



Neutral Citation Number: [2019] EWHC 3152 (Comm)

Case No: CL-2017-000389

IN THE HIGH COURT OF JUSTICE
BUSINESS AND PROPERTY COURTS OF ENGLAND AND WALES
QUEEN'S BENCH DIVISION
COMMERCIAL COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 22/11/2019

Before :

Andrew Henshaw QC (sitting as a Judge of the High Court)

Between :

ALIANCA NAVEGACAO E LOGISTICA LTDA

Claimant

- and -

AMEROPA SA

Defendant

Jason Robinson (instructed by MFB Solicitors) for the Claimant
Stewart Buckingham (instructed by Birketts LLP) for the Defendant

Hearing dates: 13-17 May and 14 June 2019

Approved Judgment

I direct that pursuant to CPR PD 39A para 6.1 no official shorthand note shall be taken of this Judgment and that copies of this version as handed down may be treated as authentic.

.....
ANDREW HENSHAW QC

Mr Andrew Henshaw QC :

(A) INTRODUCTION.....	3
(B) FACTUAL BACKGROUND	4
(1) The Vessel.....	4
(2) Head charter	4
(3) The subject Charterparty	4
(4) Alianca’s voyage instructions to the Vessel.....	8
(5) Loading at Topolobampo	8
(6) The Cargo.....	9
(7) Fumigation at Topolobampo	9
(8) The voyage to Durban	10
(9) Discharge at Durban and Richards Bay	10
(10) Summary of key dates	11
(C) PRINCIPAL ISSUES	12
(D) WITNESSES	13
(1) Witnesses of fact	13
(2) Expert witnesses.....	14
(E) CHOICE OF ROUTE	15
(1) Reasonable dispatch and deviation	16
(a) The ‘usual’ route.....	18
(b) A ‘reasonable’ route	20
(c) The usual route in the present case.....	29
(2) Care of the cargo	32
(F) VENTILATION.....	38
(1) Duties of the shipowner.....	38
(2) The mechanism of ship sweat	40
(3) The dewpoint and three degree rules.....	43
(4) Efficacy of ventilation	44
(5) Ventilation at night.....	46
(a) Hatches to be weathertight	48
(b) Spray risk and manning levels	48
(c) Night vision	50
(d) Risk of injury to crew.....	50
(e) Ventilation increasing condensation.....	53
(f) Generally.....	54
(6) Actual ventilation system employed during the Voyage to Durban	54
(7) The effect of the limited ventilation during the Voyage	59
(8) Ventilation at Durban	66

(G) VESSEL SPEED	68
(H) REINFESTATION.....	68
(I) QUARANTINE	70
(J) CAUSES OF THE DELAYS IN DISCHARGING.....	72
(K) SUMMARY OF CONCLUSIONS	75

(A) INTRODUCTION

1. This judgment follows the trial of a claim by the Claimant (*“Alianca”*), disponent owners of the M/V Santa Isabella (*“the Vessel”*), for demurrage and associated expenses totalling US\$858,383.22 following extensive delays to the discharge of a cargo of 44,000 MT of white corn / maize (the *“Cargo”*). The cargo was found to have suffered extensive damage on arrival at the ports of Durban and Richards Bay, South Africa, after a 39-day voyage from Topolobampo, Mexico to Durban from 24 June 2016 to 1 August 2016 (the *“Voyage”*).
2. Although this is a demurrage claim for a relatively modest amount of money, it raises certain significant issues regarding the duties of shipowners as to (a) choice of voyage route and (b) cargo care including the ventilation of corn and other hygroscopic cargos.
3. The Defendant charterers (*“Ameropa”*) allege that the damage to the Cargo, and the delays at Durban and Richards Bay, were caused by (a) the Vessel taking the Cape Horn route rather than the Panama Canal route from Topolobampo to Durban, (b) failure by the Vessel to ventilate the Cargo in accordance with a sound system, (c) failure by the Vessel to disinfect areas of the Vessel outside of the cargo holds following loading at Topolobampo and/or (d) the Vessel proceeding to Durban at less than her warranted speed.
4. Alianca’s position is, briefly, that the delays at Durban and Richards Bay were the product of (i) the inability of the Vessel to ventilate the Cargo during the first 12 days of the Voyage (due to fumigation restrictions) and (ii) the fact the Vessel took the usual and contractually permitted route to Durban via Cape Horn, during which weather and sea conditions prevented ventilation for the majority of the time ventilation could otherwise have taken place. Alianca denies any failure properly to ventilate when ventilation was safe, or any failure to disinfect. It says the cargo damage, and consequent delays that put the Vessel on demurrage, occurred through no fault of its own.
5. Alianca initially made claims for freight (US\$43,999.81) and load port demurrage (US\$32,183.33), which were not disputed and have been paid. Alianca made but withdrew an expenses claim for US\$25,430.21. Its live claim is for discharge port demurrage at Durban (US\$770,188.89) and Richards Bay (US\$27,244.44), net of address commission and broker commission (together 5%), thus amounting to US\$757,561.66.

