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ATTACHMENTS

OUTLINE OF INCIDENT.

The fishing vessel "TAMMY-R" departed Eden on Wednesday 18 April 1990 bound for fishing grounds off Gabo Island.

According to the crew, after some trawling the vessel completed its last trawl near position 37 56'S 149 56'E at approximately 0300 hours Eastern Standard Time on Thursday 19 April 1990. After boxing and stowing the catch, the Skipper decided to return to Eden in order to have a minor oil leak in the hydraulic steering repaired.

The Skipper set a course to clear Cape Howe and about half an hour later the trawler was apparently in collision with a merchant vessel and sank. The two crew members took to a liferaft, eventually being rescued by helicopter some seven hours later.

AUTHORITY TO INVESTIGATE

NAVIGATION ACT 1912

APPOINTMENT OF PERSONS UNDER SECTION 377A

In pursuance of the powers and functions conferred on the Minister by sub-section 377A of the Navigation Act 1912, and delegated by him to the person for the time being occupying or performing the duties of Assistant Secretary, Ship Safety Branch, Maritime Operations Division, I, John Edward Hodgson hereby appoint Walter Michael Blumenfeld, Acting Director, Ship Operations, Wilfred Burrell Thomson, Marine Surveyor, and Richard Grant Blakey, Acting Executive Officer, Ship Operations, to make a preliminary investigation under that section into the circumstances of the collision between the fishing vessel "TAMMY-R" and an unidentified vessel and in particular to

- identify the cause of the collision and sinking of the "TAMMY-R"

- ascertain why the master of the other vessel did not stop to render assistance to the fishing vessel "TAMMY-R" and why the master of that vessel did not give its name, port of registry and destination.

Dated this 24th day of April 1990

Signed - J E Hodgson
Acting Assistant Secretary
Ship Safety Branch
Maritime Operations Division

PERSONS INTERVIEWED BY W.B.THOMSON

FREMANTLE 19 APRIL 1990

Glicerio P ARAYON	Master	Metal Trader
Jaime T DOTIMAS	Chief Mate	Metal Trader
Nestor T PEDRAJAS	Quartermaster	Metal Trader
Froilan C FLORES	Radio Officer	Metal Trader

In the presence of Mr T E Cocks of Cocks MacNish & Co, Barristers & Solicitors, appearing on behalf of the owner of "Metal Trader" and Mrs B Richards, Honorary Consul for the Philippines.

FREMANTLE 25 JUNE 1990

Nestor B VESTAL	2nd. Mate	Metal Trader
Antonio M ISIDRO	Quartermaster	Metal Trader

In the presence of Mr P Kelly of Cocks MacNish & Co.

PERSONS INTERVIEWED BY R.G.BLAKEY

EDEN 1 MAY 1990

Douglas John EVERETT	Skipper	Tammy-R
Neil George VIZGOFT	Deck hand	Tammy-R

DESCRIPTION OF VESSELS INVOLVED

Fishing Vessel "TAMMY-R"

Owner	Douglas John EVERETT
Length	14.50 metres
Construction	Timber
Colour	White hull with green band below gunwale capping; green deckhouse with white window frames
Registered	Maritime Services Board of New South Wales
Licensed Fishing Boat	LFB No.3483

Licensed to fish by New South Wales and Victorian State Authorities

Skipper — Douglas John EVERETT
Master Class V issued by Maritime Services Board of New South Wales.

Deck Hand — Neil George VIZGOFT
Commonwealth Master Fisherman's Licence No. 302797 valid until 5 Dee 1990.

Motor Vessel "METAL TRADER"

Type	Bulk Carrier
Gross Tonnage	13082
Deadweight Tonnage	24341
Length	160 Metres
Moulded Depth	13.62 Metres
Construction	Steel, accommodation aft, 4 pedestal deck cranes
Colour	Topsides black Boot topping - red Accommodation - white
Built	1977 - K.K. Usuki Tekkosho, Japan
Registered	Philippines
Owners	Sea Queen Shipping Corp.
Crew	21 persons including Master

Draught	Departure Sydney	Arrival Fremantle
FWD	5.97 M	5.91 M
AFT	7.69 M	7.64 M
MEAN	6.83 M	6.775 M

SEQUENCE OF EVENTS

The TAMMY-R sailed from Eden, NSW at 0100 hours on 18 April 1990 with the Owner/Skipper and one Deckhand on board, to fish in NSW and Victorian waters off Cape Howe and Gabo Island. The Skipper had in excess of 20 years' experience in the fishing industry and had owned TAMMY-R for six years: the Deckhand had been a fisherman for just under two years.

Sufficient provisions were on board for five days. However, a leak developed in the hydraulic steering gear, which the Skipper was unable to stop completely and after completing a trawl run early on 19 April the Skipper decided to head back to Eden. The time at this stage was estimated to be around 0300 hours 19 April and the position stated to be 20 miles off Little Rame Head and 26 miles off Cape Howe.

The catch was stowed below, the fishing gear secured, course set by radar, which was on the 24 mile range, so as to just clear Cape Howe and the auto-pilot engaged. The Skipper had not looked at the compass but considered that the course was close to NNW (Magnetic). The engine speed was set to 100 RPM below full power, which the Skipper considered produced a ship speed of around 8 knots.

The Skipper, who had had very little sleep since leaving Eden, decided to go below and rest, considering that there was time to do this before TAMMY-R closed the coast. He checked that the navigation lights were correct and set the "watch alarm" to a five minute period - this required the Deckhand to cancel a warning light, activated at five minute intervals, in order to prevent an alarm sounding.

He pointed out two ships to the Deckhand, one of which he considered to be a cargo ship, the other, a smaller one, a longline fishing vessel. Both were out to the northeast at what he considered to be 5 or 6 miles distance,.well clear of the course and were observed visually and on the radar. He was unable to determine how the other ships were headed and so instructed the Deckhand to keep an eye on them and to call him or alter course if in doubt. No other ships were indicated on the radar.

The Skipper also instructed the Deckhand to watch the radar and ensure that the TAMMY-R did not deviate too far from the course, a precaution considered necessary due to the slight hydraulic oil leak.

At a time estimated as being 0415 hours and with Cape Howe fine to port at 20 miles the Skipper left the Watch to the Deckhand. Conditions at the time were stated as being good visibility, with almost no wind and little swell.

The Deckhand stated that from inside the wheelhouse, he was able to see the glow from the port sidelight and from the masthead light, so was able to confirm that they were exhibited; he could not see the starboard light.

The first of the two ships, a small one, passed shortly after the Skipper had gone below. The Deckhand watched the second, larger ship close from six miles to one mile, on what he considered from the lights to be a parallel course and which would result in a passing distance of about half a mile.

With the second ship at a mile distance the Deckhand turned his back to the windows and busied himself making a cup of coffee. Having made coffee he turned around and saw that TAMMY-R was about to run into the side of another ship. He disengaged the autopilot and turned the wheel hard-a-starboard, but this action was insufficient to prevent TAMMY-R from colliding with the other ship, the port bow of TAMMY-R striking the port side of the other ship.

A shout from the Deckhand and the jar of the impact brought the Skipper to the wheelhouse immediately. TAMMY-R was passing astern of the other ship and the Skipper had a vague impression of a grey hull: he considered the other ship to be "of the tanker or container ship type, with accommodation aft and of around 20,000 - 30,000 tonnes." The Skipper also had a vague impression that the other ship zig-zagged slightly, making a slight turn to port, then to starboard, as though about to turn back.

Time of the collision was considered to be some 15 to 30 minutes after the Deckhand had been left in charge, i.e. 0430 to 0445 hours and the location some 13 to 15 miles south of Gabo Island.

Initially damage was thought to be only minor, confined to the port side fishing stabiliser arm. However after only a brief period the Skipper realised that TAMMY-R was settling by the head and was found to be flooding rapidly.

