

JUDGMENT : The Hon. Mr Justice Langley Commercial Court. 24th February 2000

INTRODUCTION

1. This is a claim by Charterers and Cargo interests against the Owners of the vessel "Isla Fernandina". The vessel is a fully refrigerated cargo ship of 6,988 gross registered tons.
2. On February 25, 1994, on an amended Gencon form, the first Claimant (Reybanpac) chartered the vessel from the first Defendant (Transnave) for the carriage of a cargo of fresh green bananas on a voyage from Puerto Bolivar and Guayaquil in Ecuador to Benghazi in Libya and Novorossiysk in Russia. Bananas were loaded on February 27 at Puerto Bolivar for both destinations. They were the subject of 2 bills of lading dated February 27, and 2 further bills dated March 3. On March 3 more bananas were loaded at Guayaquil also for both destinations. They were the subject of 2 further bills of lading dated March 3. The vessel sailed on March 3 for its ports of destination.
3. On March 7, after the vessel had passed through the Panama canal, the bosun was seriously injured in a fall. The vessel turned towards the port of Cartagena in Colombia to seek assistance and continued there after the bosun died in order to disembark his body. On March 7, at about 2335 hours, as it was approaching the port, the vessel ran aground on a sandbank known as the Salmedina Bank. The major issue in these proceedings is why this happened. The Claimants attribute it to the use of charts and navigational materials relating to the port of Cartagena which were out of date. Transnave attributes it to negligent navigation by the Master (Captain Manosalvas) and/or Third Officer (Robert Berrones).
4. The vessel had to be lightened to get it off the bank. Some of the bananas were unloaded. They could not be refrigerated again or sold as Cartagena was a port from which bananas were exported. They were lost.
5. On March 12, whilst the vessel was still on the bank, one of its three generators failed. There is a dispute about why this happened. The Claimants attribute it to a failure of maintenance. Transnave attributes it to a latent defect.
6. By March 12 the Claimants were becoming concerned about whether once the vessel was refloated the remaining cargo might survive the voyage to Libya and Russia and they instructed an agronomist and surveyor, Dr Spolidoro, to fly from Italy to inspect the cargo. In order to avoid further delay in the delivery of the remaining cargo and to mitigate their loss Reybanpac sought to sell it at nearer destinations and eventually, probably on March 25, did so at a much reduced price by a sale agreement with the third Claimant (Comaco) CIF West Coast Italy, in the event the port of Genoa.
7. On March 16 the vessel was refloated and berthed at Cartagena. A local enquiry took place into the grounding. On March 18 a portable generator was put on board the vessel which set off on its voyage again. The portable generator failed and the vessel called at Panama to take on board a second replacement generator. That generator also failed and a third one was taken on board at Puerto Rico. Two further bills of lading dated March 3 were issued for the remaining cargo and the previous bills were cancelled.
8. When the vessel arrived in Genoa and the cargo was discharged it was found to be damaged. There are disputes as to why this happened, as to the extent and nature of the damage, and as to whether part of the alleged loss is in any event recoverable. The Claimants' case is that the damage was caused by a failure to look after the cargo properly or in accordance with their letter of instructions about its care. Transnave dispute that and attribute the damage to the length of the voyage and the natural ripening of the bananas. Transnave also claims a contribution towards general average from Reybanpac which stands or falls with the outcome of the dispute about the grounding on Salmedina Bank.
9. There is no issue on title to sue.

THE CHARTERPARTY

10. The Charterparty provided as follows.

Clause 2 Owners' Responsibility Clause.

Owners are to be responsible for loss of or damage to the goods or for delay in delivery of the goods only in case the loss, damage or delay has been caused by the improper or negligent stowage of the goods ... or by personal want of due diligence on the part of the Owners or their Manager to make the vessel in all respects seaworthy and to secure that she is properly manned, equipped and supplied or by the personal act or default of the Owners or their Manager.

And the owners are responsible for no loss or damage or delay arising from any other cause whatsoever, even from the neglect or default of the Captain or crew or some other person employed by the Owners on board or ashore for whose acts they would, but for this clause, be responsible, or from unseaworthiness of the vessel on loading or commencement of the voyage or at any time whatsoever

Clause 3 Deviation Clause.

The vessel has liberty to call at any port or ports in any order, for any purpose ... and ... to deviate for the purpose of saving life and/or property.

Clause 11 General Average.

General Average to be settled according to York-Antwerp Rules 1974. Proprietors of cargo to pay the cargo's share in the general expenses even if same have been necessitated through neglect or default of the Owners' servants (see Clause 2).

Clause 24

Charterers to give Owners and/or Master full instructions as to cargo and temperature prior to loading. The vessel's logbooks including temperatures of the cargo to be accessible to the Charterers. In addition, officers of the vessel to fill up the Charterers' log abstract and other reports as required.

Owner shall be responsible for damage to cargo if independent surveyor prove that Owner has not complied with letter of carrying temperatures instructions given by Charterers.

At loading the shipper will check both the internal and external condition of the bananas. If survey reports have been issued by S.G.S. ... the contents of these reports will be sole evidence regarding the shipping condition of the cargo.

If a damage of the cargo has been occurred owners and/or master to allow the surveyors nominated by the charterers or their insurance company to investigate the cause of the damage. The surveyors to be given access to the cargo holds and all necessary documents such as log books, temperature instructions, etc.

Clause 28.

Gencon Bills of lading are to be used. The terms of this Charterparty shall be considered incorporated into Bills of Lading.

Cause 38.

New Jason, Both to Blame Collision and Paramount Clauses to form part of and be incorporated in this charterparty.

11. By reason of Clause 38 the Charterparty incorporated the Hague Rules. The Rules (so far as material) provided that:

Article III Rule 1

The carrier shall be bound, before and at the beginning of the voyage to exercise due diligence to :

- (a) Make the ship seaworthy
- (b) Properly man, equip and supply the ship
- (c) Make the holds, refrigerating and cool chambers, and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage and preservation.

Article III Rule 2

Subject to the provisions of Article IV, the carrier shall properly and carefully load, handle, stow, carry, keep, care for and discharge the goods carried.

Article III Rule 8.

Any clause ... in a **contract** of carriage relieving the carrier or the ship from liability for loss or damage to or in connection with goods arising from negligence, fault or failure in the duties and obligations provided in this Article or lessening such liability otherwise than as provided in these Rules, shall be null and void and of no effect.

Article IV

- 1. Neither the carrier nor the ship shall be liable for loss or damage arising or resulting from unseaworthiness unless caused by want of due diligence on the part of the carrier to make the ship seaworthy, and to secure that the ship is properly manned, equipped and supplied, and to make the holds, refrigerating and cool chambers, and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage and preservation in accordance with the provisions of paragraph 1 of Article III
- 2. Neither the carrier nor the ship shall be responsible for loss or damage arising or resulting from -
 - (d) Act, neglect or default of the master, mariner, pilot, or the servants of the carrier in the navigation or in the management of the ship
 - (e) Perils, dangers and accidents of the sea or other navigable waters
 - (p) Latent defects not discoverable by due diligence:
 - (q) Any other cause arising without the actual fault or privity of the carrier, or without the fault or neglect of the agents or servants of the carrier ...

Any deviation in saving or attempting to save life or property at sea, or any reasonable deviation shall not be deemed to be an infringement or breach of these Rules or of the **contract** of carriage, and the carrier shall not be liable for any loss or damage resulting therefrom.

12. Reybanpac did give a letter of instruction to the Master, dated in December 1993, in accordance with Clause 24 of the Charterparty. Although some of its terms require a little explanation it provided that:

REF: IN GUAYAQUIL IT BECOMES VITALLY IMPORTANT TO KEEP COOLING THE LOADING WITH COOLING FANS AT HALF SPEED AND ABT. 12.5 DEG. 0 C

(1) =====

The cooling of the hatches should be started at least 24 hours prior to loading. At the start of the loading the hatches should be precooled to 9 o C.

As soon as a compartment is completed, it must be closed down and the cooling fans started and kept at the maximum capacity.

The delivery air should be around 11.0 - 11.5 in order to obtain the shortest reduction period, but nevertheless much care should be taken, not to let the pulp temperature of the coldest bananas, the ones on the gratings, fall below 13.2 - 13.3 o C.

As soon as these values are reached, the delivery air should be raised to 12.5 - 12.8 °C in order to keep a carrying temperature of around 13.0 °C for the coldest bananas in the pulp.

The returned air temperature, should be kept below values of around 13.2 - 13.3 °C.

The fresh air renewal flaps are to remain closed during the shock-treatment period, but they are not to remain closed longer than twenty-four hours after each cooling compartment is finished loading and the hatch is closed.

Once the fresh air ventilation is started. The air renewal flaps are to be regulated proportionally as to maintain a CO₂ contents in the cooling section of 0.2% - 0.3% until the ambient temperature drops below 13.2 - 13.3 °C.

In this case the cargo must be vented twice daily for thirty minutes each period with a careful watch kept on the delivery temperature.

The contents are to be checked and recorded every 12 hours from completion loading on the first cooling compartment until termination of the cooling namely on opening the first hatch for discharge.

13. A survey report was issued by S.G.S. in the form of a certificate dated March 4 in respect of the cargo recording that the bananas were vacuum packed in boxes and were green fresh and clean on shipment.