(B) FACTUAL BACKGROUND

(1) The Vessel

6. The Vessel is a 2006-built geared bulk carrier of 55,862 metric tonnes deadweight, with five holds served by five hatches forward of the engine room and superstructure.
7. Cargo hold ventilation is ‘natural’, meaning that there were no ventilators fitted with electric fans. The ventilators comprise rectangular openings in the hatch cover panels, closed by hinged doors/flaps. The total grain capacity of the cargo holds is stated to be 69,450.4 m³.

(2) Head charter

8. Alianca was disponent owner of the Vessel pursuant to a time charter dated 6 December 2003 from Forever Shipping S.A. (the “*Head Owners*”). The Vessel was managed by Misuga Kaiun (HK) Ltd.

(3) The subject Charterparty

9. By a Voyage Charterparty (“*the Charterparty*”) dated 2 June 2016, Alianca agreed to charter the Vessel to Ameropa for the carriage of 40,000 mt (+/- 10% at owners’ option) of white corn in bulk from Topolobampo to Durban and Richards Bay.
10. The Charterparty was on the terms of an amended Synacomex Charterparty form. It was initially entered into in recap form, followed by a drawn up version. The material express provisions were as follows:
 - i) Pursuant to the recap, Alianca warranted that the speed of the Vessel was about 13.3 knots.
 - ii) Pursuant to the drawn up Charterparty:

“[Cargo/quantity]

40,000 metric tons (10% more or less in Owners’ option) of corn in bulk ...

2. That the said vessel being tight, staunch, and in every way fit for the voyage shall with all convenient speed proceed to...

3. Being so loaded, the vessel shall proceed with all convenient speed direct to 1/2 SB/SA DURBAN PLUS 1/2 SB/SA RICHARDS BAY

...

[Demurrage]

9. Demurrage is payable by Charterers at the rate of USD 8,000 per day of 24 consecutive hours or pro rata

...

[Address Commission]

16. An address commission of ... 3.75 ... percent on the gross amount of freight, deadfreight and demurrage earned is due to Charterers and is deductible from freight, deadfreight and demurrage.

[Law and arbitration]

17. This contract shall be subject to English law. Any dispute arising out of the present contract shall be referred to the exclusive jurisdiction of the High Court of Justice in London, to which each party hereby irrevocably agrees to submit ...

...

23. Responsibilities and immunities

(1) The Hague Rules contained in the International Convention for the Unification of certain rules relating to Bills of Lading, dated Brussels 25th August 1924, as amended by the Protocol signed at Brussels on February 23rd 1968 (the Visby Protocol) shall apply to this contract...

(3) Save to the extent otherwise in this Charterparty expressly provided, neither party shall be responsible for any loss or damage or delay or failure in performance hereunder resulting from...quarantine...restraint of princes, rulers and peoples or any other event whatsoever which cannot be avoided or guarded against.

...

[Discharging rate/terms]

45. Cargo shall be discharged free of expense to the Owners at the rate of 5,000 metric tons per weather working day of 24 consecutive hours, at Durban for 50% of the cargo and at the rate of 3,000 metric tons per weather working day of 24 consecutive hours at Richards Bay for 50% of the cargo.

[Laytime at discharge]

46. ...

Any delays caused by ice, floods, quarantine or by cases of force majeure shall not count as laytime unless the Vessel is already on demurrage.

[Discharging berth unavailable/discharging port]

47. ...

At all ports any time lost shifting from waiting place to berth shall not count as laytime or as time on demurrage.”

11. Alianca alleges that the effect of the laytime and discharging provisions was that the charterers were permitted 6.4 days of laytime at Durban and 3.68 days of laytime at Richards Bay. Ameropa did not dispute those figures and I proceed on the basis that they are correct.
12. The Hague-Visby Rules incorporated by clause 23 of the Charterparty include the following provisions:

“Article III

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.

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 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. Whenever loss or damage has resulted from unseaworthiness the burden of proving the exercise of due diligence shall be on the carrier or other person claiming exemption under this article.

2. Neither the carrier nor the ship shall be responsible for loss or damage arising or resulting from:

(a) 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.

- (b) Fire, unless caused by the actual fault or privity of the carrier.
 - (c) Perils, dangers and accidents of the sea or other navigable waters.
 - (d) Act of God.
 - (e) Act of war.
 - (f) Act of public enemies.
 - (g) Arrest or restraint of princes, rulers or people, or seizure under legal process.
 - (h) Quarantine restrictions.
 - (i) Act or omission of the shipper or owner of the goods, his agent or representative.
 - (j) Strikes or lockouts or stoppage or restraint of labour from whatever cause, whether partial or general.
 - (k) Riots and civil commotions.
 - (l) Saving or attempting to save life or property at sea.
 - (m) Wastage in bulk of weight or any other loss or damage arising from inherent defect, quality or vice of the goods.
 - (n) Insufficiency of packing.
 - (o) Insufficiency or inadequacy of marks.
 - (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, but the burden of proof shall be on the person claiming the benefit of this exception to show that neither the actual fault or privity of the carrier nor the fault or neglect of the agents or servants of the carrier contributed to the loss or damage.
3. The shipper shall not be responsible for loss or damage sustained by the carrier or the ship arising or resulting from any cause without the act, fault or neglect of the shipper, his agents or his servants.
4. 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.

...”

13. In addition to the express terms set out above, Ameropa contend that the Charterparty was subject to an implied term that the Vessel would proceed with reasonable despatch and without deviation.