Whilst the Deckhand released the liferaft the Skipper attempted to transmit a "Mayday" message by VHF, which had previously been switched to Channel 73, the channel used for communication between fishing vessels. The Skipper then managed to collect the EPIRB from the wheelhouse locker before scrambling into the liferaft as TAMMY-R sank.

Not being sure of the operating instructions for the EPIRB, the Skipper delayed activating it until daylight, when he was able to read the instructions. The EPIRB signal was detected by satellite and at 0835 hours the Federal SeaSafety Centre, Canberra initiated rescue procedures, resulting in the two fishermen being rescued by helicopter at 1135 hours 19 April. The two fishermen were landed at Mallacouta, where they underwent medical checks and

completed a Search and Rescue questionnaire before proceeding home to Eden, where they made statements to the Police.

During the course of the search and rescue operation on 19 April, Melbourne Radio activated auto alarms on both 500 Khz and 2182 Khz and also broadcast a distress relay at 0857 hours. This distress relay was repeated at half hourly intervals, at the end of each radio silence period, until cancelled by the SeaSafety Centre at 1025 hours. A total of eleven ships responded to the distress relays. The METAL TRADER, which was known to be in the area, did not respond.

After the rescue had been accomplished the SeaSafety Centre, in checking on all vessels known to be in the vicinity, sent a message to the METAL TRADER requesting the Master to advise his position and the weather conditions at 0415 hours 19 April 1990. The Master replied through Adelaide Radio, giving his position at 0415 19 April as 37 47.5 S 149 58 E and the weather as moderate swell and cloudy. This position confirmed that the METAL TRADER was in the immediate area at the time of the sinking.

In the ensuing days those ships that were known to have sailed through the area on the morning 19 April 1990 were boarded by a departmental officer at their next port of call. Interviews of ships' Masters and inspection of ships' documents of those ships that docked in Victorian, Tasmanian and South Australian ports indicated that all those ships had traversed the area of sinking a number of hours after the incident.

The METAL TRADER anchored in Gage Roads, Fremantle at 1250 hours on 25 April 1990. The Master stated that approximately two hours prior to anchoring a person who he understood to be from the "Transport Minister"' but who was later identified as being from the media, contacted him by VHF and asked whether he was aware that his vessel was suspected of having been involved in a collision with the TAMMY-R. The Master denied any knowledge of the incident. When the METAL TRADER anchored, the crew put ladders over on both sides of the ship and the hull was inspected.

A Department of Transport and Communications Marine Surveyor inspected the sides of the METAL TRADER from the pilot boat at about 1320 hours 25 April and noted a white coloured scrape mark commencing from a position 6 to 8 metres aft of frame 143 on the port side. The mark was on the red boot topping and took the form of a white patch at the forward end with a curved scrape mark leading aft, terminating near frame 71. There was no indentation of the shell plating in way of the mark.

METAL TRADER berthed at "H" berth Fremantle on 26 April 1990. The Master formally "noted protest", denying any involvement in a collision and whilst noting that there were

slight paint scratch marks between nos 2 and 4 hatches on the port side, attributed them to rubbing marks from wharf fenders in port. He noted that there was no indentation. The Master's protest was supported by statements by the Chief, Second and Third Officers in which they all said that there had been no collision. The AB Lookout on watch with each Officer countersigned the appropriate statements.

After METAL TRADER had berthed a departmental Marine Surveyor obtained samples of paint from the scrape marks on the port side of the ship. These paint samples were then sent by the Department to the New South Wales Government analytical laboratory, Lidcombe for analysis. A Radio Surveyor also attended the METAL TRADER at this time in order to inspect the radio equipment.

From interviews with the Master, Chief and Second Officers, 2 crewmen and the Radio Operator and from reference to the ship's documents and charts it was ascertained that METAL TRADER had departed Pyrmont No. 13 Berth Sydney on 18 April 1990.

METAL TRADER operated on the standard three watch system, the Second Officer standing the 12-4 watch, the Chief Officer the 4-8 and the Third Officer the 8-12. There was also an AB allocated to each watch to act as Lookout and also as Helmsman, should hand steering be necessary. The Lookout was normally stationed out on the bridgewings, alternating between the port and starboard sides at frequent intervals, an operational practice adopted due to blind sectors in fields of vision caused by the deck cranes. The calling of the next watch was conducted by telephone, therefore there was no requirement for the AB Lookout to leave his post on the bridgewing for this purpose.

On the morning of 19 April 1990 METAL TRADER was proceeding in the automatic steering mode on a course of 198 degrees True until 0350 hours when, in position 37 44S:150 04E (12.4 n miles SSE of Gabo Island) course was altered to 236 degrees True. This alteration was carried out by the Second Officer, the Master not having required to be called for the occasion or to be notified of the event. Speed, from charted positions, was 13.84 knots and the weather and visibilty, as recorded in the log book at 0400 hours, fair.

The Chief Officer arrived on the bridge at 0345 hours, remaining in the Chartroom reading the Master's Night Orders and looking at the chart, preparatory to taking over the watch at 0400 hours.

On both the 12-4 and the 4-8 watches the ship's progress was charted utilising both visual bearings of shore lights and radar bearings/distances. The radar was switched to the 24 mile range for position fixing purposes, but otherwise was switched to the 12 mile range, for lookout purposes. The usual practice was to alternate the two radar sets watch

about, the set not being utilised being switched to the "stand-by" mode.

According to the Officers and Lookouts a proper lookout was maintained, no fishing vessels or other small craft were sighted in the area south of Gabo Island and no close-quarters situation or collision occurred on the morning of 19 April 1990.

According to the Master and the Radio Officer the auto alarms had not activated on the morning of 19 April, nor had the distress relays broadcast by Melbourne Radio been received by METAL TRADER.

COMMENTS

The Skipper and Deckhand of TAMMY-R both claimed that TAMMY-R had been involved in a collision with a cargo ship, subsequent to which TAMMY-R sank. The Master, Officers and Lookouts of METAL TRADER all claimed that METAL TRADER had not been involved in a collision.

According to the Skipper, TAMMY-R was painted once a year. The bow area received an initial coat consisting of white undercoat mixed with a small amount of red lead and a final coat of white gloss. There was also the broad green band beneath the gunwale capping.

The paint flakes taken from the scrape marks on the shipside plating of METAL TRADER were analyzed and compared with a can of white paint which the Skipper of TAMMY-R stated was similar to the type used to paint his vessel. The paint flakes showed four layers, the top layer of which was found to be similar in chemical composition to the paint in the can (Attachment 8). The second layer was pink in colour, the third green and the fourth off-white.

Advice received from the Harbour Master Sydney was that METAL TRADER had been berthed at Pyrmont No.13 berth, port side to, where the wharf timbers were unpainted.

The only ship known to be in the area south of Gabo Island at the time that the TAMMY-R was allegedly in collision with another vessel was the METAL TRADER (see Attachment 3) whose position at 0415 19th April was confirmed by the Master. The evidence of the contact mark on the port side of METAL TRADER, which is consistent with a craft the size of TAMMY-R having collided with and scraped along the side, of the ship, in conjunction with the result of the analysis tests on the paint samples, suggests that the METAL TRADER was involved in a collision with the TAMMY-R.

The navigational procedures aboard TAMMY-R were not precise - no positions were plotted, courses were not determined from plotted positions and no account was taken of actual (true) time. No great reliance can therefore be placed upon times given by the Skipper and Deckhand.

The position of TAMMY-R on completion of fishing was reasonably ascertained by radar distances off two prominent points on the coast. The only other indications of position of TAMMY-R were recollections of radar distances, 20 miles off Cape Howe when the Skipper went below, and 13 to 15 miles off Gabo Island around the time of the collision.