THE BILLS OF LADING

14. The cartons of bananas loaded in Puerto Bolivar were originally the subject of two bills of lading signed by the Master, issued on February 27 to Reybanpac and naming different consignees, Emirates Trading Agency for Benghazi (36,071 cartons) and Tabeni Enterprises for Novorossiysk (35,071 cartons). The cartons loaded at Guayaquil were also originally the subject of two bills of lading signed by the second defendant "Tradinter" on behalf of Transnave, issued on March 3 to Reybanpac and naming the same two consignees for Benghazi (29,725 cartons) and Novorossiysk (80,029 cartons). It seems that the destinations of the total number of cartons loaded at Puerto Bolivar (71,142) was changed so that only 17,453 cartons were to be delivered to Benghazi and 53,689 cartons were to be delivered to Novorossiysk. The change is reflected in two further bills of lading purporting to be issued at Puerto Bolivar on March 3. Although Mr Kverndal suggested that the dating of these bills was deliberately erroneous because of the need to show a shortened voyage time for the bananas I think it more probable that it was no more than a (mistaken) consequence of the later change in destination of some of the cargo in fact loaded four days earlier at Puerto Bolivar on February 27.
15. All the six bills referred to were formally annulled. 22,380 cartons of bananas were taken off the vessel to enable it to be refloated after the grounding. The undisputed (written) evidence of Mr Wong (the Executive Vice President of Reybanpac) is that following the decision to re-route the remaining cargo to Italy the original bills were returned unendorsed to Reybanpac on about March 25 and on March 31 they were surrendered to Transnave in exchange for two new bills in favour of Comaco. Those bills were for 57,701 and 100,815 cartons respectively, a total of 158,516 cartons being the original total cargo less the 22,380 cartons taken off to refloat the vessel. These bills were also dated March 3, were issued to Reybanpac as shipper and named Comaco as consignees. They were issued by Tradinter and, although until a late stage of the trial Mr Kverndal was submitting that in doing so Tradinter was not acting as agent for Transnave, in his closing speech he (rightly in my judgment) conceded that it was.
16. There is no evidence as to when the two bills for the remaining cargo in fact reached Comaco.
17. In broad terms, the Claimants allege that Transnave failed to exercise due diligence to make the vessel seaworthy at the commencement of the voyage or properly to man or equip the vessel or care for the cargo by reason of out of date charts and navigational equipment being on board, the conduct of the Master and the condition of its power and refrigeration plants. They also allege breaches of the letter of instruction. Transnave's case is that the vessel was seaworthy and properly equipped, the grounding was caused by negligence on the part of the Master and/or Third Officer and so excluded from their responsibility, and that the defects in the remaining cargo found at Genoa were caused by the natural ripening of the cargo consequent upon the delay in the carriage which itself resulted from the grounding and a latent defect in generator 3 and hence matters excluded from liability. The claims are all brought under the charterparty save for one claim by Comaco brought under the final two bills of lading which came to be referred to as "*the shocked bananas claim*".

THE EVIDENCE

18. Apart from a considerable volume of documentary evidence, including contemporaneous reports, the evidence before the court was as follows.
19. Factual evidence on behalf of the Claimants was given orally by Mr Giorgio Mattarelli, a Marine Engineer and Naval Architect appointed to investigate the grounding of the vessel on behalf of cargo interests; Andrea Panarello a marine engineer and naval architect appointed as one of two Court Surveyors by the Courts in Genoa on April 7, 1994; Mr Tulio Gazzillo an insurance broker and, through a company shortly described as GDSA, a claims and recovery agent who broked the cargo insurance and was appointed claims agent under the policy, and Dr Spolidoro (who also gave expert evidence). A number of statements from other witnesses were also relied upon (by consent) concerned mostly with quantum and title.
20. The Claimants also rely on two hearsay Statements. A statement by the Third Officer, made in Cartagena as a letter of protest dated March 10, 1994, which gives an account of the grounding on the Salmedina Bank; and a

statement made by a Mr Jeannot (a cargo surveyor) made in a letter dated March 25, 1994 in respect of his inspection of the cargo on the vessel when it berthed at Puerto Rico to pick up the third replacement generator.

21. The factual evidence for Transnave was limited. The Master was dismissed. The Third Officer is no longer employed by Transnave which has sold all its vessels. The witnesses who gave oral evidence were a Mr Ocana, an employee of Transnave, whose evidence concerned the company's employment procedures at the material time; Mr Silva, the First Engineer of the vessel on the voyage; and Mr Leech a partner in Clyde & Co. Transnave's solicitors.
22. In addition (and again by consent) written statements provided by the First Officer, the second Officer, the Second Engineer, the Chief Refrigeration Engineer and Transnave's ship manager at the time, Captain Mino, were admitted in evidence.
23. The parties sensibly agreed that rather than serve a plethora of cross notices in respect of statements recorded in the documents in effect they should be treated as admissible evidence subject, of course, as with the formal statements, to the right to submit that they should be given no or limited weight and indeed, in some cases, were untrue.
24. It should be appreciated that many of the documents to which reference is made were originally written in Spanish and Italian and the translations which are quoted are sometimes less than perfect. Mr Gazillo gave his evidence in Italian. Captain Ocana and the First Engineer gave evidence in Spanish.
25. Expert evidence was given as follows:
 - On the condition and storage of the bananas, for the Claimants Dr Spolidoro, to whom I have already referred, and for Transnave Mr Kenneth Jarrett.
 - On the adequacy of the power and refrigeration plants of the vessel, and the failure of generator 3, for the Claimants George Lugg of Casebourne Leach & Co. and Mr Deegan of Atlantic Engineering and for Transnave Mr Cheyne of Aquarius International Consultants Ltd and Dr Timothy Baker.
 - On the grounding of the vessel and the navigational issues involved, for the Claimants Mr Noble and for Transnave Captain Hart.
 - On classification, for Transnave, Mr Shearer.There are joint reports by Mr Lugg and Mr Cheyne and by Mr Noble and Captain Hart but the measure of recorded agreement was limited.

THE ISLA FERNANDINA

26. The vessel was built in Norway in 1978. She has 4 holds, nos 1 and 2 being divided by 3 intermediate decks into A, B, C and D compartments and nos 3 and 4 being divided by 2 intermediate decks into A, B and C compartments. She was fitted with a single Sulzer type 6RND68M diesel main propulsion engine and 3 Wartsilla type 524TS auxiliary generators with a rated power of 600KW each. A full electric load at sea, including the cargo refrigeration plant, was about 950KW. The relevant Rule of the vessel's Classification Society provided that: *"The capacity of the generating sets is to be such that in the event of any one generating set being stopped it will still be possible without recourse to the emergency source of power to supply those services necessary to provide normal operational conditions of propulsion and safety, preservation of the cargo and minimum comfortable conditions of habitability"*
27. On 15 and 16 September 1992 the vessel was surveyed by Servicios Tecnicos Maritimos S.A. Of the generators it was said that *"it was reported that the present output of the motor generators is of the order of 80% that is to say that the Diesel motors only bear a maximum generating capacity of around 480KW each. This is normal, taking into account the age and the total number of operating hours of the motors which ... is approximately 73,000 hours, which involves a slow wear and tear on all the parts with consequent loss of power."*
28. Under the heading "General Recommendations and Comments" it was said that: *"... the vessel has a considerable deficiency for generating electric power aggravated ... by the reduction to 80% of the power of the motor generators. This means that it is necessary to have the three generators working at maximum present capacity throughout the first three or four days after the vessel has been loaded with refrigerated containers on deck and with bananas or other cargo which requires considerable renewal of air. It is easy to imagine the possible problems which might occur as a result of the damage to one generator. This problem can be avoided in part by maintaining the generators in optimum working condition with a full preventive maintenance and a wide range of spare parts supplied"*
29. A Class Survey carried out in April 1993 consequent upon failure of one of the generators reported that the chief engineer had advised *"that either of the 2 remaining ship service generators were capable of carrying the electric load at 100% of cargo voyage and same was considered satisfactory. The engines were tried out as deemed necessary"*. As it is accepted and obvious that one generator even in perfect condition could not provide 950Kw this report must be inaccurate. The vessel was recommended to be retained in class, and the failed generator was successfully repaired.
30. On 15 December 1993 the Chief Engineer reported to Transnave that the generators were *"in good working condition, following the preventive maintenance recommended by the manufacturers"*. A further report from the Chief Engineer dated February 24, 1994 included a reference to the NEBB temperature control system (described as the MIDAS system) and the comments :- *"As the Midas datalogger system continues inoperative we hope this problem will be solved as it is necessary for the safety and control of the main engine auxiliary equipment, the same applies*

for the refrigerating plant in holds and repair of the Midas datalogger system required for a better control of the plant.”

31. There is no dispute that the NEBB system remained inoperative at the time of the voyage. In simple terms it was a system which enabled both the delivery air to and return air from the holds as well as the pulp temperature of the cargo to be monitored through probes. The vessel also had a STAL system which was functioning but which monitored only the delivery air. Again in simple terms the refrigerating plant itself consisted of cooling batteries and fans situated in a space aft of the holds into which both fresh air was piped and air returned from the holds was passed by a grille, to be carried past the batteries and into a small space under the Warkhaus wooden gratings forming the base of the holds from where it would pass through the cargo in the hold and either return to the battery area or be vented.

THE MASTER AND THIRD OFFICER

32. The Master's qualifications and experience are not in question. He had served with Transnave as First Officer from at least 1972. In 1986 he was re-recruited by Transnave as Captain, having worked as Captain with another company since 1974. The Third Officer had been recruited as a cadet in 1993 and obtained his Third Officer's certificate in the Naval College at Guayaquil in December 1993.
33. There is no evidence which even suggests that either the Master or the Third Officer had ever been involved in a previous incident of grounding or the like or that either of them had previously been subject to any disciplinary process.

CHARTS AND NAVIGATIONAL MATERIALS

34. The Second Officer was responsible for controlling and procuring the charts and navigational materials carried by the vessel. He prepared an inventory of what was on board the vessel apparently dated December 1993. The disclosed copy of this inventory, however, begins at a page numbered 6. Mr Smith submitted that this raises real doubts as to its full contents and I agree that it does.
35. As regards navigating to Cartagena the vessel had the following.
- (1) American nautical charts DMAHC Nos. 26000, 24504 and 24506. Chart 2600 had been updated to August 1987, Chart 24504 had been updated to 10 December 1977 and Chart 24506 to week 23 of 1978. Both Charts 24504 and 24506 marked a light on the Salmedina Bank. Neither (unlike Chart 26000) appeared on the December 1993 Inventory. The Charts showed the Central Part of the Caribbean Sea (26000), the North Coast of Colombia from Punta Baru to Punta Canoas (24504) and the area closer in to Cartagena (24506). At the time of the grounding the Third Officer was using Chart 24504. As to this Chart, in his statement the Second Officer said that when he saw it on the bridge he noticed it was an old chart which had not been corrected, adding "where the Master found the chart I do not know and he has never talked to me about the matter since. Neither do I know why the chart was on board. As far as I am aware the Isla Fernandina has not been to Cartagena for many years".
 - (2) The Admiralty List of Lights and Fog Signals, Volume J, 1991 which also showed a light in operation on the Salmedina Bank.
 - (3) The British South American Pilot, volume IV, 2nd Edition (1983) which referred to a Salmedina light as a metal tower on a stranded wreck.
36. It is possible but uncertain whether the vessel had on board the U.S. List of Lights No. 110 (1992 Ed), fully updated, which also showed a light at Salmedina. The inventory recorded it. But it was not produced or referred to after the grounding nor by way of disclosure.
37. What was not on the vessel was
- (1) The Admiralty's Notice to Mariners, Section V (No 24/93) dated June 19, 1993; or
 - (2) The Admiralty List of Lights and Fog Signals, Volume J 1993, published in November or December 1993; or
 - (3) (as I find) Supplement No. 3 of 1989 to the South American Pilot, volume IV; or
 - (4) Notice to Mariners, No. 3448 of 1989;
- any one of which would have shown either that the Salmedina light was temporarily extinguished or that references to it had been deleted. On the other hand, on the evidence, the American charts and List of Lights, even updated fully to the time of grounding, continued to show a light on the Salmedina Bank.
38. The International Convention for the Safety of Life at Sea 1974 (SOLAS) provides by regulation 20 of chapter 5 (which itself has formed part of the laws of Ecuador since 1982) that: "All ships shall carry adequate and up to date charts, sailing directions, lists of lights, notices to mariners, tide tables and other nautical publications necessary for the intended voyage."
39. The documents establish that on 11 October 1993 the Master requested the Admiralty's Notices to Mariners for the previous 3 months; on 26 October he requested Admiralty List of Lights, volume J and missing Notices to Mariners for 1993; on February 15, 1994 he again requested Admiralty List of Lights, volume J and Notices to Mariners for 1994. They had not been provided to the vessel at the time it sailed for Libya and Russia.