(4) Alianca’s voyage instructions to the Vessel

14. On 1 June 2016, Alianca sent voyage instructions to the Master, which included instructions:
- i) to proceed at “*eco speed on abt 12 knots*” (i.e. less than the 13.3 knots referred to in the Charterparty); and
 - ii) that the Vessel would bunker at either Manzanillo or Guayaquil (which implied but did not specify a voyage around Cape Horn).
15. Subsequently, on 13 June 2016 (while the Vessel was at the load port) Alianca specifically instructed the Master to proceed to Durban via Cape Horn, and indicated that WNI Weathernews would provide weather routing. The Cape Horn route was geographically slightly longer than routing via the Panama Canal, but avoided the fees and possible delays involved in the latter route. There is no evidence, however, of Alianca’s actual reasons for instructing the Master to take the Cape Horn route.

(5) Loading at Topolobampo

16. Pursuant to the Charterparty, the Vessel proceeded to Topolobampo for loading, where she arrived on 5 June 2016 and tendered notice of readiness on 9 June 2016.
17. Between 21 and 24 June 2016, the Vessel loaded the Cargo: about 44,000 mt of Mexican white maize in bulk, Grade 2 or better, in apparent good order and condition. The Master issued three bills of lading on behalf of the Head Owners. Bill nos. 1 and 2 named Ameropa Commodities (Pty) Ltd as the notify party, and no. 3 named Archer Daniels Midland Company South Africa Pty Ltd (“*ADM*”).
18. The stow plan indicates that the stowage was as follows:
- i) Hold 1: 8,870 mt (about 92% of that hold’s capacity by volume);
 - ii) Hold 2: 2,573 mt (23%);
 - iii) Hold 3: 11,268 mt (100%);
 - iv) Hold 4: 11,165 mt (100%);
 - v) Hold 5: 10,123 mt (92%).

(6) The Cargo

19. Maize is a hygroscopic cargo, meaning that it will readily absorb moisture when the environmental air (i.e. the air in the head space above the cargo in the hold) contains more moisture than the interstitial air (between the individual grains) within the bulk. Maize is also susceptible to attack by spoilage organisms when exposed to excessively moist conditions. The West of England Loss Prevention Bulletin attached to the report of Alianca's expert states:

“Hygroscopic products have a natural moisture content and are mainly of plant origin. They may retain, absorb or release water vapour, and excessive amounts of inherent moisture may lead to significant self-heating and “moisture migration” within the cargo resulting in caking, mildew or rot. Examples of hygroscopic products include grain, rice, flour, sugar, cotton, tobacco, cocoa, coffee and tea.”

20. Contemporaneous documents state the moisture content of the Cargo on loading to have been 12% or 13.8%. It was not disputed that the Cargo was loaded in good order and condition. Alianca's expert stated in § 6.12.1 of his report that: “... *given the above observations, the cargo appears to have been in a sound condition. This is supported by no remarks on the mate's receipts or bills of lading.*”
21. It is common ground that there is no evidence that the crew measured and recorded the temperature of the Cargo during loading for the purpose of determining when to ventilate. The Fumigation Certificate states a temperature of approximately 30 degrees and the Phytosanitary Certificates 28 degrees. It is unclear how or when these temperatures were taken, and there is no record of temperatures for the individual holds.

(7) Fumigation at Topolobampo

22. Sanigrain were contracted to fumigate the Cargo in the holds once loaded, and did so using the recirculation method.
23. Prior to the commencement of loading, Sanigrain installed fumigation equipment, consisting of flexible perforated pipes in the holds. This was for the purposes of a J-system method. Ameropa's description of this method (which was not challenged) is that it involves a length of flexible perforated pipe being suspended vertically down one of the transverse bulkheads in way of the access ladder. The lower section of pipe lays directly on the tank top around the perimeter of the compartment. Following completion of loading the upper section of the pipe is laid across the top surface of the cargo pile. The fumigant formulation is distributed on the top of the pile, liberating phosphine gas. The gas fills the void space above the cargo pile and, being slightly heavier than air, gradually diffuses through the mass from the top down. Gas enters the free end of the pipe lying on the top surface of the pile and descends to the bottom of the hold. A layer of gas gradually builds from the foot of the pile upwards. In the present case the fumigation was augmented through the use of air pumps to create a recirculation of gas through the mass of cargo, designed to increase the likelihood that all parts of the pile are exposed to the fumigant at the minimum concentration.

24. Fumigation requires that the holds then remain sealed for a certain period. There was some lack of clarity about whether Sanigrain recommended this should be for 10 days or 12 days. In the event, the Cargo was kept under fumigation, i.e. with the holds and ventilators closed, for 12 days.

(8) The voyage to Durban

25. The Vessel departed Topolobampo on 24 June 2016 and proceeded to Manzanillo where she took bunkers, arriving at 0900 hours and departing at 0318 hours the following day. The Vessel then steamed south-southeast to Cape Horn, after rounding which it steamed directly towards Cape Agulhas on the southern tip of South Africa, passing to the south of the Falkland Islands, and ultimately to Durban.
26. Key issues arise about the extent to which the Cargo ventilated during the voyage. I deal with the facts in that regard in section (F) below.