Although the Skipper stated that he did not actually look at the compass when setting course on the auto-pilot, merely bringing the ship's head round by radar to just clear Cape Howe, it is unlikely that he was totally unaware of the heading by compass. His stated course of NNW is not unreasonable. Magnetic Variation in the area to the south of Gabo Island is currently around 14 degrees East, so only a few degrees of Easterly Deviation of the compass would result in a NNW'ly compass course on a true course of North. TAMMY-R can therefore be considered to have been steering a course within a few degrees either side of 360 degrees True.

When the Skipper handed over to the Deckhand, in order to go below and rest, two ships were visible by eye and reportedly also on the radar, no other ships were being depicted on the radar 24 mile range.

From his long experience of fishing in those waters the Skipper should have been aware that ships proceeding south along the NSW Coast usually alter course to starboard when southeast of Gabo Island, to head towards Wilsons Promontory. Prior to handing over to the Deckhand, who had a little less than two years experience at sea, not only did the Skipper fail to ascertain the direction in which the two sighted ships were heading, but he failed to advise the Deckhand that ships do alter course to starboard in that area and so either may be, or become, crossing vessels.

The Skipper claimed that the two other ships were "well away from his course, out to the North East, at 5 or 6 miles distance". However, the smaller of the two ships, the longliner, passed only a very short while after the Skipper had gone below, and so must have been much closer than the Skipper had assumed.

The Deckhand claimed that he watched the larger ship approach from a distance of 6 miles on what he considered to be a parallel course and expected it to pass half a mile off. The other ship must have either been on a closing course for such a near approach to occur, or to,have been fine on the starboard bow when first sighted (4.5 degrees at 6 miles) if on a parallel course.

In order to determine the likely circumstances for a collision to occur a number of scenarios were examined (Annex 1). From analysis of these scenarios it is considered that the collision most likely occurred sometime between 0414 and 0421 as shown on Attachment N0.4, that TAMMY-R was on a true course a few degrees East of North and that at a distance of 6 miles, METAL TRADER, on a course of 236T, would have been approximately 3 points (33.75 degrees) on the starboard bow of TAMMY-R. Approaching on collision courses, the bearings between the two ships would have remained steady and collision would have resulted after a period of approximately 18 minutes.

METAL TRADER would have been presenting a fine port aspect with open masthead lights and port side light.

TAMMY-R would have been presenting a starboard aspect of masthead light and starboard light, with little or no discernible horizontal displacement.

Under these circumstances either the Deckhand completely failed to keep a lookout, or, due to his inexperience, failed to appreciate that a collision condition existed.

The minimum ranges of visibility of navigation lights for a vessel the size of the TAMMY-R are 3 miles for the masthead light and 2 miles for sidelights and stern light. Provided that the light intensities were not reduced, or the lights extinguished for any reason, TAMMY-R should have been visible to those on the Bridge of METAL TRADER when at least three miles away.

Having stopped trawling, for the purposes of the International Regulations for Preventing Collisions at Sea (COLREGS) TAMMY-R ceased to be a fishing vessel and became a power-driven vessel under way.

Under Rule 15 of the COLREGS TAMMY-R, having the METAL TRADER in a crossing situation on the starboard bow, was the give way vessel and so should have kept clear of the METAL TRADER. The Deckhand of the TAMMY-R failed to take the necessary avoiding action.

The Officer of the Watch of the METAL TRADER, the stand-on vessel, under Rule 17 (a) (i) (COLREGS) was required to keep his course and speed and would be entitled to expect the TAMMY-R to give way by altering course to starboard. However, where for any cause the stand-on vessel finds that it is so close that collision cannot be avoided by action by the give-way vessel alone, she too shall take such action as will best aid to avoid collision [Rule,17 (b)]. Under Rule 17 (c), any action taken to avoid collision should not, if the circumstances of the case admit, be an alteration to port for a vessel on the port side.

The Officers and Lookouts aboard METAL TRADER all maintained that they were keeping a proper lookout and that they did not see any fishing vessels or other small craft, nor were they involved in any close quarters situation or collision with such a vessel. The TAMMY-R was of wooden construction and the contact, according to the Deckhand, was a glancing contact of the port bow of TAMMY-R against the side of METAL TRADER. The fact that there was no indentation of the shell plating of METAL TRADER in the area of the paint marks is supportive of the contact not being heavy. It is therefore likely that the actual impact alone could have gone unnoticed to anyone aboard METAL TRADER.

METAL TRADER is equipped with 4 pedestal type deck cranes, situated on the centreline. These deck cranes cause blind sectors, especially when the ship is trimmed by the stern, as was the case for the passage Sydney to Fremantle. If those on the Bridge of METAL TRADER remained stationary, the Officer within 2 metres to starboard of the centreline and the Lookout between 2 and 4 metres from the starboard bridge wing, TAMMY-R may have remained unnoticed for some time, in fact may have gone completely unnoticed.

When, at 0350 19th METAL TRADER arrived at the position with Gabo Island light bearing 325.5 degrees at 12.4 n miles the Second Officer altered course to starboard to 236 T. At 0400 the position as plotted on the chart by the Second Officer was 4 cables outside (south) of the course line drawn on the chart. This is not unusual, in fact to be expected as the ship will overshoot during the alter course manoeuvre. However, at 0430, the position marked on the chart by the Chief Officer was 5.5 cables inside (north) of the course line, as are subsequent positions. Even allowing for the differing circumstances, different Officer plotting positions, different reference points on the chart, different radar sets, and also possible current eddies, a difference of 9.5 cables is considered to be rather high. This indicates that at some time between 0400 and 0430 there may have been an alteration of course to starboard. Although METAL TRADER was equipped with a course recorder, this was not operational due to a lack of spare parts.

The Skipper of TAMMY-R had a vague impression that the other ship zigzagged. In his statement to the police he said that he thought that the other ship appeared to alter a little to port and then to starboard. If METAL TRADER had altered to starboard, in a last minute manoeuvre to avoid collision, after the event an alteration to port would be necessary to come back onto the correct course.

The crew of the TAMMY-R claimed that the correct navigation lights were being exhibited. If those on watch aboard METAL TRADER did not see the TAMMY-R, then a proper lookout, as required by Rule 5 of COLREGS, was not being maintained.

If, on the other hand, the TAMMY-R was observed and therefore those on watch were aware that a very close quarters situation, if not an actual collision had occurred, then the Officer of the Watch failed to ascertain that the other vessel was not in need of assistance before proceeding on passage.

It is not possible to determine with any certainty whether or not the Officer of the Watch of METAL TRADER was in fact aware that the collision had occurred. Whichever the case, it appears that the Master of METAL TRADER was unaware of the event and had no knowledge of the collision until contacted by the person from the media shortly before his arrival off Fremantle on 25 April.

Had the Master or any member of the crew of METAL TRADER known of the collision they were obliged, under section 264 of the Navigation Act 1912 and Article 12 (1) of the Geneva Convention on the High Seas 1958, to render assistance, provide the name and port of registry of his ship, as well as the port from which it came and to which it was bound, to the Master of the other ship.

The reason for the failure of METAL TRADER to respond to the broadcast distress relays was investigated by a Radio Surveyor. It was ascertained that a fault in the radio equipment had muted the receivers, including the auto alarms (see Attachment No.7).

CONCLUSIONS

It is concluded that :

1 The TAMMY-R sank as a result of a collision with another ship

2 On the balance of probabilities TAMMY-R was in collision with METAL TRADER.

3 The most likely time of the collision is considered to be within the period 0414 - 0421.

4 The collision was brought about by the failure of TAMMY-R to give way to METAL TRADER crossing on the starboard bow.

5 The Skipper of TAMMY-R was negligent in that he failed to ascertain the course of METAL TRADER and whether a danger of collision existed before handing over to the relatively inexperienced Deckhand.

