leeds.