



THE COMMONWEALTH OF THE BAHAMAS

“TOMFIELD”

IMO Number 7719014

Official Number 378946

**Report of the investigation into
the Stranding of “TOMFIELD”
at Roche’s Point, Cork, Eire**

**at about 2245 hours
13 January 1996**

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1 **SUMMARY**

- 1.1 "TOMFIELD" sailed, in ballast, from Wicklow, Eire at 1240 hours, 12 January 1996 bound for the Port of Cork, Eire.
- 1.2 When approaching the entrance to Cork Harbour, at about 2350 hours 13 January 1996, the vessel stranded on rocks to the East of the entrance adjacent to Roche's Point.
- 1.3 Despite initial efforts of the Master it was not possible to refloat the vessel.
- 1.4 All six crew members were evacuated by rescue helicopter without any loss of life or serious injury.
- 1.5 "TOMFIELD" was eventually declared a Constructive Total Loss where she lay and was subsequently broken up under instructions from the Cork Harbour Commissioners.
- 1.6 The Owners have attributed the cause of the grounding to be largely the result of a faulty air valve on the controllable pitch mechanism of the propeller. There were also some concerns as to the bridge procedure adopted by the Master.

2 PARTICULARS OF VESSEL

2.1 "TOMFIELD" was a gearless coaster registered at Nassau, Bahamas, of welded steel construction having a raised forecastle and poop. The accommodation and machinery spaces were situated aft. She had the following principal particulars:

Length overall	-	72.34 metres
Length BP	-	68.08 metres
Breadth	-	11.31 metres
Depth	-	4.12 metres
Gross Tonnage	-	1,034 tons
Gross Tonnage old measurement	-	959 tons
Deadweight	-	1,408 tonnes
Call Sign	-	C6KC6

2.2 She was powered by a B & W Alpha, type 8V23L-VO, eight cylinder, 4 stroke diesel main engine that developed 745 kW. (999 bhp.) She had three generators that developed a total of 210 kW and was Classed to operate with an unmanned engine room. Propulsion was through a single variable pitch propeller and a Schilling rudder.

2.3 There were two options to control the thrust from the propeller:

2.3.1 The normal method was via a single lever, referred to as a "combinator." The usual method for that form of control was to maintain medium revolutions - of about 60% of the maximum revolutions - when the pitch was set to zero, or Stop. The revolutions and pitch would be increased together up to the equivalent of between half and full ahead - to about 80% of the maximum revolutions - when full pitch would be set. Thereafter thrust was increased by revolutions only.

2.3.2 The alternative was to give the bridge manual independent control of the pitch and revolutions. The normal method was to adjust the revolutions to a fixed speed of about 70% of the maximum revolutions and leave it set there while all variations in manoeuvring were performed by the pitch control alone. Revolutions could then be independently increased to build up to full sea speed.

2.4 The cargo was carried in two holds that were arranged with two hatches. The vessel had a ballast capacity of 549.25 m³ which, when also carrying 32.00 m³ of fuel and 15 tonnes of fresh water would give a full ballast draught of 2.4 metres forward and 2.8 metres aft.

2.5 The Vessel was built in 1978 at Wallsend, United Kingdom and was formerly named "Nascence" and "Ansar". At the time of the incident she was owned by Spruce Management Limited, Netherlands, and managed by Field Ship Management Limited, Woking, United Kingdom.

- 2.6 The Vessel was first registered under the Bahamas Flag in 1991 with the name of "Nascence." She was entered with the Bureau Veritas Classification Society (BV). At the time of the grounding she complied with the all statutory and international certification.
- 2.7 The Safe Manning Document for the vessel, when trading, inter alia, on the Irish coast, required that she carry a Master, Mate, Chief Engineer (all appropriately licenced by the Bahamas Maritime Authority) and two seaman.
- 2.8 "TOMFIELD" was last subjected to a Bahamas Maritime Authority Annual Inspection at the Port of Goole, United Kingdom on 17 March 1995. The vessel's Classification Society was being changed at the same time from Lloyd's Register to BV. The following relevant observation was made:
- The manning was adequate, being one seaman in excess of that required by the Safe Manning Document, except that the officers did not have equivalent Bahamas Licences to their own National Licences or Certificates of Competency.