6 The Deckhand was negligent in that

a he failed to ascertain that a danger of collision existed

b he failed to give way as required by Rule 15 (COLREGS) to a vessel crossing from starboard

c he failed to keep a proper lookout as required by Rule 5 (COLREGS).

7 The Master of METAL TRADER did not stop to offer assistance to TAMMY-R as, at the time, he was apparently unaware that a collision had occurred.

8 The Master of METAL TRADER failed to respond to the distress relays broadcast by Melbourne Radio as they were not received due to a fault in the ship's radio equipment.

It is further considered that:

9 As it is not possible to determine with any certainty whether or not the Officer of the Watch of METAL TRADER was in fact aware that the collision had occurred, either:

a the Watch aboard METAL TRADER was inefficient with respect to

i keeping a proper lookout (COLREGS Rule 5) in that TAMMY-R was not observed visually or on the radar.

ii in that it was unaware that the ship had been involved in a collision,

or

b the Officer of the Watch was negligent in that

i he failed to take necessary action to avoid collision as required by Rule 17(b) (COLREGS)

ii he failed to notify the Master that he had been involved in a collision; and

iii he wilfully ignored international conventions in that he failed to stop and render assistance to TAMMY-R.

ANNEX1

CONSIDERATION OF TEE LIKELY TIME, LOCATION AND CIRCUMSTANCES OF THE COLLISION

In order to arrive at a reasonable time and location of the collision it is necessary to consider the available information.

METAL TRADER prior to 0350 was on a course of 198T and making good a speed of 13.84 knots. At 0350, in a position with Gabo Island light bearing 325 degrees at 12.4 miles Metal Trader altered course to 2362.

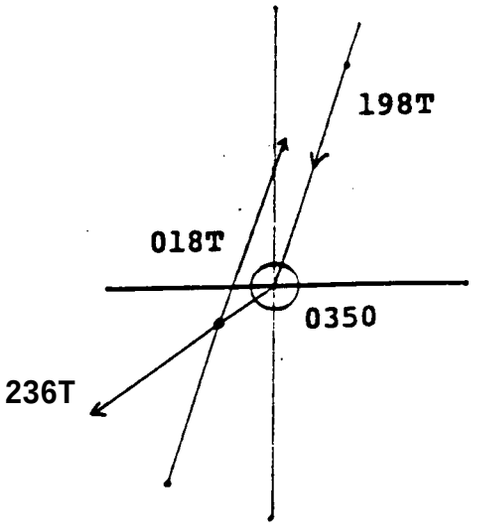
TAMMY-R, at approximately 0300, was in a position by radar with Little Rame Head at aaproximately 20 miles distance and Cape Howe at approximately 26 miles distance.

TAMMY-R was on a northerly course with Cape Howe very fine to port and proceeding at a purported 8 knots.

At the time that the Skipper handed over to the Deckhand TAMMY-R was 20 miles off Cape Howe by radar and METAL TRADER was 6 miles distant on the starboard bow.

PARALLEL COURSES

In his Statement the Deckhand said that he considered that the other ship was approaching on a parallel course and would pass at a distance of half a mile. In reconstruction of this case TAMMY-R would have had to be on a course of 018T and, with METAL TRADER at six miles distance, would have needed to be in a position 2.9 miles SSW of METAL TRADERS' alter course position. This would place Cape Howe 30 degrees on the port bow at a distance of 17.1 miles. This is not consistent with the known facts.



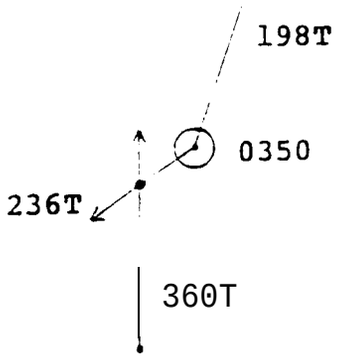
In order to consider other possible situations a course of 360T is assumed for TAMMY-R.

NEAR PARALLEL/CONVERGING COURSE

METAL TRADER on a course of 198T to pass 0.5 miles to starboard of TAMMY-R, at 6 miles distance would be 16.5 degrees on TAMMY-R's starboard bow. For a collision to CCCU METAL TRADER would need to alter course to starboard to 236T after 13 minutes, when the two ships were 1.3 miles apart. Collision would occur after a further 4 minutes.

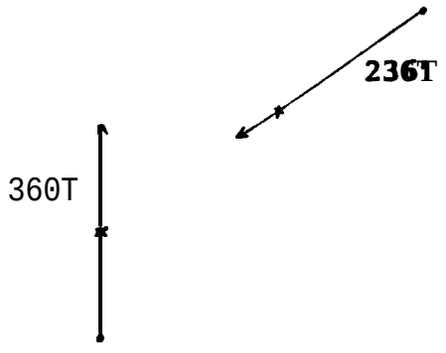
In this case TAMMY-R would have had to be 2.75 miles beyond (SSW of) the METAL TRADER's alter course position at the time of hand-over. This would place Cape Howe 11.5 degrees on the port bow at a distance of 16.9 miles.

This too is inconsistent with the known facts.

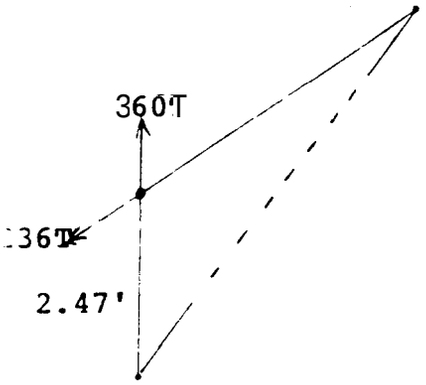


CROSSING COURSES

With METAL TRADER 45 degrees on TAMMY-R's starboard bow (i.e NE) at six miles and on a course of 23611, after 10 minutes TAMMY-R would be right ahead of METAL TRADER at a distance of 2.8 miles. METAL TRADER would then pass safely astern of TAMMY-R after a further 12 minutes, nearest approach being 0.75 miles.

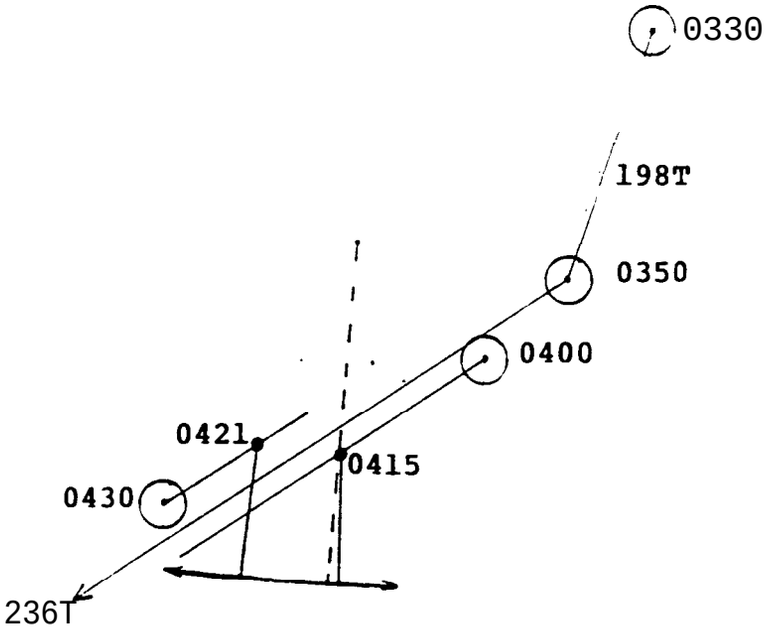


For a collision to occur in this crossing situation, at 6 miles distance METAL TRADER would need to be 36 degrees (a little over 3 points) on TAMMY-R's starboard bow. Collision would occur after 18.5 minutes, in which time TAMMY-R would have travelled 2.47 miles and METAL TRADER 4.27 miles.