(9) Discharge at Durban and Richards Bay

27. The Vessel arrived at Durban on 1 August 2016 and tendered notice of readiness. The parties' respective experts agree that the condition of the Cargo on arrival was as follows:

“There was extensive damage to the peripheral areas of all cargo piles, including wetting and caking across the top surface, in way of the full height of the cargo holds and in way of the transverse bulkheads. The affected cargo had spoiled and was described as very warm or hot. There were significant populations of adult insect grain pests.”

28. The report of Alianca's surveyors, Africargo, records that on opening the hatches the cargo (at least in holds 1,2, 4 and 5) was found to be “*wet, smelling and germinating*”. They further stated that:

“Our inspection revealed that all holds had in fact been affected (including hold 3). Germination/growth was observed in straight lines and also circular patterns on the surface of the stow and the growth pattern was observed to correspond with the welds/joints/framework on the underside of the hatch covers, indicative of condensation collecting at these points on the underside of the hatch covers and dripping onto the cargo.”

29. Africargo reported that the worst affected holds were 1 and 4, with the surface crust penetrating to a depth of 50 cm in some cases.
30. The experts agree that the cause of the wetting and spoilage of the Cargo was “*condensation (ship's sweat)*”.
31. Surveyors Patterson & Associates of Durban (“**P&A**”) were instructed by the parties interested in the Cargo (Ameropa Commodities (Pty) Ltd and ADM) to supervise the sampling, treatment and discharge of the Cargo at Durban and Richards Bay. The relevant events are addressed in a report by Mr. Mike Patterson dated 20 January 2017 and his witness statement. In very broad summary, Mr Patterson stated that:

- i) The position of the South African authorities – the South African Department of Agriculture, Forestry and Fisheries (“*DAFF*”) and the Durban Port Health Authority (“*Port Health*”) – was that all of the Cargo would be rejected for import into South Africa by reason of its condition. This was underlined when the Cargo was tested and found to contain toxins, and therefore declared to be unfit for human consumption. The authorities refused to permit discharge, taking the view that all of the Cargo was contaminated with toxins.
 - ii) This was not accepted by P&A, who proceeded on a course of action which involved skimming off the damaged Cargo using local contractors, sampling and analysis of the remaining Cargo to show (as far as possible) that it was fit for import, and negotiating with the local authorities to obtain their permission for this course of action.
 - iii) On that basis, permission to proceed with discharge was to be granted on condition that the maize met specification for human consumption. The initial samples taken showed the presence of toxins. There was then a lengthy process of skimming and sampling to convince the authorities that the Cargo was fit for consumption.
 - iv) In the course of this, the Vessel required re-fumigation on more than one occasion, variously had to vacate the berth and wait at the anchorage to accommodate other vessels, and latterly experienced weather interruptions.
 - v) Ultimately, discharge ‘proper’ could not commence until the berth was free on 16 October 2016. Progress was slow, as discharge proceeded in tandem with skimming operations to remove damaged Cargo. The process of degradation was seen to be ongoing during the operation.
 - vi) Discharge at Durban was completed on 12 November 2016, and had taken over 3 months.
32. The Vessel arrived at Richards Bay on 12 November 2016 with about 10,287 mt remaining on board for discharge. Mr Patterson states (again in very broad outline) that:
- i) P&A met the Richards Bay office of DAFF on 4 November to explain the background and the importance of discharging the remaining Cargo as quickly as possible.
 - ii) After further fumigation, due to infestation in hold 3 which was identified during an inspection by DAFF and Port Health, the remaining Cargo was discharged with damaged Cargo being removed by hand.
 - iii) Discharge was completed on 21 November 2016.

(10) Summary of key dates

33. Counsel for Alianca provided the following list of key dates, which are a useful tool for reference:

- i) 24 June 2016: fumigation is carried out at Topolobampo; the Vessel departs for Durban.
- ii) 26 – 27 June 2016: bunkering at Manzanillo (Mexico).
- iii) 6 July 2016: 12-day fumigation period ends.
- iv) 1 August 2016 (12:00): Vessel arrives at Durban and tenders notice of readiness.
- v) 2 August 2016 (00:00): laytime commences under clause 46 of the Charterparty.
- vi) 3 August 2016: Vessel berths and cargo damage is covered.
- vii) 4 August – 12 November 2016: Vessel remains at Durban, whilst the Cargo is tested, skimming operations are carried out, and sound cargo is discharged. The Vessel was required to shift on numerous occasions throughout and spends significant periods of time at anchorage.
- viii) 12 November 2016: discharge operations at Durban completed.
- ix) 13 November 2016 (16:52): Vessel arrives at Richards Bay and tenders notice of readiness.
- x) 14 November 2016: laytime commences at 04:52 under clause 46 of the Charterparty. Cargo damage is discovered and fumigation is ordered.
- xi) 17 November 2016 (16:05): discharge commenced.
- xii) 21 November 2016 (07:55): discharge completed.

(C) PRINCIPAL ISSUES

34. The key issues can be summarised as follows:

- i) **Choice of Route**: was Alianca in breach of the Charterparty by reason of the route adopted to Durban?
 - a) what are the applicable principles?
 - b) what route was actually taken?
 - c) was the route taken a contractually permitted route?
- ii) **Speed/reasonable despatch**: did the Vessel fail to proceed to Durban with all convenient speed and/or in accordance with her warranted speed, and:
 - a) what was the speed achieved by the Vessel?
 - b) what delay was caused by the shortfall in speed?