THE ORIGINAL SALE CONTRACTS

40. Reybanpac had entered into a sale contract in May 1993 with Emirates Trading Agency (Emirates) to sell to Emirates consecutive consignments of bananas over a period of 11 months commencing in August 1993. In March 1994 the Second Claimant (an associated company of Reybanpac) agreed to sell bananas to Tabeni Enterprises (a Cyprus company) to be delivered over a period of 12 months commencing on March 1, 1994. The voyage represented the 12th shipment under the Emirates contract (Libya) and the first under the Tabeni contract (Russia).
41. The Emirates contract provided that the bill of lading should be issued in a quantity 1% less than the total loaded quantity to be adjusted when any damage or shortage was ascertained on completion of discharge. It also provided that the vessel used for shipment should always maintain the agreed temperature from loading to discharge without any break or fluctuation.
42. The Tabeni contract provided that from January to April and October to December the voyage to Russia must not be longer than 25 days (the figure was 20 days in other months) if the cargo was entirely for Tabeni and, if it was not, the voyage time must not be longer than 30 days.

FROM LOADING TO GROUNDING

43. On February 28, 1994 SGS issued a report on their survey of the vessel's holds at Puerto Bolivar which certified that all the cargo spaces were fit to receive a cargo of Cavendish bananas. The vessel was part loaded at Puerto Bolivar and then sailed to Guayaquil to complete the loading, berthing there on March 3. By 0830 on that day the remainder of the shipment had been completed. The SGS certificate, dated March 4, which certified that the bananas were green fresh and clean on shipment also stated that the average pulp temperature was 25.5°C with a range from 24 to 27°C.
44. There is a report from the Second Engineer to the Chief Engineer dated in Setubal on May 26, 1994 which states that all 3 generators were working normally in parallel at Guayaquil but that generator 3 had been stopped on March 3 due to a gas leakage through a cylinder injector which, when it was checked, revealed broken injector fixing studs. New studs were made and the injector replaced. It was then found that the governor was broken and it was changed and the generator was returned to service. The engine room log suggests the generator was out of service from 1200 to 2400. The vessel sailed at 1700 hours to commence its intended voyage. The same report records that from March 4 generator 3 continued to work in parallel as usual on March 4,5,6 and 7, the day it grounded.
45. Equador is on the west coast of South America. The vessel's passage to the Panama canal is to the north in the Pacific Ocean passing along the coasts of Equador and Colombia. The passage to and through the Canal was uneventful. The vessel sailed from Cristobal in Panama, now in the Caribbean Sea, at 2145 hours on March 6. The bosun was found injured the next day at 1550 hours. The coastline of Colombia continues in the Caribbean Sea to the north and east after the land border of Colombia and Panama. Cartagena is on the north coast of Colombia, and the Master diverted there.
46. I accept Dr Spolidoro's evidence, supported by the documents, that during this period there was no proper monitoring of the temperatures at which air was delivered to or returned from the cargo holds or of pulp temperatures. It is, or should be, during this period, known as "the reduction period", that the cargo or hold temperature is reduced to within 2.2° of the carriage temperature. That is an important operation for the proper preservation of the cargo as is apparent from the instructions which were provided to the Master which I have quoted.
47. The reasons for the vessel grounding are best considered in the context of the expert navigation evidence, but I shall record here some of the documentary evidence relating to it which also forms the basis of the expert debate.
48. On March 7 the Master issued a notice of protest which recorded that on that day after changing course for Cartagena:
22.07 hrs. Position established by satellite: Lat. = 10° 40' .3" N., and Long.= 75°55'.3" E., steering on true course 135°.
23.20 hrs. Changed fuel, engine ready for fairway manoeuvring.
23.35 hrs. A slight almost imperceptible vibration of the vessel was felt.
23.37 hrs. It was established that the vessel had run aground.
All the appropriate manoeuvring was carried out in an attempt to refloat from the stranded position, but without success.
49. The Master issued a further Deed of Protest dated March 8. It was signed by the Chief, Second and Third Officers. This recorded the circumstances of the bosun's death. It also noted that "The ETA at the Cartagena pilot station was given as 2400 hours on March 7, then as we were managing only 14 knots they were told that we would arrive at 0100 hours on 8 March."
50. The Master issued an extension to his notice of protest also dated March 8 because, he said, he considered it "to be of extreme importance" in which he declared: "Both on navigation chart No. 24504, published by the Department of Defence (Defence Mapping Agency) of the United States, and on chart No. 24506 COL 261, published by the

Colombian Naval Headquarters, with advice from the U.S. Naval Oceanographic Office, a light device is in position marking the Salmedina Bank, which on the day of the occurrences (March 07/94) was not there, that is to say that the navigation aid mentioned above was not at the time of the grounding in the position established by the aforementioned charts."

51. This extension was signed only by the Master. The Third Officer also issued a notice of protest dated March 10. It included the following:
- "I beg to inform that on 7th March 1994 I took over the watch at 20.00 hrs. in dead reckoned position on the chart on gyro course 135, magnetic compass course 145, speed 13.7 knots, putting in on a forced call at the port of Cartagena, Colombia; whilst navigating I took two positions by satellite which were as follows: 2111 Latitude 10-10.8N; Longitude 076-05.1W, and at 22.07: Latitude 10-40.6N; Longitude 075-55.3W; this latter was 40 miles away from land, at 22.30 the Master came up to the bridge, made himself a coffee and asked me: How many miles away from the sea buoy are we? And that is what I heard; my immediate reply based on the last position fixed was 40, Sir, then he said: Why don't you start to reduce speed, call the engine room; I was surprised but I complied with the order to call the engine room, and when I realised the actual distance to land from the small radar which was alongside the telephone at that time, which was 20.23 nautical miles, I asked the engine room to start reducing revolutions and change fuel, and at the same time I informed them that we were 20 miles from the coast. After this the Master said to me: "Didn't you tell me that we still had 40 minutes to go?", and I replied: "No, Sir, you asked me how many miles", but we were 20 miles and an hour and a half away from the sea buoy; immediately after my call to the engine room the Chief Engineer returned the call and spoke directly to the Captain, who told him that he should do nothing yet and that there was a misunderstanding with me and that he would call him later."*
52. After this the Master said he was going to his cabin or office and that I should call him, he did not say where along the course nor the time, and I continued to proceed.
- "At 23.00 hrs. I took the following position by radar to Cartagena Point: true bearing 116 and distance 12.7 miles, which position was not correct; because on the radar there was no clear differentiation between two points which at that time appeared on the screen to be exactly alike, in view of this confusion and the close vicinity of the Brujas and Salmedina sandbanks, I waited to take another fix. The wind and current were strong to starboard and the light on the sunken vessel on the Salmedina Bank never appeared; at 23.15 hrs. I took a further position with the same reference as before true bearing 110, distance 9.5 miles; at that time the helmsman told me that the Master had said that the mooring lines had to be got out for the forced berthing we were having to undertake, since the pilot station at 22.00 hrs had asked for E.T.A., and this was given as 24.00-01.00 hrs. to be confirmed at 23.30 hrs., which was reported to the Master when he came up at 22.30 hrs. I called the Chief Officer to report to him on the manoeuvre concerning the bow lines and once he confirmed this to me I called all the personnel to go forward, at 23.20 hrs. I called the engine room to ask them to change fuel and reduce revolutions for manoeuvring; immediately afterwards I called the Master to report to him that I was going to change course to 167 and he replied that he was coming up; at that time they switched on the working light on the forecabin which meant I lost all visibility and visual contact with land and the horizon, sincerely I was startled but I did not lose control; as the helmsman was not on the bridge I changed from automatic to manual steering in order to change course as soon as possible, and this was when I felt the vessel stop, I called the Master and asked him to come up, it was 23.35 hrs. when the Master came onto the bridge, the time of the grounding, he took command, stopped engines and manoeuvred with engines astern in order to attempt to refloat, but this was not successful. "(The emphases are mine).*
53. In the bundle of documents prepared for the hearing the first of the two Deeds of Protest dated March 8, the one signed by all the Officers, is followed by an undated typed document also in Spanish, plainly prepared by the Master alone, and entitled "Report on the Events which occurred during Voyage No. 010794 Reybanpac". The document covers events only on March 6 and 7. I think the strong probability is that it was prepared at or about the same time as the Master and Officers prepared and signed the Deed of Protest which it follows in the bundle. It makes no reference at all to the light on the Salmedina Bank and it would be remarkable if it had been written after the extension to the notice of protest signed by the Master alone which stressed the importance of the light. Even if it was, it would cast very considerable doubt on the contents of the extension to the protest.
54. Relevant extracts from this Report CA, after a description of the injury to and death of the bosun on March 7, are as follows:
- At a little after 18.00 hrs. I felt queezy in the stomach, and urgently needing to go to the toilet, which situation I attributed to a dish of oysters and chilli which I ate at lunch, as a result of which I did not have an evening meal. I remained on the bridge, succeeding in contacting our agents and the Cartagena pilot station, having agreed that we would go to the outer buoy where a pilot would wait for us in order to take us to anchor in the inner roads of the port in order to facilitate disembarkation of the corpse, and then after filling in the necessary formalities to continue our voyage.....*
- At 19.30 hrs approximately I returned to my cabin, took a bath and at approximately 22.00 hrs returned to the bridge, where I found the 3rd Mate Mr Berrones, the 2nd Mate Mr Rodriguez, the helmsman on watch Mr Macias, and the radio operator Mr. Jaramillo.*

On the general chart I saw a series of positions fixed by satellite taken during the Chief Officer's watch (16.00-20.00 hrs). At 22.07 a fix by satellite was received which gave us the following co-ordinates: Latitude 10-43.3N and Longitude 75-55.2W. I ascertained that we were on track, and we continued proceeding on true course 135.