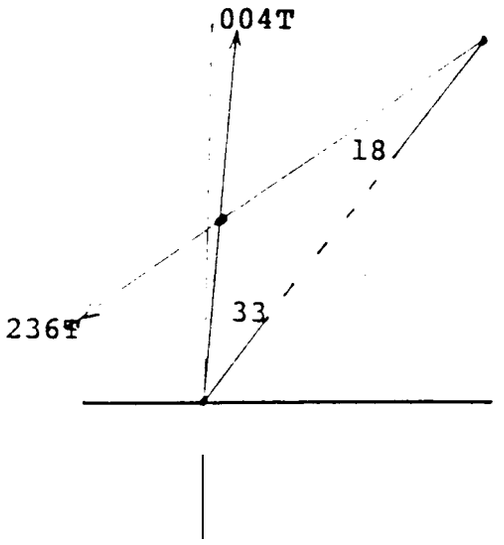
Laying off a distance of 2.47 miles along a course line of 360T from the 20 mile position line off Cape Howe cuts the METAL TRADER's 236T course line, produced from the 0400 position, 3.4 miles along that course line. At 13.84 knots this provides a time interval of 14.75 minutes.

The course from the position thus derived to clear Cape Howe by 1.0 miles is 004T. Transposing this course line to cut the 23611 course line projected back from the METAL TRADER's plotted position for 0430 cuts that course line 2.0 miles back from the 0430 position. This provides a time interval of approximately 9 minutes and a time of 0421. The course from this position to clear Cape Howe by 1.0 miles is 009T.



The most likely time of the collision is therefore considered to be between 0414 and 0421, with TAMMY-R proceeding on a course a few degrees East of North.

With TAMMY-R on a course of 004T speed 8 knots and METAL TRADER on a course of 236T speed 13.84 knots at 6 miles distance, METAL TRADER would be 33 degrees on TAMMY-R's starboard bow and in turn would have TAMMY-R 18 degrees on the port bow. Time to collision would be 18 minutes.



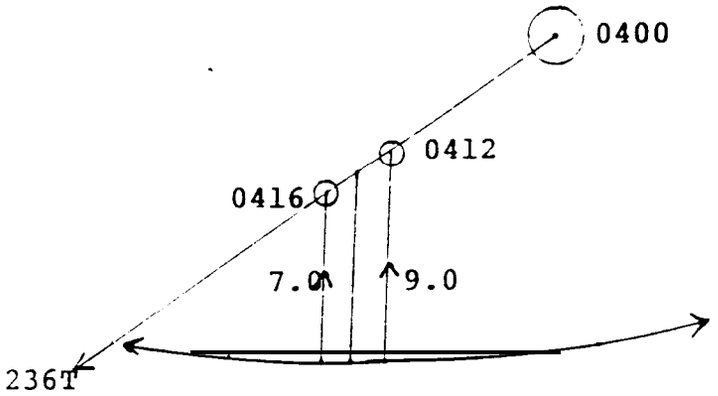
EFFECT OF VARIATION ON SPEED OF TAMMY-R

The variance in speed of TAMMY-R from that claimed by the Skipper, from his experience of his vessel, is unlikely to have been greater than 1.0 knots.

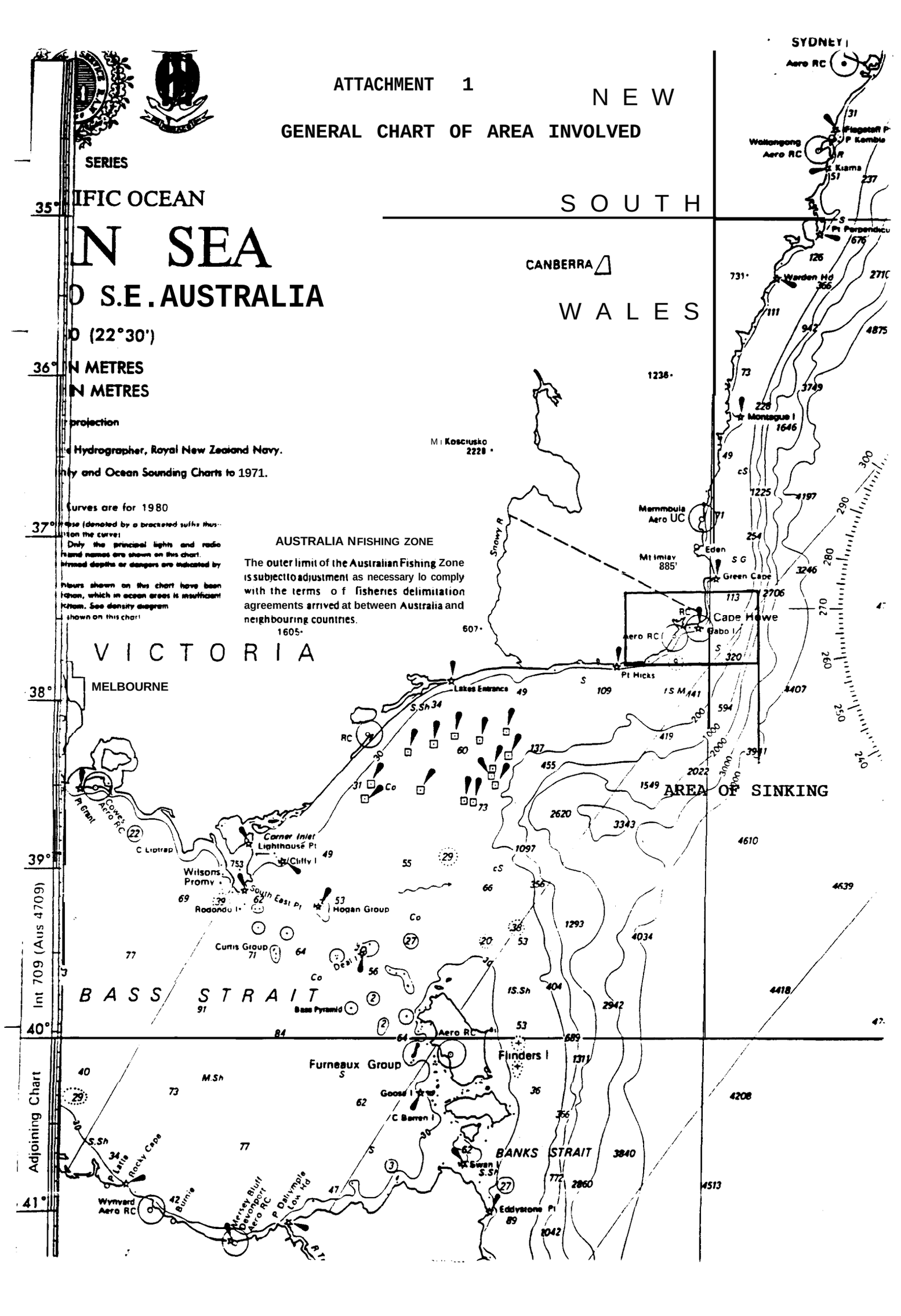
Assuming a speed of 7.0 knots and a course of 360T, at 6 miles distance METAL TRADER on course 236T would need to be 37.5 degrees on the bow. Collision would occur after a period of 19.5 minutes, in which time TAMMY-R would advance 2.28 miles from the 20 mile radius position line off Cape Howe. The two course lines intersect at a point 3.7 miles from the METAL TRADER 0400 position, giving a time of collision of 0416.