- iii) **Ventilation:** was the Cargo properly and carefully ventilated in accordance with a sound system?
 - a) was a sound system carefully applied?
 - b) should a sound system have included night time ventilation, and should night time ventilation have been undertaken?
 - c) did non-ventilation during the period of fumigation contribute to the Cargo damage and, if so, can Alianca avail itself of Article IV rule 2(q) of the Hague-Visby rules?
 - d) was ventilation undertaken at Durban when possible?
 - e) what was the effect of any inadequacy of ventilation?
 - i) what would have been the condition of the Cargo had the Vessel proceeded via the Panama Canal, assuming proper ventilation during daylight hours?
 - ii) what would have been the condition of the Cargo had the Vessel proceeded via Cape Horn?
- iv) **Reinfestation:** What was the cause of the reinfestation?
- v) **Quarantine:** did the South African authorities quarantine the Cargo within the meaning of clauses 23(3) and/or 46 of the Charterparty
- vi) **Delay:** what was the cause of delay at Durban and Richards Bay? How long would discharge have taken, absent the alleged breach(es) on the part of Alianca?

(D) WITNESSES

(1) Witnesses of fact

- 35. Alianca called as their witness of fact Mr Lourdito Abrantes Abedejos, who was the chief officer of the Vessel during the Voyage. He gave oral evidence in person.
- 36. Ameropa called Mr Mike Patterson of P&A, whose evidence I have already referred to above. Mr Patterson gave evidence by video link. He is a marine surveyor and has since 1989 run a surveyor's practice with offices in South Africa, Zambia and Zimbabwe. He was engaged by cargo interests to supervise the sampling, treatment and discharge of the cargo at Durban and then at Richards Bay, from August 2016 to January 2017. I had the benefit of his written reports as well as a witness statement and his oral evidence.
- 37. I was satisfied that both witnesses gave truthful evidence to the best of their recollection.

(2) Expert witnesses

38. Alianca called as an expert witness Captain Yusuf Soomro, a Master Mariner who served 21 years at sea from 1980 to 2001, including 5 years in command of Panamax and handy-sized bulk carriers trading on a worldwide basis until 2001. During his time at sea, including as Chief Officer and Master, Captain Soomro carried grain, including corn, on numerous occasions and from various ports around the world, though he never undertook a voyage round Cape Horn. From 2002 he worked as a Maritime and Coastguard Agency surveyor, and has experience of surveying all types of ship for flag and international regulations compliance. He has subsequently investigated numerous marine accidents as an inspector with the UK Marine Accident Investigation Branch. Since 2011, as a marine consultant, he has investigated a variety of marine accidents and operations including damage to bulk cargos and navigational issues.
39. Captain Soomro provided three reports and gave oral evidence at trial.
40. Ameropa called Mr Les Rice as an expert witness. Mr Rice is a former mariner and dry cargo specialist with particular experience of the trade in maize from the Americas to Europe, Africa and the Middle East. For the past 35 years he has regularly been instructed to investigate major claims arising from damage to cereal cargos, including more than 130 major claims relating to maize cargos. He has participated in studies aimed at reducing losses in maize trades, in particular in the Argentina to Europe trade, and has provided loss prevention advice to shipowners, charterers, P&I clubs, commodity traders and cargo insurers in respect of maize transportation.
41. Mr Rice was originally at sea for 6 years from 1977 to 1983 as a cadet and then deck officer. During this time he had experience of being solely responsible for cargo and navigation watches. Since then, he has many years of experience of attending at load ports, attending vessels and attending discharge, as part of which he has attended on board many bulk carriers. This includes the specific instances I have referred to in §§ 202 and 206 below.
42. Mr Rice provided two reports and gave oral evidence at trial.
43. I am satisfied that both experts are appropriately qualified to give evidence on the issues on which they provided opinion in the present case. I am also satisfied that both properly discharged their duties to the court as experts.
44. Alianca, in its cross-examination of Mr Rice and its submissions, mounted a protracted and in my judgment unfounded attack on Mr Rice's impartiality. I have addressed certain specific aspects of this in my findings at §§ 142-143 and 184-187 below. Having carefully read and listened to Mr Rice's evidence, I do not accept Alianca's suggestions that Mr Rice was seeking to advocate a position, or otherwise departing from his duties as an expert. Although there were occasions on which Mr Rice was disparaging of certain practices in the shipping market, I consider that he expressed his genuine and reasoned opinions, explaining his views carefully fully and with appropriate moderation.