After realising that we were only making 14 knots, we corrected the first ETA given to the Cartagena pilot station, for arrival at 01.00 hrs on 8th March 1994.

I continued to suffer stomach problems which meant that I continually had to go to the toilet; I remained in the place mentioned approximately from 22.20 hrs until 22.30 hrs when I returned to the bridge. On arrival on the bridge I checked the navigation chart and found that everything was correct and there was no danger with the "SALMEDINA" bank. At 22.35 hrs I received a call from our agent in Cartagena, when he told me that the vessel would go into port and berth on the starboard side; in view of this unusual situation, and because of the pressure due to the unfortunate events which had occurred previously, I reacted with disgust, responding by asking why I should go into port if this was a forced port of call and I could not see any reason for it. The agent replied that it was by order of the Harbour Master's office and that if I wanted to leave the body in that port I would have to comply with their instructions.

I replied that the vessel had all her gear below deck, and that at that time in the dark I would have to send the crew to pull out all the cables to the manoeuvring position, both fore and aft. He replied it was necessary to do so and there was no alternative.

I immediately asked Mr. Berrones to call the deck crew to carry out that work, which meant switching on the lights.

I again felt the need to go to the toilet, and I therefore ordered Mr Berrones to order the engine room at 23.20 to change fuel and change to manoeuvring speed, calculating that at 14 knots the change of course with the vessel under my direct control would be at 23.35; at manoeuvring speed of 10 knots approximately it would be later, which would give me more time to take care of my own essential needs without worrying. At 23.20 Mr Berrones called me, reporting that he had ordered a change of fuel "AND REDUCTION OF SPEED TO 110 RPM" (manoeuvring speed).

At 23.35 Mr Berrones again called me to let me know that we were in a position to change course, which needed/drew my attention and I therefore immediately went to the bridge, where I found the helmsman Mr Macias, steering with the engines full ahead at sea speed. I took bearing and distance by radar and realised that we were above the sandbank, instructed Mr Macias to fall hard to port, and immediately to stop the engines. I again took another position by radar, and confirmed that we had run aground. When I questioned Mr Berrones as to why he did not carry out my order to ask the engine room for manoeuvring speed, he replied that he had spoken to the 3rd Officer to pass on my order, but he did not know why he did not carry out this order. Later Perez denied that statement, and I believe him since he had worked aboard this vessel for quite a few years and had never made any errors of that type.

After the grounding, we carried out all the manoeuvres which are recommended for such cases, and the efforts to refloat the vessel were unsuccessful. Subsequently I received a report from 2nd Officer Rodriguez who told me that at the time he left the bridge to go for a rest, at approximately 22.15 hrs, he told Officer Berrones: "BE CAREFUL WITH THE SALMEDINA BANK", and Berrones replied: "I HAVE ALREADY GOT IT WELL LOCATED". (The underlining is mine).

55. Finally, a Report from the Chief Engineer to the Master dated March 11 recorded that there was a call from the bridge at 23.15 hours saying the vessel was "12 miles from the sea buoy and that we should proceed with the change of fuel ... which was done at 2320 hrs". The reference to "12 miles from the sea buoy" makes no sense and although the Claimants have sought to place some reliance on it likely explanations are that either the Chief Engineer was mistaken or that the vessel had in fact proceeded further towards the coast than was appreciated.
56. The Chart that was in use by the Third Officer on the approach to Cartagena was Chart 24504, up to date to December 1977. It contained a number of original and, as I find, subsequently made markings upon it.
57. The original markings commence with a Satellite Navigation fix taken at 2207 hours. This is agreed to have been accurate. From that mark a course at 135° had been marked to an "alter course" point to the ENE of the Salmedina Bank and to the west and south of Cartagena town and west and north of Isla Terra Bomba. A light on Isla Terra Bomba would have been almost directly ahead of the vessel at this point and the coast some 3 miles away. From that point a course at 165° was marked to the south and east to approach Cartagena port.
58. A number of plots on the chart are marked timed at 2250, 2300, 2315 and 2323. The first 3 were undoubtedly made by the Third Officer and intended to be radar fixes on Cartagena Point. Although it has been suggested by Mr Smith that the marking at 2323 is in a different hand, I do not think there is any basis for such a suggestion which was made for the first time in the course of the hearing. Indeed there is no sensible reason why anyone should have made such a marking after the event and at the time, on the evidence, only the Third Officer could have done so. It, too, was a single radar distance and bearing intended to be taken off Cartagena Point. The final marking on the Chart which I also find was made at the time is the one timed at 2332 which has more the appearance of a dead reckoning position. Again, and for the same reasons, I conclude that this marking was probably made by the Third Officer, possibly, as Mr Kverndal suggested, to show the Master where the vessel was believed to be when he came to the bridge to supervise the change of direction. All the markings to which I have referred indicate that the vessel is tracking the planned course albeit slightly to the east of it. The last entry at 2332 is some 2 - 3 miles before the planned alter course point.

59. There are other markings on the Chart which, on the evidence, demonstrate that someone calculated the location at which the vessel had in fact grounded. That is not surprising. Further markings, partially erased, I am satisfied represent an attempt, also after the event, to reconstruct the course the vessel must in fact have followed to ground as it did. That course shows a path moving to the west of the planned course from the fix at 2207 until at 2315 it is some 2 miles to the west and so heading straight for the Salmedina Bank. Again, it is not surprising that this was done.
60. The deck log book entries for March 7 record that the Third Officer took over the watch from the Chief Officer at 2000 with the vessel proceeding to Cartagena on gyro course 135°, that satellite positions were fixed at 2115 and 2207 (the latter being the first marking on Chart 24504) with the vessel proceeding at speeds of 14.7 and 15.5 knots respectively, that radar distance and bearings were taken from Cartagena Point at 2300 and 2315, the distances being 12.75 and 9.5 nautical miles respectively, that a fuel change was requested at 2320 when the Master was called, and that the vessel grounded at 2335.
61. Mr Smith sought to support the suggestion that the markings on the chart at 2323 and 2332 were not made at the time by reference to the fact that they were not entered in the deck log book. On the evidence, I reject that. Not only does the log book also not record the marking on the chart at 2250, which it is accepted was made at the time, but it is not unusual for only those entries to be made in it which are considered significant.

FROM GROUNDING TO REFLOATING

62. Unsuccessful efforts were made to refloat the vessel on March 8. Generator 3 was not in operation for about 12 hours on that day "due to an abnormal dirtiness due to scaling in the water cooler". It was cleaned and put in service again.
63. On March 9 generator 3 stopped due to "overspeed". The shaft had broken in the governor. It was back in service on March 10. The Second Engineer's report, made on March 26 at Setubal, noted that on March 12, at 17.30 "a strange noise and vibration are detected. The generator is out of line and it is stopped immediately. When bench bearings are checked, a fissure in the crank shaft is detected at the level of cylinder 3". Thereafter generator 3 was inoperable.
64. The vessel was still grounded on March 12 when Dr Spolidoro and Mr Mattarelli first arrived in Cartagena and inspected the vessel and cargo on behalf of cargo interests instructed by Mr Gazzillo.
65. Dr Spolidoro's first report dated March 13 was based on a two hour visit to the vessel from 1000 to 1200 on March 12. He noted that in the two compartments (2A and 3A) which he was able to inspect in 2A the pulp temperature was "13.8°C/13.3°C Homogenous ... in good condition ..." and in 3A the pulp temperature was "15.1°C/13.3°C Highly inhomogenous". He suggested reduced ventilation of 3A and a reduction in delivery temperature to 12.5°C.
66. The report also noted as the "cause" of the grounding that
" it would appear that the ship was proceeding towards Cartagena Pilot Station with a course which was out by approximately 1.5 NM to the North East vis a vis the expected one and the personnel on the bridge did not realise this fact notwithstanding radar observations, etc.
On nautical charts inspected the Salmedinas sandbank is indicated by a beacon/luminous buoy which, instead, do not exist.
67. Dr Spolidoro's evidence was that on either the first or second day of his visit Mr Jacome, Transnave's insurance and claims manager, had told him that the problem was caused by the light on the sandbank which had been switched off.
68. On March 13 Dr Spolidoro was able to inspect 8 further compartments. His findings were recorded in a report made by him and Mr Mattarelli the next day. The general comment made was "Conditions of the cargo satisfactory in all compartments". Specific comments however, noted that the cargo in compartments 1C, 1D and 3C was "inhomogenous" and "highly" so in 3C with pulp temperatures in the range 14.3 to 14.0°C. He was, however, only able to obtain limited access to the cargo and stated that "as far as it has been possible to ascertain ... the cargo has a durability of between 18-20 days".
69. Dr Spolidoro and Mr Mattarelli's "Informative Notes" of the situation on the afternoon of March 14 noted "cargo conditions satisfactory" in compartments 1FC, 1A, 4A and 4B. It was added:
During the ... inspection (and also during those carried out on previous days) shortcomings/defects and breakdowns were found in the refrigeration system and in the temperature controls. The above-mentioned situation makes uncertain the normal running of the installation and an intervention problematic, in a situation of emergency such as the existing one, for the purpose of extending the safe keeping of the cargo.
In its present state it is absolutely necessary to reduce the delivery temperature of the air to 12.5°C, keeping to a minimum the external air changes for the purpose of homogenising at best the temperatures of the cargo. If possible, on 15.3.94 some checks and operations will be carried out in relation to the above.
We suggest postponing any decision with regard to the change of final destination of the cargo until the refloating has taken place, also in consideration that such decision could be taken during the voyage.