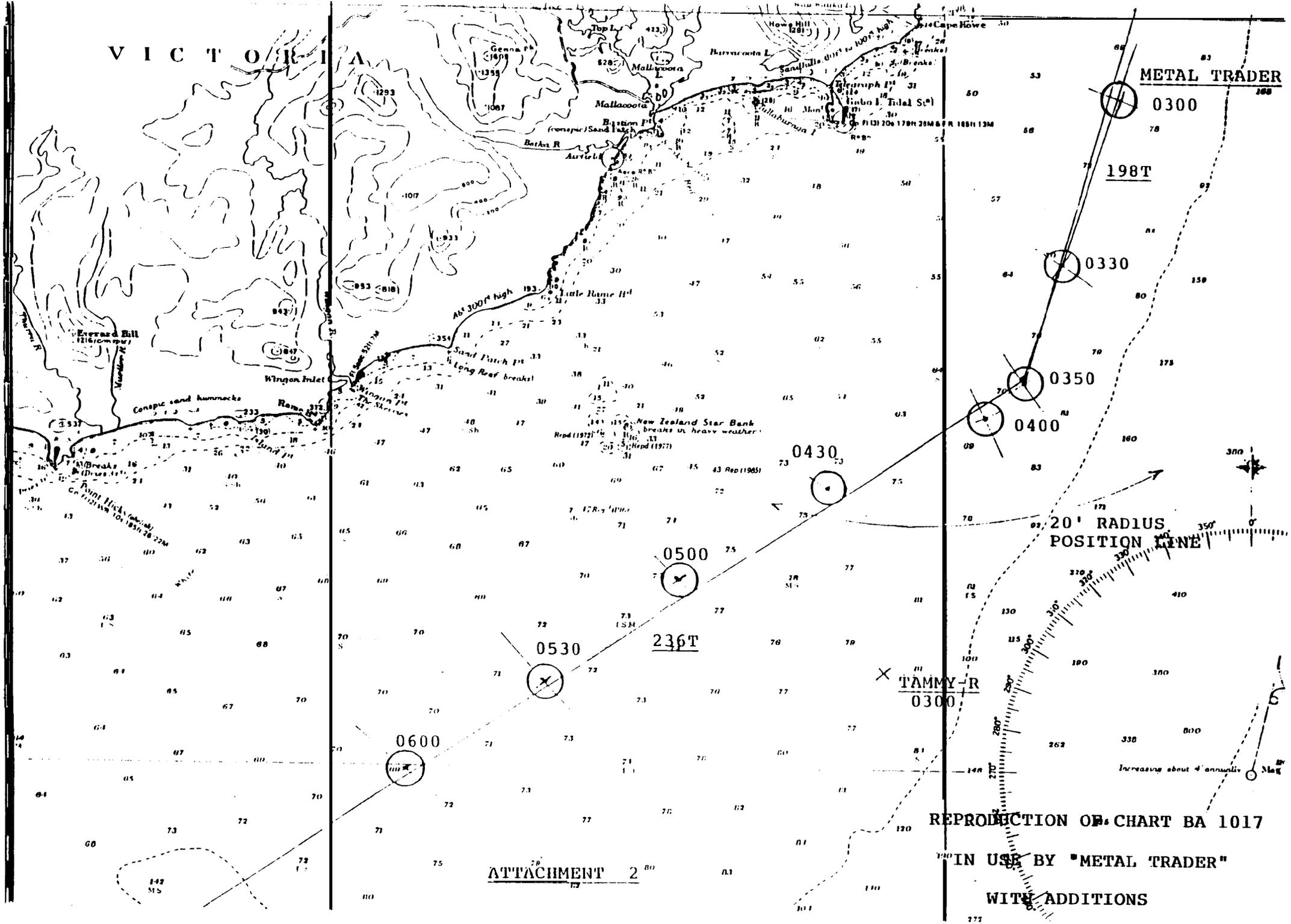
Assuming a speed of 9.0 knots for TAMMY-R, the time to collision is 18 minutes, with TAMMY-R advance 2.7 miles. Course intersection point is 2.8 miles from the 0400 position, giving a time of collision of 0412.

Therefore, if the speed of TAMMY-R was in excess of 8.0 knots the time of collision would have been slightly earlier: if less than 8.0 knots the time of collision would have been slightly later.



* * *


ATTACHMENT 1
GENERAL CHART OF AREA INVOLVED
NEW
SOUTH
WALES
SERIES
IFIC OCEAN
N SEA
O S.E. AUSTRALIA
O (22°30')
N METRES
N METRES
projection
Hydrographer, Royal New Zealand Navy.
ity and Ocean Sounding Charts to 1971.
Curves are for 1980
AUSTRALIA NFISHING ZONE
The outer limit of the Australian Fishing Zone is subject to adjustment as necessary lo comply with the terms of fisheries delimitation agreements arrived at between Australia and neighbouring countries.
CANBERRA
SYDNEY
Aero RC
Wollongong Aero RC
Kiama
Pt Perpendicu
Warden Hd
Montague I
Mt Kosciusko 2228
Mammoula Aero UC
Eden
Mt Imlay 885'
Green Cape
Cape Howe
Gabo I
Aero RC
Pt Hicks
Lakes Entrance
VICTORIA
MELBOURNE
AREA OF SINKING
Corner Inlet
Lighthouse Pt
Cliffy I
Wilsons Promy
South East Pt
Rodondo I
Hogan Group
Curtis Group
Deal I
BASS STRAIT
Bass Pyramid
Aero RC
Flinders I
Furneaux Group
Goose I
C Barren I
BANKS STRAIT
Swan I
Eddystone Pt
Wynyard Aero RC
Burnie
Rocky Cape
P Latta
Mersey Bluff Devonport Aero RC
P Dalrymple
Low Hd
Int 709 (Aus 4709)
Adjoining Chart
35°
36°
37°
38°
39°
40°
41°