(E) CHOICE OF ROUTE

45. Ameropa argues that the route taken around Cape Horn was not a ‘usual and reasonable route’ and that Alianca’s use of that route constituted:
- i) a deviation; and
 - ii) a breach of Hague-Visby Article III rule 2.
46. Before considering the merits of these arguments, and in order to set the context, I first comment briefly on the parties’ respective burdens of proof.
47. Ameropa accepts that the delays at Durban and Richards Bay would *prima facie* entitle Alianca to claim demurrage. However, it relies on the rule in *Budget v. Binnington* [1891] 1 QB 35 that a charterer is not liable for demurrage if the delivery of the cargo cannot take place, or is delayed, on account of fault of the shipowner. As a principle, this is common ground.
48. Ameropa also accepts that the legal burden of proving a breach of Article III rule 2 is upon Ameropa because the relationship between Ameropa and Alianca under the Charterparty was purely contractual, rather than being one of bailment: the bailor/bailee relationship was between the Head Owners and the holders of the bills of lading.
49. However, Ameropa submits that the presence of the cargo damage on discharge gives rise to an *evidential* burden on Alianca to show that no breach of Article III has occurred: see *Albacora Srl v. Westcorr & Laurance Line Ltd* [1966] 2 Lloyd’s Rep. 53, 63-64; and the decision of the High Court of Australia in *The Bunga Seroja* [1999] 1 Lloyd’s Rep. 512 § 98 where McHugh J said:
- “The delivery of the goods in a damaged state is evidence of a breach of art. III and imposes an evidentiary burden on the carrier to show that no breach of art. III has occurred. But unlike the common law, failure to deliver the goods in the state received does not cast a legal onus on the carrier to prove that the state of, or non-delivery of the goods, was not due to the carrier’s fault.”
50. Ameropa points out that although the Supreme Court in *Volcafe Ltd v Compania Sud Americana de Vapores SA* [2018] UKSC 61 disapproved these judgments to the extent that they suggested that a cargo owner had the legal burden of proof (holding that, under a contract of bailment, that burden was on the carrier), the court did not disagree with the proposition that under the Rules, the carrier would have the evidentiary burden.
51. As I read *Volcafe*, the Supreme Court did not specifically address the latter proposition at all. After citing *Albacora* and quoting the passage from *Bunga* quoted above, the court said:
- “Any statement from these sources is entitled to respect. But the force of these dicta is diminished by a number of considerations. In the first place, in neither case was the burden of proof in issue, because in both the trial judge had found as a fact that the carrier

was not negligent. Secondly, no doubt for that reason, none of the relevant authorities on the burden of proof are cited except, in the case of The "*Albacora*", for Wright J's decision in *Gosse Millard*. Thirdly, Lord Pearson, while rightly criticising Wright J's construction of the words "*properly ... to discharge*" in article III.2 of the Hague Rules, does not address his second reason, based on the characterisation of the contract as one of bailment. Fourthly, these dicta involve an unexplained departure from the basic principles governing the burden of proof borne by a bailee for carriage by sea, and are out of line with English authority of long standing. In my view, so far as they suggest that the cargo owner has the legal burden of proving a breach of article III.2, they are mistaken." (§ 27)

52. On that basis that I do not consider it necessary to resort to burden of proof in order to decide the present case, I prefer not to express a concluded view on this point. As a matter of common sense, the arrival in a seriously damaged condition of a cargo loaded in apparent good order and condition calls for an explanation, and a want of care on the part of the shipowner is a possible inference. In the present case, Alianca's explanation is that the length and/or route of the Voyage made damage inevitable. On that basis, I am inclined to the view that it is for Ameropa to show, on the balance of probabilities, that the damage suffered in fact arose from a breach of contract by Alianca.

(1) Reasonable dispatch and deviation

53. Clause 3 of the Charterparty provided that the Vessel shall proceed with all convenient speed to the discharge ports. In any event, it is well established that in the absence of express stipulation a term is to be implied into a contract for the carriage of goods by sea that the vessel will commence and carry out the voyage with reasonable despatch and without unjustifiable deviation.
54. The position is summarised in *Scrutton on Charterparties* (23rd edition) as follows:

“Article 143: Shipowner’s Duty to Proceed without Deviation and with Reasonable Despatch

12-011

In the absence of express stipulations to the contrary, the owner of a vessel, whether a liner or general ship or a ship chartered for a particular voyage or under a time charter, impliedly undertakes to proceed in that ship by a usual and reasonable route without unjustifiable departure from that route and with reasonable despatch. Prima facie the route is the direct geographical route; but evidence is admissible to prove what route is a usual and reasonable route for the particular ship at the material time, provided that it does not involve any inconsistency with the express words of the contract. A route may be a usual and reasonable route though followed only by ships of a particular line and though recently adopted. ...

12-012

Departure from the route so ascertained is justifiable if necessary to save life or to communicate with a ship in distress as the distress may involve danger to life, or if it is involuntary, e.g. as the result of necessity; but in the absence of express stipulations to the contrary it is not justifiable, except in cases to which the Carriage of Goods by Sea Act 1971, applies, if only necessary to save property of others.

...

12-013

Unjustifiable departure from the contract route unless involuntary (e.g. resulting from error of judgment as to route) constitutes a deviation.

Delay in performing the contract voyage may also constitute a deviation, just as delay in carrying out the insured voyage may constitute a deviation under an insurance policy.”