3 NARRATIVE OF EVENTS

- 3.1 The vessel discharged a cargo of 1050 tonnes of coal at Wicklow then remained in the port, waiting for an improvement in the weather before sailing at 1240 hours 12 January 1996, with full ballast tanks, bound for Cork, on the South Coast of Eire.
- 3.2 The neap high tide at Cobh on the evening of 13 January was at 2221 hours.
- 3.3 The weather during the events described in this section was reported by those on board as South West Beaufort force 8, occasionally force 9. A statement from the Irish Meteorological Office stated that for the four hours between 2100 hours 13 January and 0300 hours 14 January the sea area to the South of Roche's Point had Southerly wind of Beaufort force 4 or 5 to 6. This is considerably less than that remembered by those on board. The Irish Meteorological Office do consider that there may have been a localised increase in wind speed at the entrance to Cobh harbour but the wind speeds referred to above are the analysis of the recorded winds including that at Roche's Point automatic observing station.
- 3.4 The courses, positions and weather recorded or recalled by the Master and Mate of "TOMFIELD" during the passage from Wicklow were as follows:
- 3.4.1 When passing Tuskar Rock on 12 January the vessel was rolling to a swell and the ship's speed was $3\frac{1}{2}$ to 4 knots, against the weather. There was some poor visibility.
- 3.4.2 At 2210 hours, 12 January the course was 260° .
- 3.4.3 The vessel passed Tuskar Lighthouse at about 0030 hours 13 January.
- 3.4.4 At 1850 hours, 13 January the wind was recorded as South West Beaufort force 7 or 8. The vessel was steaming at 4.2 knots and making about 20° leeway to the North, towards the lee shore. This was confirmed by a positive fix and indicated that the vessel was making more leeway than was being allowed. Visibility was good between the occasional rain showers.
- 3.4.5 The Master relieved the Mate early on the evening of 13 January, at 2050 hours. The Mate went to his cabin to sleep.
- 3.4.6 When Ballycotton Light House was observed on the beam course was altered to 260° . The speed was recorded to have been $3\frac{1}{2}$ to 4 knots and the vessel was making about 7° leeway and set.
- 3.4.7 At 2315 hours, 13 January, the course was still 260° true. The vessel passed about one cable South of Pollock Rock.
- 3.4.8 At about the same time as above M.V. "Kim" passed between Pollock Rock and "TOMFIELD" on a Westerly course.

- 3.4.9 The Master reported seeing the sector light on Roche's Point change from Red to White. He then allegedly kept 1½ miles off [Roche's Point.] When about one mile off Roche's Point, the Radar range was allegedly shortened to ½ mile.
- 3.4.10 The Master stated that the intention was to steam Westwards, until the lights of buoys E1 and E2 were in line, with the intention of running down that line within the white sector of Roche's Point Light.
- 3.4.11 When the vessel was 0.5 miles off [we infer that to have been Roche's Point] the red and green lights of the above noted buoys were seen to be separating and the vessel making leeway or set to the East. The leading lights from Dognose were allegedly not seen by the Master.
- 3.4.12 Buoy E2 was picked up on radar when 0.2 miles off the starboard bow on a course of 010° passing 0.15 miles clear.
- 3.4.13 When 0.25 miles off Outer Harbour Rock buoy - E2 - with the wind on the port beam vessel the Master allegedly attempted to alter course to port and to "*go through the wind,*" but the vessel failed to respond.
- 3.5 The charts used were BA 2049 then BA 1777. Chart BA 1765 was stated to be on board but was not used.
- 3.6 As the vessel ran aground she first struck with her starboard side on a submerged rock and then rotated to end up heading approximately South South West. That position was maintained until about 0900 hours on the morning after the grounding when wind, wave and tidal action caused her to pivot to a heading of about West and then North. She later moved again to a South Easterly heading which indicated that the heading had rotated through about 270° before finally settling with her port side to the shore.
- 3.7 The Harbour Master later observed a blue fishing net that was partly draped around the rudder mechanism. This was, at first, thought to have been a contributory factor in the loss of control. It was, however, later disregarded as the fouling was more evident around the rudder and was not considered to have interfered with the propeller.