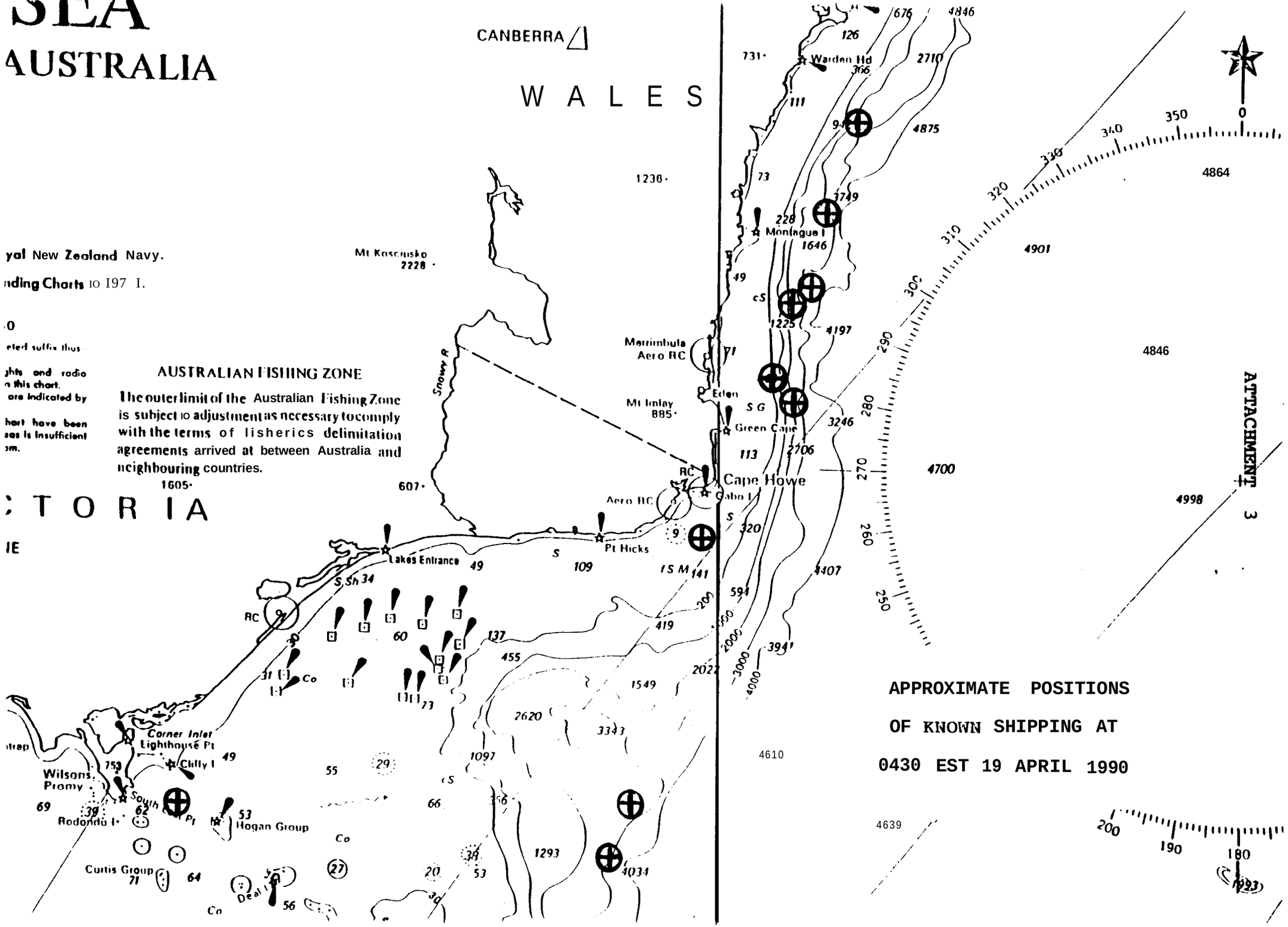


ATTACHMENT 2

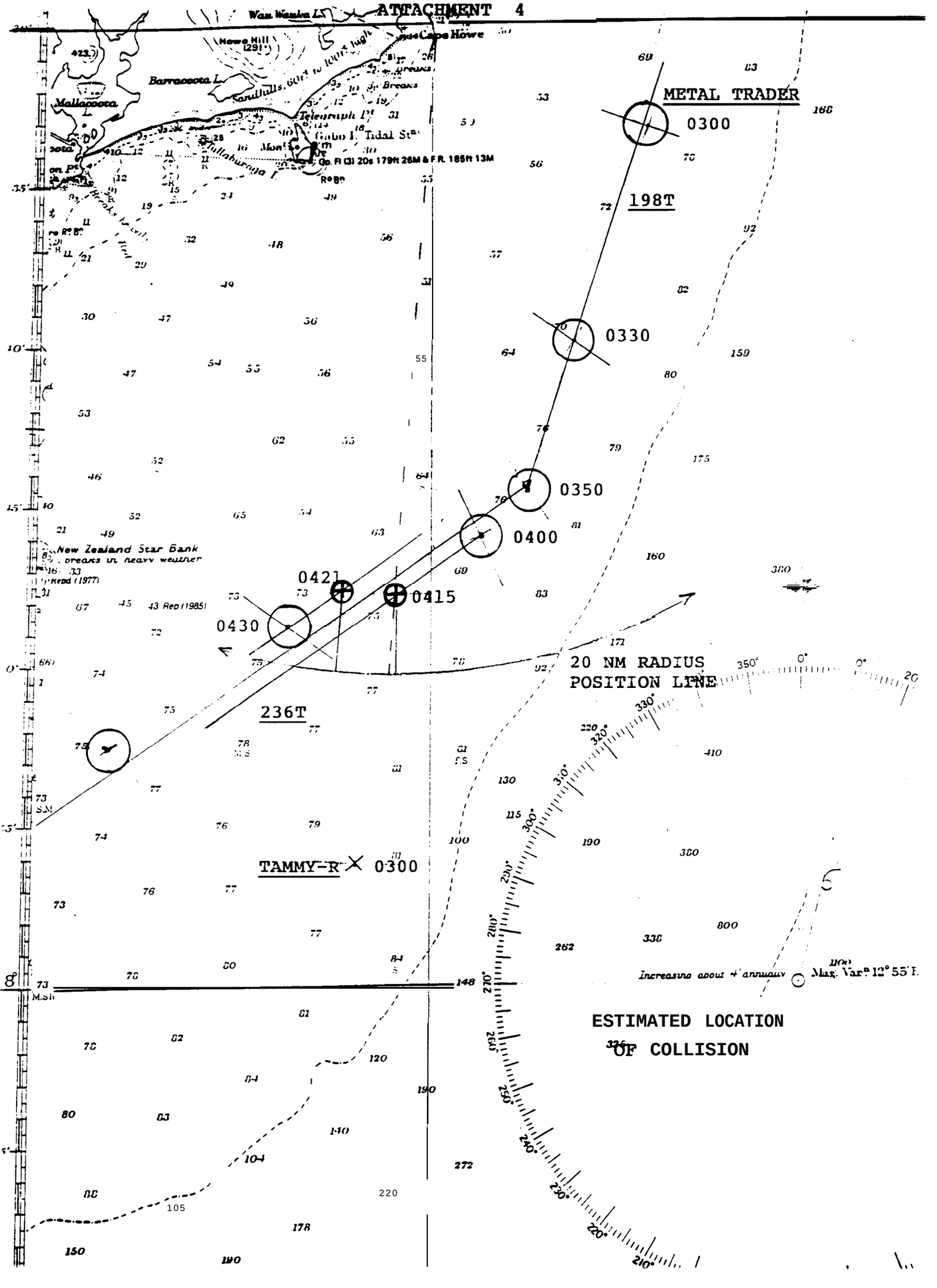
REPRODUCTION OF CHART BA 1017

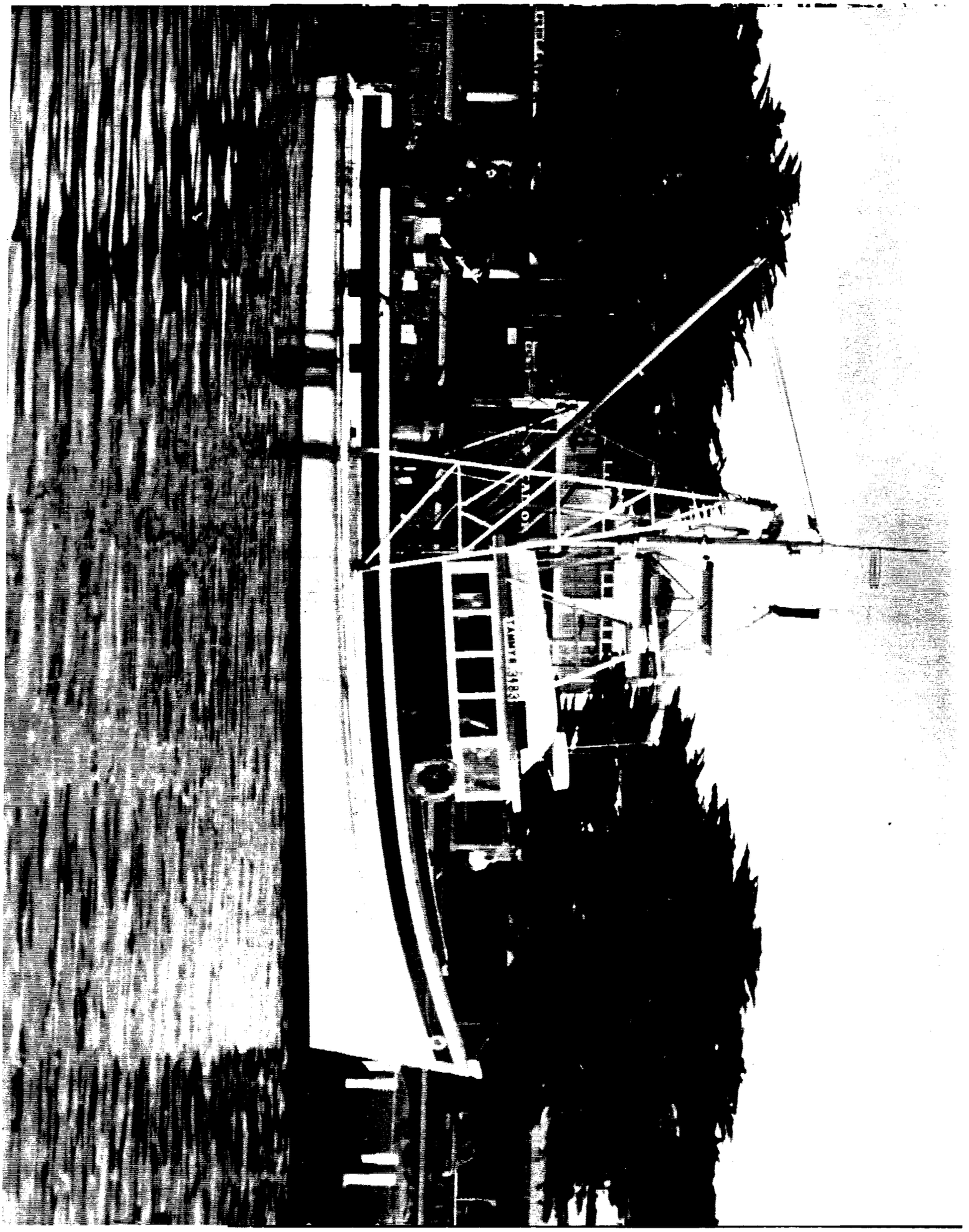
IN USE BY "METAL TRADER"