70. Dr Spolidoro and Mr Mattarelli's "notes" on the situation on the afternoon of March 15 (dated March 16) recorded that operations had started to discharge the cargo from compartment 1FC, that at least the whole cargo in 1FC and 3A had to be discharged, and refloating would be attempted on March 17. As to the cargo it was noted: "The cargo remains in good condition without as yet showing any evident sign of ripening. Because of the poor efficiency of the conditions of the refrigeration installation (in part controls and in part ventilation) the temperatures of the pulp are generally high with peaks of 15.5°C and severely inhomogenous which severely prejudices the conservation of the cargo."
71. On March 16 interest was sought by Mr Gazzillo (GDSA) from the Third Claimant (Comaco), among others, in a possible purchase of the cargo remaining on board. GDSA's letter stated that Dr Spolidoro and Mr Mattarelli had confirmed that the cargo was "in excellent condition and capable of continuing the voyage as soon as the ship will have been refloated". The next day Comaco expressed interest in the cargo at a price of US \$ 6.30 per case c.i.f. port in Western Italy on condition that the goods were "brilliant green" and that "Quality" was "to be ascertained by Dr Spolidoro at the time of discharge as merchantable".
72. The situation of the cargo on March 16 as noted by Dr Spolidoro and Mr Mattarelli included "Anomalies continue to be found in the temperature of the merchandise which vary considerably and are well above those necessary for the safekeeping of the cargo. Because of the prolonged and enforced stoppage of the ship and considering the condition of the merchandise, etc, we feel it is inevitable that the merchandise will arrive at the expected ports of discharge in damaged condition. ... it is reasonable to estimate that for a direct discharge in Russia without calling at a Libyan port, between 15% and 20% of the cartons will have to be discarded because of altering/ripening fruit. By reducing the length of the voyage such discarding percentage would be reduced."
73. It was late in the evening of March 16 that the vessel was refloated. 22,380 cartons of bananas had been off-loaded. The total loss on these cartons is agreed to be \$192,330.46.

AT CARTAGENA

74. On March 18 there was a public hearing into the grounding carried out by the General Marine Authority in Cartagena. The Master answered a number of questions on oath. His replies included stating that he had traced the course on the chart towards a point more or less 2 miles away from Tierra Bomba and then a course of 160° towards the sea buoy "taking into consideration the light located on the Salmedina Bank as shown on the chart", and that at the time of the grounding the only navigation equipment and visual aids they were working with was "the radar". The Chief Officer said he had been asleep at the time of grounding. The Third Officer's answers included: "At 20.00 hours I took over the watch from the Chief Officer on course 135, we were navigating by satellite and radar, at 21.00 hours the Master ordered the helmsman to get out the mooring lines fore and aft. At 22.07 hours I plotted a position by satellite, this position was checked by the Master and was correctly plotted, and he checked that the course was 135 to the point we were making for which was between the San Medina Bank and Tierrabomba Island, we began to navigate by radar taking as point of reference the point of Cartagena. The Master was on the bridge and in the manoeuvring fore and aft, he was going in and out of the bridge checking that everything was O.K. As a general rule the Master is called 10 miles before the sea buoy, in order that he can give instructions for change of fuel and manoeuvring speed. At 23.45 hours which was the time of arrival, we were continuing to navigate by radar, they switched on the bow and stern lights in order to get out the mooring lines, but as we were navigating with port and centre radar at the time of the grounding the Master was with the personnel carrying out the manoeuvring. He had left the bridge a few minutes before and as the grounding was not felt, when I realised that the vessel was stopped I called the Master and he took command. QUESTION. State the last course traced before approaching port and the navigation chart used. REPLY. 135, I do not remember the chart number American or English. QUESTION. State what special orders or precise instructions you received from the Master for putting into the port of Cartagena. REPLY. None because the Master was going in and out. QUESTION. State what were the conditions of sea, weather and visibility at the time of the accident. REPLY. Wind and current fairly strong. QUESTION. State what in your opinion was the cause of the grounding. REPLY. Due to leeway of wind and current, because the positions were acceptable, that is my considered opinion.(The emphases are mine).

No reference was made to the light on the Salmedina Bank.

75. In a further report of a cargo survey carried out by Dr Spolidoro on March 18 together with SGS surveyors instructed on behalf of Transnave, Dr Spolidoro reported by fax to Mr Dardani, the Italian lawyer acting for cargo interests, that the cargo in hold 4 was in "a slight advanced ripening stage", that the consignment was not in a condition to go to Russia (about 20 days passage from Cartagena) "without very heavy damage", that it was "finally and definitely recommendable to shorten the sea passage and time and try to sell the cargo asap" that it should as far as possible have a voyage lasting 1 week shorter than the planned one, and if that was done, there was a reasonable possibility of reducing the damage to a maximum of 8-12% of the cargo, against some 30% if it went to Russia. The SGS reports were more detailed containing return and pulp temperatures which varied between the 4 holds.
76. On March 18 Dr Spolidoro gave the Master new instructions for the onward carriage of the remaining cargo. They included keeping the air delivery temperature at 12.4 to 12.5°C "and absolutely not lower" for the first 9

days of the sea passage, increasing it thereafter to 12.8°C to final destination, keeping the pulp in the range 13.0 to 13.3°C, keeping fresh air renewal to the minimum, regular checking and keeping records of delivery and return air, keeping the ventilators at maximum speed, and daily measuring and recording of pulp temperatures in one of the lowest tiers of the stow by the air cooler.

77. The vessel sailed from Cartagena at 2036 on March 18.

FROM CARTAGENA TO GENOA

78. Following the failure of generator 3, a portable generator was taken on board at Cartagena. Although there is some doubt as to whether the portable generator ever worked, the First Engineer gave evidence that it did at least for a short time ("not even 24 hours") after the vessel left Cartagena. I accept that evidence. After the failure a decision was taken to operate the port and starboard fans alternately in the holds for an hour on each side rather than together. No delivery or return air temperatures were recorded whilst this was done. The vessel diverted back to Cristobal in Panama to obtain another portable generator.
79. The vessel arrived at Cristobal in the afternoon of March 20 and shipped a second portable generator. It sailed again on March 22 whilst the further generator was being installed. In the afternoon of March 23 this generator failed. The holds were ventilated alternately again. Again there are no records of delivery or return air temperatures on March 22 or 23. The vessel sailed for Puerto Rico to collect a third portable generator. It arrived in Puerto Rico in the morning of March 25. The temperatures recorded on March 24 and 25 show that they were rising and that they only came down over the next 24 hours after arriving in Puerto Rico when full power was used. Of course at that time the main engine was no longer in use and the demands on the remaining two generators were therefore much reduced.
80. At Puerto Rico the cargo was inspected by Mr Jeannot, a cargo surveyor instructed on behalf of Transnave. The inspection was limited to a few cartons "in the peripheral area nearest to the deck entrance," except in hold 3A. The bananas were green. There was some evidence of chill damage thought not to be a major problem. Pulp temperatures varied both within and between holds. The range in hold 1C was 13.7°C to 15.3°C. the lowest range was in 1D at 12.8° to 13.1°C. The overall conclusion was that the limited inspection indicated that the bananas had kept their pre-climacteric stage and were "green and without ripening signs at all" and that the cargo stood "a good chance to arrive at destination in marketable conditions, provided that the temperature be equalised at safe levels on all holds" and carbon dioxide levels were monitored.
81. The passage from Puerto Rico to Genoa was, in context, uneventful. The Isla Fernandina arrived in Genoa on April 6.

THE COMACO CONTRACT

82. As I have already recorded, Comaco had expressed interest in the remaining cargo, on certain conditions and at a price of \$6.30 a case, on March 17. The average price per case under the Emirates and Tabeni contracts was \$8.644.
83. On March 23 a letter of credit was issued on the application of Comaco for the benefit of Reybanpac. It covered a maximum of 145,000 boxes of fresh green bananas at \$6.30 a box and was available for payment against presentation of documents including a certificate of condition at discharge in Genoa issued by Dr Spolidoro stating that the quality of the cargo was considered to be "sound, fair and marketable".
84. By March 24 Comaco had learnt of the further delays to the vessel and expressed concern to GDSA about them including a possible withdrawal of their offer to buy the cargo. Also by this date it seems that Mr Gazzillo had succeeded in getting approval from all interested parties to a sale to Comaco. Reybanpac, as Mr Dardani recounts in his statement, had earlier sought to advise Transnave that "they regarded the commercial purpose of the charterparty as **frustrated** and would not be completing the voyage". Mr Dardani had advised that Reybanpac was not entitled to abandon the cargo but were obliged to mitigate their loss and to protect the rights of the insurers of the cargo.
85. On March 24, Mr Dardani sent a fax to Transnave which stated:
I have received a copy of your fax of yesterday informing that due to a failure of the portable generator the vessel is proceeding to Puerto Rico for repairs.
As you will appreciate this is causing additional concern to cargo underwriters and any decision whether to change the final destination will depend on present conditions of cargo and expected time of departure from Puerto Rico.
Therefore urgently provide the following information:
- expected time of sailing from Puerto Rico;
- delivery, return and bananas pulp temperature for each compartment.
Awaiting your urgent reply.
86. On March 25 Comaco pressed GDSA for information on the ETA at Genoa and "temperatures of the cargo" stating that their "commitment is for the time being suspended" until they got the information. The information was provided by about March 28 and was at least apparently satisfactory. Comaco informed GDSA that if the vessel did not arrive in Genoa by April 6 as indicated they would pay only \$5.90 per carton and if it did not arrive by April 8 they would not buy the cargo at all.

87. I have referred to these exchanges at some length because there is a potentially important issue of causation which arises in respect of the claim for the difference in the price of the bananas which would have been paid under the Emirates and Tabeni contracts and which was in the event paid for them by Comaco. The Claimants say that loss is attributable not to the grounding but to the manner in which the bananas were carried and kept. Transnave's case is that once the vessel had grounded the resulting delay of itself necessitated and was the reason for the change of destination.
88. It is in the context of that issue that Mr Smith submits that a sale to Emirates and Tabeni was still a live possibility on March 24 and it was this to which Mr Dardani was referring in his fax to Transnave on that date. I do not agree. At March 24 the "*decision whether to change the final destination*" was I think a reference to the fact that Comaco had plainly flagged the possibility that they would not take the cargo at all. The decision was effectively between abandoning the cargo or a sale to Comaco, not between Libya and Russia or Comaco/Genoa. Mr Gazzillo's evidence in cross-examination was that by March 14 it had become imperative to seek an alternative discharge destination because the vessel could no longer reach Novorossiysk in 30 days. Mr Dardani's statement does not address the question at all. Dr Spolidoro's reports were reasonably sanguine as to the condition of the cargo at least until his fax to Mr Dardani on March 18. Mr Gazzillo indeed, when he first approached Comaco on March 16, referred to the cargo being "*in excellent condition*".
89. Although Dr Spolidoro's evidence (which I accept) was that had the cargo been properly preserved it could have continued to its original destination without serious problems, on the evidence I find that the decision not to proceed to Libya and Russia and to seek an alternative destination was in fact made on the basis only of the delay occasioned by the grounding and without reference to any inadequacies in the care of the cargo. That was the unequivocal evidence of Mr Gazzillo. He and Mr Dardani were apparently responsible for deciding the matter and certainly on the evidence, by March 14 the time necessarily required to complete the voyage to Russia would have resulted in a breach of the contractual 30 day voyage time.