4 ANALYSIS

4.1 Manning and Watchkeeping

- 4.1.1 The Master held a United Kingdom Certificate of Competency as Mate of a Home Trade Passenger Ship issued in 1978. Under the UK Regulations this certificate would be equivalent to a Class 2 Certificate for a vessel of less than 15,000 grt within the Limited European area (UK SI 1985 No. 1306.) He did not however hold a Command endorsement or any revalidation endorsement to his Certificate. He also held a Panamanian Licence for Master of a Vessel of less than 1600 grt. The latter is not recognised by the Bahamas Maritime Authority.
- 4.1.2 The Mate held United Kingdom Class 4 Certificate of Competency as Mate issued in 1992 and an equivalent Bahamian Licence.
- 4.1.3 The vessel's Engineer had a Certificate of Competency allegedly issued by the "Country of Oceanus, Oceanus Government Transportation Commission." To our understanding no such country exists. It is not a member of the United Nations or of the International Maritime Organisation. Such a Certificate of Competency has no validity or recognition by the Bahamas Maritime Authority. He also claimed to have a Polish Licence as Second Engineer, limited to 895 kW (1,200 bhp) but this was not made available.
- 4.1.4 The Master and Engineer therefore did not hold the appropriate qualifications for their ranks.
- 4.1.5 There were three seamen on board thus satisfying that aspect of the Safe Manning Document.
- 4.1.6 During the period in Wicklow, after the discharge the crew had been engaged in cleaning out the hold after the carriage of coal. It was observed, when the vessel was stranded at Cork, that the two hatches to the single hold were improperly secured. This was not causative or relevant to the stranding.
- 4.1.7 The watch keeping routine on this vessel was the same as on board most similar coastal vessels in that the Master and Mate, being the only two certificated watchkeeping officers, arranged the bridge watchkeeping routine between them. It was generally worked into an approximate six hourly 'watch on watch' system with the Master keeping approximately the 0000 to 0600 hours and 1200 to 1800 hours watches and the Mate keeping the mid-morning and evening watches. There was a Managers' instruction warning Masters of the dangers of fatigue, particularly in respect of Mates that may have been involved in cargo or maintenance matters for a period before they were required on a bridge.

- 4.3.5 A normal approach to that channel, for any small vessel such as "TOMFIELD," would commence by steaming an approach course a safe and comfortable distance South of the shoreline. As the leading line of Dognose lights was approached, when about one mile South of Roche's Point, a course alteration to starboard would be made to steady on a course of 354°, head on to those lights.

Once a vessel steadied on that course, at least half a mile, but preferably about one mile before being abeam of Roche's Point, there would be sufficient time to assess the set and/or leeway of the vessel as it approached the narrow East Channel. There would also have been sufficient time to have set up parallel marks on a navigational radar to pass a clear and safe distance off the Cow and Calf rocks or Roche's Point.

- 4.3.6 The alternative West passage involved more course alterations but had the advantage of being wider and closer to the protective lee of the Western shore from South Westerly winds. It was also marked by a pair of leading lights and the buoys W1/W2 and E4/W4 before it joined the leading lights from Dognose.

The approach to the West channel would have initially involved sailing on a parallel course to the coast line to pass about one mile South of Roche's Point. Immediately after crossing the Dognose Leading Lights a course alteration to starboard should have been made to about 330°, towards Weaver's Point and the buoys W1 and W2 so as to intercept the West Channel Leading Lights. This would give less time to set up onto the first pair of lights but the positioning would not have to be so precise because the channel was wider.

- 4.3.7 The approach and courses adopted by the Master on the evening of 13 January are not very clear. He stated that the Dognose leading lights were not visible. The Meteorological Service assessment of the visibility was that it was only poor in drizzle. Under those circumstances we consider it likely that they were visible during the approach to the buoys E1 and E2.

- 4.3.8 The Master stated that his original intention was to use the West channel but that he thought he had heard reference to another, outbound vessel using it, so at the last minute he discussed the option of entering through the East channel with the harbour radio and was given clearance. Up to that point a course of 260° had been maintained yet it was recognised that there was a lot of set and leeway to the North.

- 4.3.9 The final approach course to the East channel was allegedly on a transit line leading to buoys E2 and E1. This was about 031°. In order to achieve that the Master should have altered course to starboard through 130°. Such a large alteration of course was never referred to in his statements.

- 4.3.10 The Master continued to state that, as he approached buoy E2, he observed the buoys to have been opening, indicating that the vessel was falling away from the previous alignment with the buoys. "TOMFIELD" was therefore rapidly making a lot of set and/or leeway towards the East.