WITH ADDITIONS


SEA
AUSTRALIA
CANBERRA
W A L E S
yal New Zealand Navy.
ıding Charts to 197 I.
AUSTRALIAN FISHING ZONE
The outer limit of the Australian Fishing Zone is subject to adjustment as necessary to comply with the terms of fisherics delimitation agreements arrived at between Australia and neighbouring countries.
: T O R I A
Mt Kosciusko 2228
Snowy R
Merimbula Aero RC
Mt Imlay 885
Eden
Green Cape
Cape Howe
Gabo I
Aero RC
Pt Hicks
Lakes Entrance
Corner Inlet
Lighthouse Pt
Chilly I
Wilsons Promy
South
Rodondo I
Hogan Group
Curtis Group
Deal I
Warden Hd
Montague I
1646
1749
2710
4875
4846
4901
4197
4700
4998
4407
3941
3246
2706
4610
4639
4034
1293
1549
2620
3343
2022
1097
APPROXIMATE POSITIONS
OF KNOWN SHIPPING AT
0430 EST 19 APRIL 1990
ATTACHMENT 3

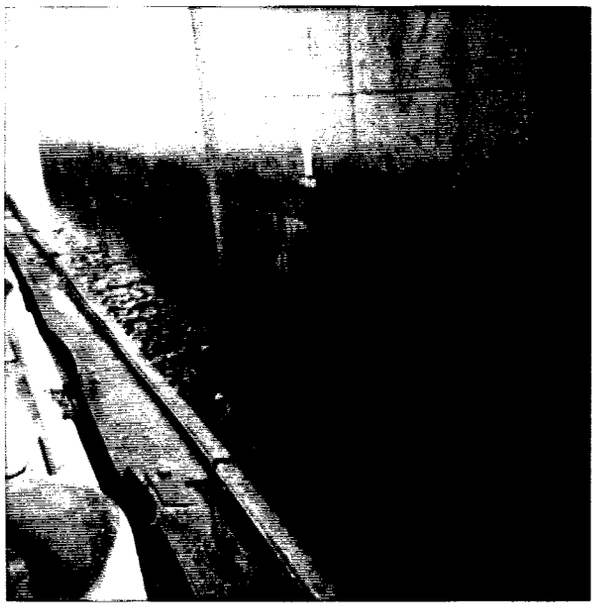
ATTACHMENT 4





"TAMMY - R"

ATTACHMENT 6



PHOTOGRAPHS OF PORT SIDE OF "METAL TRADER"

ATTACHMENT 7 – 1

CONCLUSION OF RADIO SURVEYOR'S REPORT

CONCLUSION

Radio Officer Flores' statement and log entries supporting his claim that an adequate watch was maintained under the terms of SOLAS regulations is inconsistent with the facts.

MELBOURNE RADIO logs show that auto-alarm signals were transmitted on RTG and RTF frequencies at 18/2257 and half hourly until suspended at 19/0025z. (ref appx2).

RTG equipped vessels including ZINCMASTER/VKZM, ARAFURA/GZSE, IRONPRINCENKAD and others in the vicinity of MV METAL TRADER at that time, responed to VIM with good signal strength reports. (ref appx.2).

Bearing these factors in mind there can only be two explanations, these are:

The radio officer failed to maintain an adequate watch on 500khz

or

Watch was maintained but the receiving equipment was desensitised

In my judgement it is very likely that the faulty morse key remained in circuit after sending traffic at 18/0239z thus causing the receivers including the auto-alarm to remain in a muted condition.

Either of the above situations would suggest negligence towards his watchkeeping on the part of the radio officer. Even if the receivers did remain muted, normal traffic procedures following silence periods create an expectation that weather warnings, traffic lists etc would be transmitted. The lack of any traffic would inevitably arouse the suspicion of any trained officer correctly maintaining a watch.

It is evident from the ship's documents and the radio officers statement, that both the 2182khz watchkeeping receiver antenna and perhaps more importantly, the reserve transmitter, have remained unservicable since January 1990.

This suggests that routine tests were not conducted during

The last three months contrary to SOLAS CONVENTION 1974 requirements (ref appx.5) and reflects negligence by the radio officer toward his responsibilities.

The inoperative reserve transmitter had serious implications for the safety of the ship. If an emergency had occurred involving the loss of the ship's main power, the vessel would have had no means of radio communication for the transmission of distress or any other type of signals.

New **South** Wales Government

Department of Health

DIVISION OF ANALYTICAL LABORATORIES

Joseph Street. Lldcombe
Telegrams: "Sovanalyst". Sydney
Telex: AA72233
Facsimile: (021 646 0333
Postal Address:
P.O. Box 162
Lidcombe. N S.;V. 2141
Telepnone: (02) 646 0222

Reference: Collision between F/V Tawny -R and unknown vessel.

Regsternumber: C7255

I, J~ITES Anthony GOTHARD hereby certify 3.5 r'ollows:

1. &ly scienrific quaiificarions are:

Bachelor of Science (Honours) of the University of Nsw South Wales
Associate of the Sydney Technical College

Itemlslm connection with rhis matter was/were received on 11 May 1990 from 1%. R.G. Blakey, Department of Transport and Camunications via Skyroad Express Couxier.

These items -have been examined \vlrh the ioiiowmg results:

Irrmls)	Result oi Esammarior?
1. A small plastic bag labelled in part: "Samples taken off the port side of M.V. Metro Trader"	The item contained a number of small flakes of pint having the following layer sequence: 1. white 2. pink 3. green 4. off-white The bag also contained fragments of red-brown paint and there were deposits of red-brown paint on the flakes described above. The white layer (layer 1.) Was found to be similar in chemical canposition to the paint in item 2.
2. A 4 litre can of "Wattyl High Gloss Enamel White" paint	**The** can was nearly full with a gloss white paint which was found to contain alkyd resin and titanium.

Forwarded for your information
Ccxrmissioner of Police.

MOPS

Analyst's Signature J. Gothard
10 June 1990