AT GENOA

90. Dr Spolidoro supervised the discharge of the cargo so as to exclude from the delivery to Comaco cartons which were not in "*sound, fair and merchantable*" condition. Discharge took place from April 6 to 9. During the discharge, on April 7, he reported that "*as a consequence of the fact that the Master of the vessel supplied during the voyage temperatures which were lower than those indicated to him*" 7% of the cargo by then discharged had to be rejected because of "*slight to obvious traces of chilling*". He also reported that 0.5 to 1.5% of the cartons contained fruit which was slightly soft and/or light green and also had to be rejected. Some of the cargo showing signs of chilling was, however, proposed for delivery against an allowance of 30%, and it was noted that the letter of credit would require modification if that was to be done, as in the event, it was. Dr Spolidoro expressed the opinion on what had by then been ascertained that "*about 90% of the cargo present on board is in excellent condition and still green and hard and perfectly suitable to be put on the market.*"
91. Whilst the vessel was being discharged at Genoa, Mr Mattarelli says he had observed that the three generators working together had a total output of about 1000 Kw. He said the Court surveyors had interviewed the Chief Engineer whom he had heard to say that the generators would give no more than 70% of their nominal output because they were "*worn down*". In cross-examination he remained adamant that this had been said. I believed him. He was an intelligent, straightforward witness.
92. Both Mr Mattarelli and Mr Panarello said that when they asked the crew for the List of Lights on board the vessel only the British List was produced to them.
93. Dr Baker (Transnave's metallurgical expert) inspected No 3 Generator at Genoa. He prepared a short summary of his observations and expressed some "*preliminary conclusions regarding cause of failure*" in a report dated April 10. The latter included: "*In view of the relatively recent renewal of the main bearing shells, the likely cause of the (No 4) bearing failure is inadequate lubrication. This would be consistent with the evidence of bearing failure in main bearing No. 3 and the developing damage to the bearing metal in main bearings 1, 2, 5 and 6. A possible cause of the lubrication deficiency is overheating of the lube oil arising from ineffective cooling due to the sea water filters becoming blocked whilst the vessel was aground.*"
94. On April 14, Dr Spolidoro signed a "*Conditions Certificate at the Discharge*" in which he certified that on arrival in Genoa the manifest recorded 158,516 cartons on board, at discharge the Official harbour Tally recorded 158,509 cartons and that after allowances for chilling damage and the total loss of yellow/damaged bananas, "*Comaco received the countervalue for 141,289.5 cartons to be considered sound fair and marketable*" equal to \$890,123.85 at \$6.30 per carton.
95. Dr Spolidoro's preliminary report on the discharge of the cargo at Genoa dated April 21 recorded these allowances and that the remaining 141,289 cartons had been delivered in "*apparently sound condition*", but added that "*because of the time which had elapsed and because of the temperatures at which the cargo had been kept it is obvious that this cargo, even though merchantable and sound at the time of discharge, was at its limit of preservation and within a matter of days it would have faced a very quick ripening process even if correctly and appropriately preserved*". He also expressed the opinion that the cause of the damage was mostly attributable to the impossibility of keeping it at the required temperature because of defects in the vessel's refrigeration system for controlling temperatures.

96. The cargo surveyors, including Dr Spolidoro, also examined a number of cartons after they had been on-delivered by Comaco and some which remained at Genoa. Dr Spolidoro said that they exhibited "anomalous ripening" in that despite their green appearance on discharge which indicated a future ripening period of some 10 to 15 days, in fact they had ripened in only 4 days. Dr Spolidoro said all the surveyors were struck by this phenomenon. Dr Spolidoro was a most impressive and obviously very knowledgeable expert and despite Mr Kverndal's criticisms of his evidence I unhesitatingly accept it. The surveyors agreed a "discount" was appropriate for this further damage which they assessed at 18%. This loss is the loss claimed by Comaco referred to as the shocked bananas claim.
97. The Master was spoken to by various of the experts at Genoa. Mr Mattarelli recorded that he gave "a series of reasons" for the vessel running aground: that the Third Officer confused the shore reference point (in taking bearings), that the ship had fallen off due to the current and that he had confused the Salmedina light with another light. Mr Panarello's report for the Court dated May 18 also referred to discussions he had with the Master and crew (although not the Third Officer) at Genoa. His report is revealing. It states that:
According to the Master, the grounding was probably caused by mistake of the Third Mate in evaluating the ship's position while approaching Cartagena by radar.
In fact the Master is of the opinion that the Third Mate made confusion on the radar screen between Punta Cartagena and Punta Tierra Bomba. This hypothesis might justify the dynamic of the accident
In the Master's opinion other factors contributed to the accident:
- in particular the weather conditions ... which could have caused the vessel leewaying to starboard in respect to the scheduled course.
 - ...the necessity to turn on the deck lights ... might have provoked an optic screen, preventing the Third Mate to orientate himself through the coast light.
 - moreover the Third mate had been left alone on deck....
- Eventually the Master confirmed his previous statement about the lack of lighthouse ... to signal the existence of Salmedina Bank (My emphases).*

THE LOSS

98. (1) The loss on the cartons jettisoned at Cartagena is agreed to be \$192,330.46. The counterclaim for general average against Reybanpac is agreed to be \$260,954.97.
- (2) The loss arising from the renegotiation of the sale **contract** at the lower price agreed with Comaco is \$331,183.76.
- (3) Cargo found to be ripe on discharge and rejected, 7561 cartons value \$65,357.
- (4) Cargo found to be ripe at Comaco's premises and rejected, 6,038 cartons value \$52,192.
- (5) Cargo found chilled and rejected on discharge, equivalent to 3,620 cartons valued at \$31,291. Transnave, in addition to claiming that this loss was caused by the grounding, also alleges that 50% of it was caused by Dr Spolidoro's new instructions for carrying the cargo given to the vessel at Cartagena on March 18 which, so it is said, provided for an excessively low temperature for the delivery air.
- (6) The further discount of 18% for "anomalous ripening" amounts to \$141,202.
- (7) A few cartons were short delivered valued at \$60.50.
- (8) The Claimants also claim fees and expenses of surveyors, average agents, lawyers and the like in a total sum of \$130,000. Apart from a specific issue concerning Mr Gazzillo's fees which Transnave submits and the Claimants accept are very substantially irrecoverable in any event as he was acting for insurers, it has been agreed that the extent to which these fees are recoverable should be left for agreement or further argument on the basis of the outcome of the other claims.

SUBSEQUENT EVENTS

99. On June 17, Mr Leech (with Mr Jacome) was able to interview the Master in Guayaquil. He took notes and prepared a draft statement from them. It was never signed by the Master. The draft statement at the least appears to state or imply that Chart 24504 was kept on board in the usual way albeit it was not needed and so was not kept up to date. The draft also records that the Master came on the bridge a short time before the vessel grounded and asserts that the Third Officer must have changed course "maybe twice". The draft's concluding paragraph reads: "There should have been a buoy light in place on the Bank where we grounded. In fact there was neither a buoy nor a light. If there had been we would not have grounded."
100. On June 30 the survey report requested by the Court in Genoa prepared by Mr Panarello was presented. He reported that the reefer plant was in working condition and that "apart from some marginal defects" the condition of the air coolers and gratings was acceptable. He also reported that a check on the accuracy of the setting of the delivery air temperature was made on April 8 which showed differences between the setting, display and actual temperatures of between 0.4°C and 1°C. Dr Spolidoro had found differences between the setting and actual temperatures of up to 5°C whilst the vessel was on the Salmedina Bank.
101. The Master was the subject of a disciplinary hearing by a Board which reported on August 26. The report records that at a meeting on August 2, the Master had stated that the entries in the log book and on the chart had been

made subsequent to the occurrence, which he considered to be improper, and that his statements to date had been made to protect Transnave but from now on would be made to safeguard his own interests.

102. The records of the Board include (for the session on July 20) a reference to Captain Mino stating that had the Third Officer's bearings shown on the chart been correct the grounding would not have happened (which is obviously right) and adding
- Add to this the fact that in spite of the fact that on the chart it is shown that there was a light on the Salmedina bank, unfortunately there was not. That is the point which helped everyone, including the Company itself, because the Harbour Master's office and the Ecological Authorities were prepared to make a claim against us for damage to the coral, but when we told them that unfortunately the light was not there to signal the bank, they abandoned that idea.*
103. Captain Mino's view was that the Third Officer had wrongly thought he was taking a bearing from Cartagena Point when in fact "he had confused it with this other one which is bluer". Captain Hart says that is a reference to what is shown on the chart as Hotel Point. That fully accords with what the Third Officer himself told the Board. He made no reference at all to the light on the Salmedina Bank, stated that the wind and current were very strong and the vessel was always drifting and that he had never changed course, and had not taken into account navigational aids shown on the chart.
104. The outcome was a recommendation by the Board that the Master be dismissed for serious negligence and that the matter be recorded on the Third Officer's service record and a report on him be sent to the Merchant Navy Authority.
105. The Master's response was to point out (correctly) that there were serious discrepancies between the Third Officer's statement made at Cartagena and his statement to the Board. Mr Jacome commented on that response on November 21 in a memorandum to the General Manager of Transnave. He said that the Master had failed to take into account the fact that both he and Mr Leech had recommended what should and should not be mentioned in Cartagena "in order not to compromise the weak position of the Master and therefore Transnave" including that the Third Officer and Master should on no account mention that the Master was not on the bridge at the time of grounding because otherwise the vessel would be fined for ecological damage to the reefs. Mr Jacome noted that the Master had confirmed to him in Cartagena that he was not on the bridge as he had stomach problems.