55. Ameropa says it follows that in the absence of contractual stipulation of the route, the owner must adopt a route that is both usual and reasonable. Ameropa highlights the reasonableness criterion as expressed in the following formulations of the rule:

i) *Achille Lauro v Total* [1968] 2 Lloyd’s Rep. 247, 251lhc per Donaldson J:

“The vessel was, in the absence of agreement to the contrary, under a duty to proceed to Lisbon by a usual and reasonable route, which prima facie was the direct geographical route (see Scrutton on Charterparties, 17th ed. (1964) at p.259)”

ii) *Reardon Smith Line Ltd v. Black Sea & Baltic General Insurance Co Ltd* [1939] 64 Lloyd’s Rep. 229:

“The evidence, however, to prove a commercial usage is in any event not the same as that necessary to prove a custom, say, in matters of land law. And as appears from the authorities I have quoted, the question here is simply what is a usual and reasonable mode of performing the necessary operation of calling for bunkers.” (Lord Wright, p.239 lhc)

“... I think a commercial habit or practice like the one claimed may come into existence in a short time and cease as rapidly. In modern business, things are constantly changing, and commercial habits may change as rapidly. Nor am I impressed by the contention that what was originally a breach of contract cannot by repetition become a usual and reasonable course.” (Lord Wright, p.238 lhc)

iii) *The Al Taha* [1990] 2 Lloyd’s Rep. 117, 124rhc-125lhc:

“Under a contract of carriage for a single voyage the vessel is obliged to proceed -

. . . by a usual and reasonable route without unjustifiable departure from that route and without unreasonable delay . . . [Scrutton on Charterparties 19th Ed. at p. 259].

A route can be usual and reasonable notwithstanding that it involves departure from the shortest geographical route in order to bunker.”

56. It is necessary, however, to consider in more detail what is meant by the ‘usual’ and ‘reasonable’ criteria in the case law.

(a) The ‘usual’ route

57. The obligation to proceed with reasonable despatch means taking the shortest and quickest route to the destination port, unless there is another route which is the usual route (Cooke et al., *Voyage Charters*, 4th ed, §9.5; *The “Hill Harmony”* [2001] 1 Lloyd’s LR 147, 149 rhc per Lord Bingham).
58. Deviation is the intentional adoption of a route that differs from the contract route, as opposed to a departure from that route as a result of a navigational error or an involuntary departure caused by wind or currents.
59. The charterer can elect a specific route in the voyage charter to suit its needs, if it is so minded (*Reardon*, p.241 rhc, per Lord Porter: “*unless a specific route be prescribed by the charter party or bill of lading*”).
60. Since no route was stipulated contractually by Ameropa in this case, Alianca was required to take the usual route to Durban from Mexico.
61. In the absence of evidence to the contrary, the usual route is presumed to be the direct geographical route. However:

“... the usual route frequently differs from the direct route, for both navigational and commercial reasons, and unless the contract contains an express term which lays down the route that the ship is to follow, evidence is always admissible to show that is the usual or customary route between the loading and discharging port.” (*Voyage Charters*, 4th ed, §12.2)

62. As Lord Porter stated *Reardon Smith Line Ltd v Black Sea & Baltic General Insurance Co Ltd* [1939] 64 Lloyd’s LR 229, 241 rhc:

“The law upon the matter is, I think, reasonably plain, though its application may from time to time give rise to difficulties. It is the duty of a ship, at any rate when sailing upon an ocean voyage from one port to another, to take the usual route between those two ports. If no evidence be given, that route is presumed to be the direct geographical route, but it may be modified in many cases for navigational or other reasons, and evidence may always be given to show what the usual route is unless a specific route be prescribed by the charter-party or bill of lading. In each case, therefore, when a ship is

chartered to sail, or when a parcel is shipped upon a liner sailing from one port to another, it is necessary to inquire what the usual route is.”

63. *Reardon* also makes clear that establishing the ‘usual’ route does not require proof of a custom:

“The shipowner is not here attempting to prove a custom. To prove a custom he would have to show that it was uniform and universal in the trade, but that is not what is in question here. Nor need he show that other routes were not available, that is, that there were not alternative ports of call at which he might bunker.” (Lord Wright, p.238 lhc)

“The evidence, however, to prove a commercial usage is in any event not the same as that necessary to prove a custom, say, in matters of land law. And as appears from the authorities I have quoted, the question here is simply what is a usual and reasonable mode of performing the necessary operation of calling for bunkers.” (Lord Wright, p.239 lhc)

64. The ‘usual’ route can change over time, sometimes fairly rapidly:

“... I think a commercial habit or practice like the one claimed may come into existence in a short time and cease as rapidly. In modern business, things are constantly changing, and commercial habits may change as rapidly. Nor am I impressed by the contention that what was originally a breach of contract cannot by repetition become a usual and reasonable course.” (*Reardon* per Lord Wright, p.238 lhc)

65. The ‘usual’ route may be significantly longer than the direct route:

“It is true that a considerable number of vessels proceeding from Black Sea ports do not call at Constantza for bunkers, and that if one is to take particulars of Poti and Novorossisk alone only about one-quarter of the ships proceeding on ocean voyages call at Constantza after loading. It is true also that the journey to Constantza lengthens the voyage by some 200 miles, and that shortly after the accident to the Indian City the cost of oil at Constantza increased and the appellants thereafter have taken their bunkers from Algiers instead of Constantza. All these are matters to be considered, but a short usage, particularly where the obtaining of bunkers is concerned, may still be a sufficient usage to create a usual route.” (*Reardon* per Lord Porter, p. 243 lhc)