- 4.3.11 Roche's Point, upon which the vessel grounded, was about two cables (400 metres) East of buoy E2. If the vessel did pass that buoy, as stated by the Master, then her final track was virtually due East while the Master was applying helm to attempt to turn the vessel to port, through the wind.
- 4.3.12 During that attempted manoeuvre "TOMFIELD" ran aground, starboard side to the rocks off Roche's Point.
- 4.4 A blue fishing net was later observed to have partly fouled the propeller and rudder but was not considered to have been contributory to the grounding.
- 4.5 The scenario of the failed control air supply included a gradual closing of the valve allegedly caused by localised vibration. The failure described by the master gave no indication of any such gradual speed reduction. The time lapse between normal operation and the catastrophic failure that preceded the grounding was very short.
- 4.6 The master has made a very reasonable claim that despite his limited qualification he was in fact a very experienced Master of small commercial vessels who had twice received awards or commendations for acts of seamanship. Had that been the case we would expect such a man to be very sensitive to a reduction of power long before it became so critical that there was insufficient force – working through a high efficiency Schilling rudder - to turn the vessel through a moderately strong wind and sea. It would have been important that he ensured that the air valve which allegedly closed itself only two weeks earlier was monitored on a regular basis and particularly immediately before entering port.
- 4.7 We find the evidence of the Master to be inconsistent:
- He must have made a very large, 130°, course alteration away from the planned, comparatively safe West channel entrance, the shore of which afforded a lee from the moderately strong wind and sea.
 - He never referred to this large course alteration which would have been that last major manoeuvre made before the vessel allegedly went out of control.
 - He personally took the helm to make the large course alteration, leaving a seaman as a helpless lookout. That seaman's duties should have been as a helmsman leaving the Master to be available to move around the wheelhouse and to assess the situation more effectively.
 - He stated that he understood from an overheard radio conversation that another vessel was outward bound through that channel yet he clearly stated that there was only one other, inward bound vessel on his radar.
 - He opted to, effectively, overshoot to the West the leading lines that give a steady approach to the East channel and then to alter course so as to head back across that line partially towards a lee shore.
 - We therefore have doubts about the evidence of the Master and as such cannot accept it as a full record of the events of that night.

5 CONCLUSIONS

5.1 Weather

5.1.1 The wind speed was not as bad as had been portrayed by the Master and those on board "TOMFIELD." Such minor exaggeration is a natural phenomena of those involved in a casualty. The direction was either South (Irish Meteorological Service) or South West (The Master) of up to Beaufort force 6.

5.1.2 The Master reported that the visibility was poor and that he was unable to see the Dognose leading lights at a range of about one mile. The Irish Meteorological Service opine that the visibility was generally good but only poor in drizzle.

5.2 Qualifications

5.2.1 The Master and the Engineer were not qualified, in Bahamian Law to hold their positions on "TOMFIELD." The Master did not hold a command endorsement to his United Kingdom Mate Home Trade Certificate of Competency. As such that qualification would not have been acceptable to the Bahamas Maritime Authority for the issuance of an equivalent Bahamas Licence. He also held a Panamanian Licence for Command of vessels of less than 1,600 tons GT. This would not be recognised by the Bahamas Maritime Authority.

5.2.2 The qualification of the Engineer was from a country that, to the knowledge of the Bahamas Maritime Authority is not a member of the International Maritime Organisation, has not endorsed STCW and does not, in fact, exist. His qualification would also not be recognised by the Bahamas Maritime Authority.

5.3 The Grounding

5.3.1 The Control Air Valve

The Owners have attributed the cause of the grounding to be the result of a faulty air valve on the controllable pitch mechanism of the propeller. Such an opinion was not based upon firm evidence gained from the vessel or from direct witness statements of the events. The history of a similar fault occurring two weeks earlier makes it is a possible contributory cause. We do not discount it but, for lack of positive evidence, cannot fully accept it.