LIABILITY FOR AND THE CAUSE OF THE GROUNDING

CAUSATION

106. Whilst there are important issues on unseaworthiness and due diligence in relation to the grounding the major battle has been fought on causation and in particular whether the absence of the light on the Salmedina Bank played any legally causative part in it. As I have reached a clear conclusion that it did not I propose to express that conclusion first and consider only briefly the other issues.
107. I think the documents and evidence which I have sought to summarise establish that:
- (1) The Master was not on the bridge at the time the vessel grounded and had not been on it for some time. He admitted as much to Mr Jacome. The Third Officer said the same except, when for reasons which are not hard to understand and are frankly recorded, he was seeking at least to give an impression to the contrary at Cartagena.
 - (2) The Third Officer was seeking to navigate only by single radar distance and bearing fixes taken from what he believed to be Cartagena Point. The chart demonstrates this. So does the deck log. His statements are to the same effect. Captain Hart demonstrated, really beyond argument, that in fact the Third Officer was mistaken and had taken the bearings from Hotel Point. That, together with the prevailing wind and current and/or gyro error, fully and convincingly explains how the vessel was in fact proceeding directly towards the Salmedina Bank, when the Third Officer believed he was on course.
 - (3) All references to the light on the Salmedina bank were an afterthought. Again the explanation is not hard to seek and is recorded. The lack of the light was, it seems, at least a factor in the Colombian authorities not pursuing a claim for damage and was the only factor which could be used to provide at least some exoneration for the Master and Third Officer, and indeed Transnave. The fact that the light was first referred to only in the Master's Extended Protest and the fact that the Third Officer did not refer to it again after the investigation in Cartagena cannot be explained consistently with it having relevance to the grounding. There could be no reason for failing to mention a matter of such apparent importance and assistance if it were true. Mr Smith did suggest that perhaps the purpose was to diminish the effect of the vessel having out of date navigational aids on board but that was incontestable and would demonstrate improbable magnanimity in the context of Transnave pursuing disciplinary proceedings against the Officers. Moreover as the Master was not on the bridge he cannot speak from direct knowledge as to the importance of the light to the Third Officer and he has never even suggested that he gave any instructions to the Third Officer about it.
 - (4) The most which Mr Noble was able to suggest was that the light had played a part in fixing the point at which it was intended that the vessel should change course. However even that is in my judgment improbable. The point marked on the chart for the change of course would place the vessel some way (three-quarters of a mile) past the light had it existed. I accept Captain Hart's evidence that it would not be possible to obtain a radar range and bearing from it and it could not therefore be used as a reference point to alter course. If the

Third Officer was intending to use the light for any purpose it is remarkable that he had not noticed its absence and taken some steps as a result. On the evidence it would have been visible for some 10 miles prior to the grounding. I reject the suggestions that he was confused or in a panic or changed direction. There is nothing at all to support them in the evidence. The chart is compelling evidence that he believed all was well and the vessel was on course. He was wrong simply because he had mistaken his reference point. It is notable that even in his Protest the reference to the light which "never appeared" is made prior to taking the further position at 2315 (when it is agreed that the light would have been visible had it existed) and that he says he called the Master when he was "going to change course," after 2320. That, even if reliable, suggests the light in fact played no part in his navigation of the vessel or changing course. The Protest is also the only occasion when the Third Officer did refer to the light, and then obliquely, nor has he ever given any credence to any suggestion that he mistook another light for the light he believed to be on the Salmedina Bank. In my judgment the reality that the light played no part in the navigation of the vessel is fully supported by all the evidence which is likely to be reliable. It must follow that had the Master known that the light was extinguished he would have acted just as he did and Mr Smith's ingenious submission that he would not then have entrusted the navigation to the Third Officer at all fails for that reason. In my judgment the submission is in any event improbable having in mind that the Master did entrust it to the Third Officer and the presence or absence of the light would not be expected to be a determinative factor in his doing so nor has either of them ever suggested that it was.

- (5) It is notable that there were several (four) lights which did exist, were also shown and correctly shown on the Chart, and which were available as navigational aids. None has ever been referred to as material which itself is evidence that the light played no part in the Third Officer's navigation.
108. In my judgment, therefore, the only way in which it can be submitted that the lack of the light was or may have been relevant to the grounding was that if it had been present the vessel would not have grounded because it would have acted as a warning. Captain Hart realistically accepted on this basis that had the light been there it might have prevented the grounding. But in my judgment that is not sufficient for the Claimants to establish that the use of the chart was legally causative of the grounding. Had the chart shown there was no light, the navigation of the Third Officer and so the grounding would in my judgment have happened just as they did.
109. As to the law, it is not in doubt. I take it from the speech of Lord Wright in *Smith, Hogg and Company v Black Sea and Baltic General Insurance Co* [1940] AC 997 at page 1001 and following and in particular at page 1005, to which Mr Smith referred me. It suffices if unseaworthiness "is a cause, or if it is preferred, a real or effective or actual cause" and that "the question is ... would the disaster not have happened if the ship had fulfilled the obligation of seaworthiness". The obligation in this case, if such it was, was not to provide a light on the Salmedina bank but to provide the information that there was no light on it. That, on my findings, would have made no difference. The "disaster" would still have happened.
110. The issue is much more one of fact than a matter of expert opinion. But I should record that I found Captain Hart's evidence well reasoned, objective, and wholly compelling. Mr Kverndal was highly critical of Mr Noble's evidence and approach. I would only say that I unhesitatingly accept Captain Hart's evidence in preference to Mr Noble where they differ. The Third Officer should have been using visual bearings but was not. He should not have been fixing his position by single radar distance and bearings at all, let alone exclusively. The Master's failings are referred to below. The navigation was negligent and was the only effective cause of the grounding.

UNSEAWORTHINESS/PROPERLY MAN

111. There can be no doubt that the conduct of the Master in relation to the grounding is open to severe criticism. He should have supervised the inexperienced Third Officer at all times, and particularly so on the approach to Cartagena, but he did not. He should have been on the bridge but was not. He should have planned the passage to Cartagena and given instructions to the Third Officer about it, but he failed to do so.
112. The Claimants submitted that this level of incompetence was such that Transnave had failed properly to man the vessel. In addition they relied on the presence of out of date charts and navigational aids as material to the Master's abilities to navigate the vessel and supervise his officers.
113. In my judgment, however, the Claimants have failed to make out their case. The Master was well qualified with an unblemished record. Transnave's appointment procedures were, on the evidence, proper and properly carried out. I agree with Mr Kverndal that any failings with regard to navigational aids have no causal connection to the Master's navigational or supervisory abilities. I also think, in view of the requests for up to date material, the failings are to be laid more at the door of Transnave than the Master. On the evidence, the Master's failings on this occasion were unpredictable and unprecedented. They may have been contributed to by the trauma of the bosun's death, his own illness and the need to prepare for entering port at Cartagena, but whether that be so or not, they were not in my judgment due to a failure by Transnave to exercise due diligence either to make the ship seaworthy or properly to man it.

UNSEAWORTHINESS/PROPERLY EQUIP

114. If, contrary to the finding I have made, the grounding was caused by a belief derived from the out of date chart that there was a light on the Salmedina Bank, Mr Kverndal nonetheless submits that it was not the result of a failure on Transnave's part to exercise due diligence to make the ship seaworthy or properly to equip her, that

even if it was, the grounding was again not caused by such failure, and that Transnave is in any event exempted from liability by Article IV rule 4 of the Hague Rules as the damage resulted from a "reasonable deviation".

115. As to the Article IV rule 4 submission in my judgment it is untenable. It is a good example of the same misuse of the principles of causation which underlies the causation issue in relation to the light on the Salmedina Bank. The fact of deviation was not causative of the grounding save in the sense that it would not have occurred had the vessel not deviated to Cartagena. Competent navigation would and should have avoided the grounding. The want of competence was the effective cause not the fact that the vessel happened to divert before it occurred.
116. There is incontestable evidence that the state of the charts and navigational aids on board the vessel was inadequate. The requests for up-to-date material and the failure to respond to them demonstrate as much and that Transnave should have appreciated it. I am not persuaded, as Mr Kverndal submitted, based on the Second Officer's statement and the fact that it was not included in the pages of the inventory which are available, that the out of date chart 24504 was produced otherwise than from the vessel's inventory. The suggestion seems never to have been put to the Master, and I do not think it probable that he would carry personal charts with him. Moreover there is a pattern of out of date material on the vessel.
117. On the other hand I accept Captain Hart's evidence that the provision of Chapter 5, Regulation 20 of SOLAS did not require the vessel to have charts or Lists of Lights for the port of Cartagena as they were not "necessary for the intended voyage". I reject Mr Noble's opinion that a vessel should carry charts for "a contingent corridor" in the event that it has unforeseeably to divert from its intended course. Nor do I think that the evidence as to the condition of the generators was such as to affect that conclusion.
118. The fact remains, however, that the vessel did have on board out of date materials which, in the event, in the case of Chart 24504, were used. Potentially at least, in my judgment and in agreement with Mr Noble, such materials could be more dangerous than nothing. Transnave should have appreciated and been aware of that. Moreover, although the American information fully updated would still have shown a light on the Salmedina bank, the British material would not, and in particular the List of Lights, volume J. It is, I think, of some significance that when asked at Genoa for the List of Lights the out of date version of volume J was submitted and not its American equivalent. There are real doubts as to whether the US List of Lights was on board. As a matter of probability therefore had such a list been referred to for the approach to Cartagena I find that it would have been volume J, and if, as it should have been, it had been up to date then it would have been known that the light was temporarily extinguished.
119. The difficulty which in my judgment still confronts the Claimants and is insuperable is that I think it improbable that either the Master or Third Officer would have consulted any List of Lights had it been available. There is no evidence to suggest that in fact they did so. Chart 24504 was obviously out of date. Had the American or British List been consulted I would have expected the point to have been made. It would have been further ammunition to deflect responsibility. I have already concluded that lights played no part in the navigation of the vessel. I think there is a plain inference as well as direct evidence from the statements of the Third Officer that the vessel was navigated solely by reference to the chart. Had the chart been up to date no one would have been any the wiser. Had the up to date volume J been on board it would not have been referred to. The question is one of fact. Mr Smith's submission that so to find would be to permit Transnave to rely on its own breach of charterparty in manning the vessel with officers who would have failed to consult up to date publications had they been available is in my judgment nothing to the point.
120. It follows that the claim for the loss of the cartons caused by the attempt to refloat the vessel must fail. It also follows that the counterclaim for general average succeeds.

THE LOSS ON THE SALE TO COMACO

121. As I have already concluded in setting out the circumstances in which the Comaco contract was negotiated, the loss of the original sales to Emirates and Tabeni was itself the result of the grounding and the delay to which it gave rise. Whilst Dr Spolidoro was adamant that his recommendation to change the destination was based on the inadequacies in the protection of the cargo (albeit he recognised that there was a risk of perhaps unjustified complaints based on delay at the original destinations if the cargo had continued there) I think Mr Gazzillo's evidence put the matter beyond debate. If Mr Dardani had acted on another basis he did not say so.
122. Further, as Mr Kverndal pointed out, this claim is pleaded by the Claimants on the basis that it arose from mitigation of their loss "by avoiding any further delay in delivery of the cargo by having it carried to nearer destinations" following the grounding.