5.3.2 Bridge Procedure

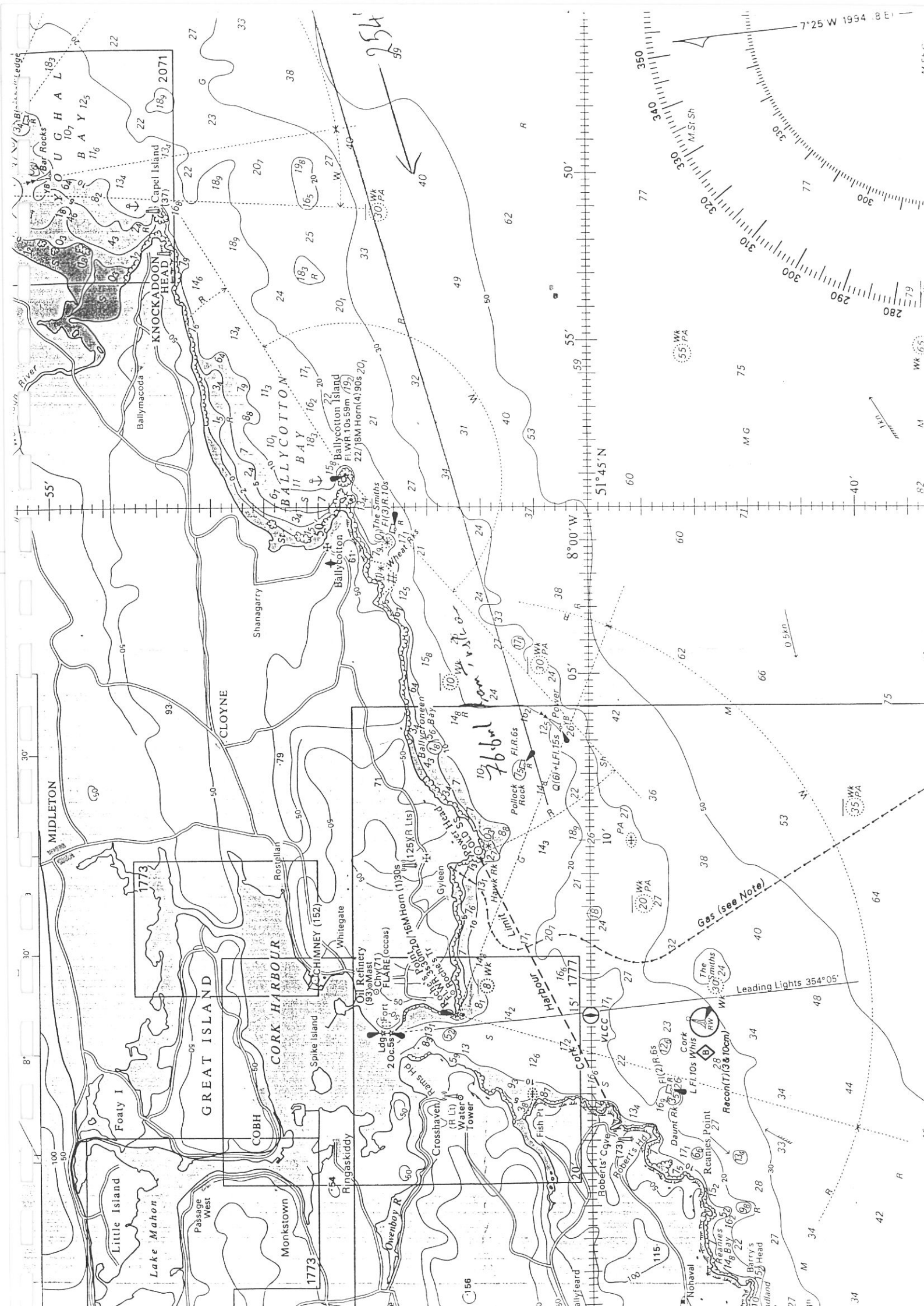
We have concerns as to the bridge procedure adopted by the Master when making the approach to the entrance by Roche's Point. In his favour he correctly had the assistance of another man on the bridge with him and he instructed the engineer to disengage the shaft generator and run up auxiliaries. Those items exhibit a certain level of operational management.

However the following observations are critical of his bridge, pilotage and navigational management of the vessel:

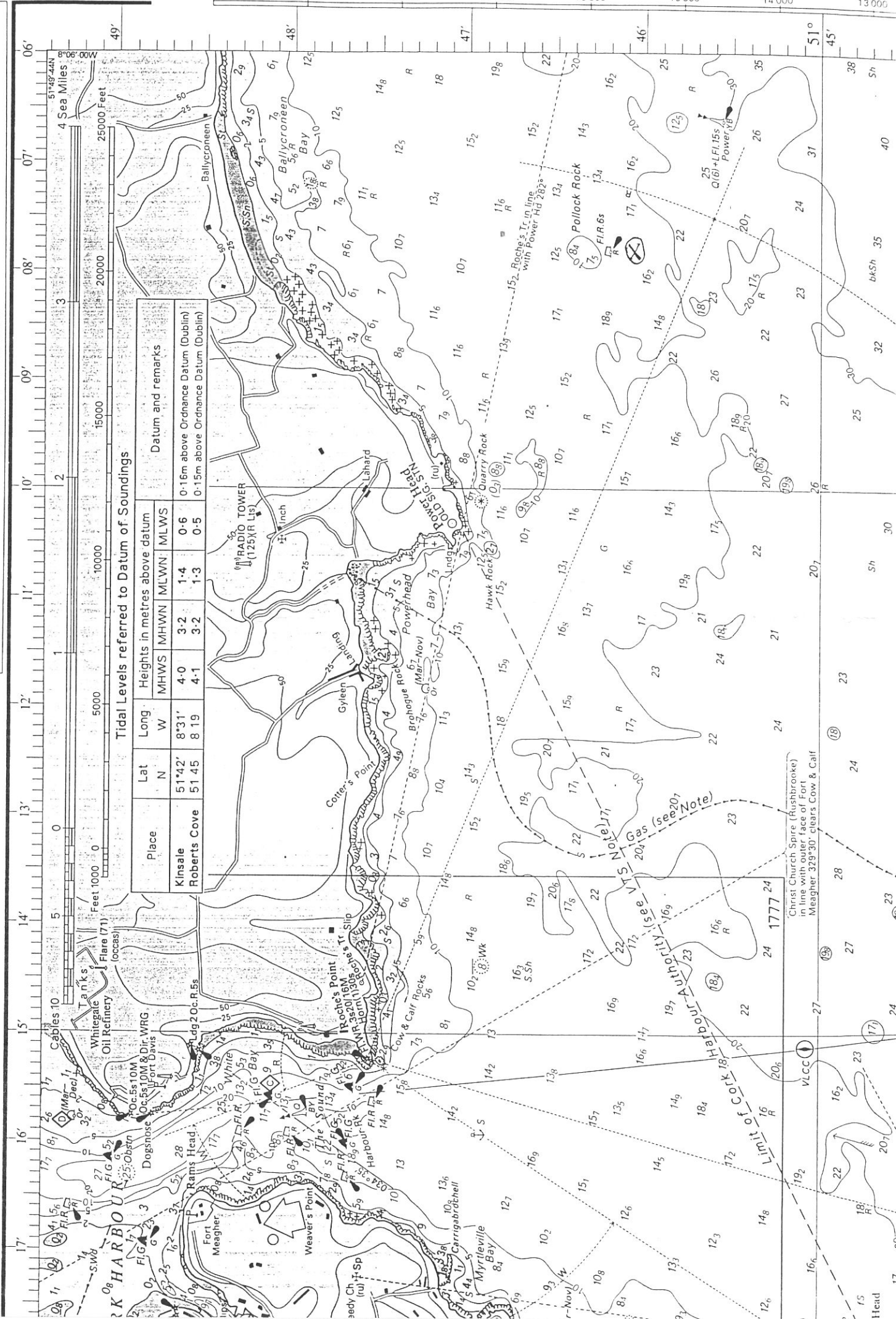
- He made a last minute change of route without any apparent planning. During the crucial period of navigation, when within three cables from the E2 buoy and the East channel, with the Dognose leading lights claimed not to be visible, he manoeuvred the vessel:
 - ◇ away from a channel that afforded protection from the strong winds,
 - ◇ back across the recommended approach course to that channel,
 - ◇ towards a lee shore,
 - ◇ without any firm evidence that it was necessary.
 - ◇ He personally took the helm to make an extremely large alteration of course, towards a lee shore leaving a seaman as a helpless lookout.
 - ◇ The seaman's duties should have been as a helmsman leaving the Master to be available to move around the wheelhouse and to assess the situation more effectively.

5.4 The sequence of events as described by the Master do not follow a logical pattern.

5.5 The potential of the Control Air supply failure may have been contributory but there are other matters and inconsistencies, particularly in the Master's statement, that were not clarified during the investigation. That leads us to an opinion that the failure of the air supply was not the only cause of the grounding.



SEE TIDE / ALTITUDE / NOTICES / MARINE / CENTRAL / PORTAL / DIRECTIONS (local conditions, directions, regulations, port information), List of Lights, List of Radio Signals (navigational warning and weather transmissions, vessel traffic services, port operations, pilot services, radio beacons), Tide Tables, Tidal Stream Atlases, The Mariner's Handbook (general information), 5011 (symbols and abbreviations), etc.



Christ Church Spire (Rushbrooke) in line with outer face of Fort Meagher 329°30' clears Cow & Calf