LOSSES ON DISCHARGE

123. Under this title I refer to the losses numbered (3) (4) (5) and (7) under the heading "The Loss" above.
124. Mr Jarrett agreed with Dr Spolidoro that had the cargo been properly cared for it could have been expected to last and remain merchantable for some 40 days or even longer. It follows, as Mr Kverndal conceded, that, as it did not, Transnave cannot escape at least some liability for these losses. The want of due diligence in my judgment took a number of forms. I am satisfied on the evidence (including the evidence of the First Engineer) that the vessel had insufficient power to preserve the cargo in the event of failure of one of the three generators. That was because the generators were of such an age and condition that their capacity was reduced to some 70 to

80% of the rated capacity. The fact that the Nebb system was inoperative meant that monitoring of the temperatures was a hit and miss affair and in particular pulp temperatures could only be taken at very restricted locations. I am also satisfied on the evidence that the settings and readings of the delivery air temperatures materially differed from the temperatures in fact obtaining in the holds. There were also plain breaches of both letters of instruction as to the temperatures required and the records kept of them. Finally the alternate use of the fans when the temporary replacement generator failed was, as Dr Spolidoro explained and I am satisfied, a cause of particular damage to the cargo as it created a reduced air flow and so fluctuating temperatures which were a major cause of both the "anomalous ripening" and the ripens and chilling found on discharge. The cargo nearest the air coolers would be chilled and the cargo furthest from them would ripen. This effect was also, as the experts agreed, exaggerated by the fact that the sensors of the Stal system were set off-centre in some of the holds. Essentially I accept Dr Spolidoro's analysis and opinion that both the condition of the vessel and its operation caused these losses and that Transnave is liable for them.

125. Mr Kverndal submits, however, that some part of the losses would have been suffered in any event because of the delay caused by the grounding and therefore Transnave is entitled to a "credit" to that extent. I reject that. The agreed expert opinion that properly cared for the cargo should have lasted 40 days precludes such a credit. The cargo in fact arrived at Genoa within that period.
126. Mr Kverndal's further submission was that some of the loss must be attributable to the 6 days delay caused by the need to procure a replacement generator for the failed generator 3. The submission is that the failure of the generator was the result of an error in the management of the ship or a latent defect not discoverable by due diligence for which Transnave is excused from liability under Article IV rule 2(a) or (p) of the Hague Rules; that thereafter the six day search for a working replacement generator, called "the Caribbean cruise" by Mr Smith, was a reasonable response to the failure; and so any damage to the cargo attributable to this delay must again entitle Transnave to a "credit".
127. As to rule 2(a) I think Mr Kverndal's submission fails in law as the capacity was primarily intended for the care of the cargo: *Gosse Miller Ltd v Canadian Government Merchant Marine Ltd.* [1929] AC223; *Scrutton on Charterparties*, 20th Ed, page 243.
128. There was a volume of expert opinion on the reasons for the failure of generator 3 which was perhaps disproportionate to its significance in the dispute. Without intending any disrespect to that evidence, all of which was professionally and properly given and presented, I can express my conclusions shortly. Whilst the recent history of problems with the generator suggest as a matter of commonsense that the ultimate failure was a consequence of some at least moderately long-standing problem, the evidence of the metallurgists is in effect that the crankshaft failure itself must have originated over a short period and indeed in the period between March 10 and March 12 whilst the vessel was grounded. Dr Baker had the readily acknowledged advantage over Mr Deegan that he had seen the relevant parts of the generator after it failed which Mr Deegan had not. Dr Baker said, and I accept, that the nature of the fractures to the crankshaft coupled with the lack of signs ("beach marks") evidencing an existing defect when the generator had previously been stopped meant both the cause of the failure and the failure must or at least probably must have occurred in the two day period between the last stoppage on March 10 and March 12. None of the experts were able to offer anything other than speculation as to why it had occurred, but whatever the explanation and even if it is right to approach the matter on the basis that Transnave has established that the cause was a defect or even an error in management which could not have been discovered by due diligence, it does not lead to the conclusion that Transnave is entitled to the credit for which it contends..
129. First, I repeat that the cargo ought, if properly cared for, to have arrived in merchantable condition notwithstanding both the grounding and the six day "cruise". Second, the fact remains on my findings that the vessel had insufficient power capacity in the event that a generator was to fail. That was or at the least should have been known to Transnave. It was known to the crew and had been spelt out in the survey in September 1992. I do not accept that it was only a matter of preference on the part of the Chief Engineer to run the generators at less than their available capacity. It would be remarkable to do so as a matter only of preference when the alternative was the alternate use of the fans to the obvious prejudice of the cargo and in clear breach of the letters of instruction. Had the two remaining generators had sufficient power I also think and find that the vessel would and ought reasonably to have proceeded to Genoa either without seeking a replacement or at least only doing so en route. The cargo had been delayed and a salvage sale had been agreed as a result. There was an obvious need not to delay the voyage further.
130. Mr Kverndal made a number of other submissions targetted on achieving a reduction in these claims. I will deal with them shortly. The fact that 6038 cartons were found to be ripe only at Comaco's premises does not in my judgment justify the submission that it may have been caused by improper handling after discharge. The surveyors were agreed it was a proper claim. There is evidence that in any cargo of bananas some ripens could be expected on discharge even if the cargo was properly preserved. In the Emirates contract there was an allowance of 1%, but even that was to be adjusted on discharge. I am satisfied that the probability is with a voyage of the length this one had to be after the grounding that a very small proportion of the cargo would have been rejected however well looked after but I do not think it should or would have exceeded 1/2%. To that extent therefore Transnave is entitled

to a reduction in the claims. I reject the submission that some further allowance should be given in respect of the cargo found chilled. The submission was founded on Dr Spolidoro's letter of instruction given at Cartagena to keep the delivery temperature at 12.4 to 12.8°C, which it was said would inevitably lead to some chilling damage. Had the cargo been properly cared for prior to March 18 and in accordance with these instructions during the search for a generator I am satisfied this damage would not have occurred. Dr Spolidoro was confident in his instruction, which included pulp temperatures as well, and the very fact that the damage was as limited in extent as it was, despite the then unknown inadequacies of its care, is strong justification for his belief. The probability is that the cause of the chilling damage was the alternate operation of the fans.

THE SHOCKED BANANAS CLAIM

131. However unusual and undocumented in the technical literature, as I have said I have no hesitation in accepting Dr Spolidoro's evidence that the cause of this loss was, as he put it, that the bananas suffered thermal shock probably the result of considerable fluctuation of temperatures during the voyage and in particular when the fans were only operated alternately. No other explanation was suggested for what was a phenomenon observed by all the surveyors at Genoa, who also agreed the 18% allowance. Nor does it surprise me that, although he had observed it once before, Dr Spolidoro did not appreciate or think of this explanation at the time of discharge or when on April 14 he signed the "*Conditions Certificate at the discharge*". Comaco in fact paid Reybanpac for the cargo without taking any credit for this allowance, hence the claim is brought under the bills of lading.
132. Transnave's submissions aimed at defeating this claim underwent considerable "*development*" during the hearing. Mr Smith's submissions in support of it are succinct. Comaco were named as consignees in the bills. As such and on delivery to Comaco the bills constitute or evidence a contract of carriage between Transnave (by Tradinter) and Comaco. That contract covers carriage from the date of loading stated (March 3) to discharge. The cargo was not properly cared for and Comaco or those entitled to Comaco's rights have suffered loss in that they paid the agreed price to Reybanpac for merchantable bananas which in fact were unmerchantable.
133. Mr Kverndal submitted that the bills were not and did not evidence any contract of carriage between Transnave and Comaco and, even if they did, they could not "*operate retrospectively*" as to past performance of the carriage before Comaco contracted to purchase the cargo. That was probably on March 25 after which date no substantial complaints were made about proper care of the cargo.
134. I reject both of these submissions.
135. Mr Kverndal acknowledges that had the original bills been endorsed to Comaco, Comaco would have become parties to them. But in the event in my judgment what in fact happened was plainly intended to and had the same effect. Comaco was to step into the shoes of Emirates and Tabeni. Comaco was named as consignee in the new Bills which were also dated March 3. The reason for that must have been to acknowledge Comaco's interest or potential interest in the carriage from Equador to (now) Genoa of the remaining cargo. It was quite logical that that should be so. Nor was it a matter for or concern of Transnave when or on what terms Comaco had agreed to purchase the bananas from Reybanpac. In particular, whether or when title in the cargo passed to Comaco is in my judgment not material or at least not to the question whether the bills evidence a contract in the hands of Comaco. They would normally do so : see *Carver's Carriage by Sea*, vol. 1, 13th Ed. at page 497, and in my judgment there is nothing to displace that inference rather the contrary. There is no double damages. Reybanpac's loss is calculated on the basis that it was paid by Comaco the agreed price without any deduction for the 18% allowance.
136. Mr Kverndal submitted that the logical consequence of a decision that Comaco was able to recover this loss was that it would also be liable for general average. But I think Mr Smith gave the answer namely that at the time of the grounding there was no contract between Comaco and Transnave because there were no new bills at the time and in any event Reybanpac remained liable. That is no reason why a contract should not subsequently be made to include an obligation of proper carriage from the commencement of the voyage. Nor, in my judgment, can there be any dispute that Comaco in fact suffered the loss for which it claims, nor, on my findings, that it did so as a result of a want of care in the carriage. The fact that it agreed to pay Reybanpac on the basis of Dr Spolidoro's opinion and did so serves only to establish that the loss was suffered by Comaco and not Reybanpac.

MR GAZZILLO'S FEES

137. There is no dispute that nearly all of Mr Gazzillo's fees are not recoverable because he was acting almost entirely only to protect the interests of insurers. Mr Kverndal says a maximum of 5% only should be allowed. Mr Smith says 10%. Doing the best I can, on the limited evidence, I think the Claimants have failed to establish that any sum in excess of 5% is recoverable.
138. As I have said, the other fees claimed will fall to be apportioned in the context of this judgment, either and preferably by agreement or after a further hearing.

CONCLUSION

139. In simple terms, Transnave has been successful on the grounding issue and the loss on the renegotiation of the sale **contract**. The Claimants have been very substantially successful on the remaining issues. I will hear further submissions, if the matter is not agreed, on the appropriate orders to be made in the light of that outcome.

Mr M. Smith ...instructed by Messrs Holman Fenwick & Willan for the Claimants)
Mr S. Kverndal ...instructed by Messrs Clyde & Co. for the Defendants)