66. The considerations which determine which route is the ‘usual’ route can include commercial and navigational reasons:

“... it is obvious that there will be in general various considerations, commercial or navigational, which determine what sea route is usual and reasonable. Thus, in the old shipping days, routes were chosen in order to make use of trade winds, and varied from season to season, and between the same termini there might be several usual routes. In modern times in all long ocean voyages, the need to replenish bunkers ... has to be considered.” (*Reardon*, p.237 rhc per Lord Wright)

“In more recent years to sail in the direction opposite to that of the destination has been held not to have been a deviation from a named voyage, where it was commercially impracticable to do otherwise (*Evans, Sons & Co. v. Cunard Steamship Co*), a departure from the direct line from San Francisco to Honolulu by proceeding to Portland, Oregon, merely in order to earn a subsidy for the shipowner, has been held justifiable by usage in *Grace v. Toyo Kisen Kabushiki Kaisha*, and the fact that a general ship is seeking parcels at various ports in a gulf, the Persian Gulf, where she can find them, has been treated as being available to justify a departure from a named terminus under the authority of a wide deviation clause: *Hadgi Ali Akbar v. Anglo-Arabian and Persian Steamship Co.*” (*Frenkel v MacAndrews* [1929] AC 545, 563-564 per Viscount Sumner)

67. A ‘usual’ route can be established even if the evidence emanates from a single shipping line, and even if that is the line of the party seeking to establish what the ‘usual’ route is (*Reardon*, p.236 rhc per Lord Wright, quoting Lord Sumner in *Frenkel*).
68. There can be more than one ‘usual’ route between two ports. In such cases, taking any one of those routes means the Vessel has neither deviated, nor failed to proceed with reasonable despatch. As Lord Porter explained in *Reardon*, at p.241 rhc:

“In some cases there may be more than one usual route. It would be difficult to say that a ship sailing from New Zealand to [England] had deviated from her course whether she sailed by the Suez Canal, the Panama Canal, round the Cape of Good Hope or through the Straits of Magellan. Each would, I think, be a usual route. Similarly the exigencies of bunkering may require the vessel to depart from the direct route, or at any rate compel her to touch at ports at which, if she were proceeding under sail, it would be necessary for her to call.

It is not the geographical route but the usual route which has to be followed, though in many cases the one may be the same as the other. But the inquiry must always be, “What is the usual route?” and a route may become a usual route in the case of a particular line though that line is accustomed to follow a course which is not that adopted by the vessels belonging to other lines or to other individuals. It is sufficient if there is a well-known practice of that line to call at a particular port.”

69. It may be possible fairly to infer the usual and reasonable character of a voyage from the fact that no objection is made by the charterer (*Reardon*, per Lord Wright, p.238 lhc – rhc).

(b) A ‘reasonable’ route

70. The earlier authorities on voyage charters and bills of lading make no reference to a criterion of reasonableness, focussing instead on the direct, usual and/or ordinary course: see e.g., *Phelps, James & Co v Hill* [1891] 1 QB 605, 610 per Lindley LJ (“*The voyage being fixed by the contract of affreightment, it is the duty of the master to proceed to the port of delivery without delay, and without any unnecessary departure from the direct and usual course*”); *Davis v Garrett* (1830) 6 Bing 716, 725 (p.1460 of

the report) per Tindal CJ (“*The words usual and customary being added to the word direct ... must be held to qualify the meaning of the word direct, and substantially to signify that the vessel should proceed in the course usually and customarily observed in that her voyage. And we cannot but think that the law does imply a duty in the owner of a vessel, whether a general ship or hired for the special purpose of the voyage, to proceed without unnecessary deviation in the usual and customary course*”); *Leduc & Co v Ward & Others* (1880) 20 QBD 475, 481 per Lord Esher MR (CA) (“*it must be a voyage on the ordinary track by sea of the voyage from the one place to the other*”).

71. Similarly, section 46(2)(b) of the Marine Insurance Act 1906 provides, for the purposes of discharge of a marine insurer from liability by reason of deviation, that:

“There is a deviation from the voyage contemplated by the policy—

(a) Where the course of the voyage is specifically designated by the policy, and that course is departed from; or

(b) Where the course of the voyage is not specifically designated by the policy, but the usual and customary course is departed from.”

72. The concept of reasonableness does appear in *Glynn v Margetson* [1893] AC 351, where oranges were shipped on board a steamship for delivery to Liverpool. The vessel was lying in the port of Malaga at the time, and the bill of lading contained a wide liberty clause permitting the vessel to “*proceed to and stay at any port or ports in any rotation in the Mediterranean, Levant, Black Sea, or Adriatic, or on the coasts of Africa, Spain, Portugal, France, Great Britain and Ireland, for the purpose of delivering coals, cargo, or passengers, or for any other purpose whatsoever*”. The vessel left Malaga for Burriana on the east coast of Spain, whereas the natural route from Malaga to Liverpool would involve proceeding west and up the west coast of Spain. The vessel then returned to Malaga and made for Liverpool. Due to the delayed passage, the oranges arrived rotten at Liverpool and the shipowner was sued by the shippers.
73. The House of Lords held that the vessel had deviated; and that the liberty clause permitted stoppage only at ports that were on the course of the voyage, or *en route*, to Liverpool. Lord Herschell said:

“It may be said that no port is directly in the course of the voyage ..., inasmuch as in merely entering a port or approaching it nearly you deviate from the direct course between the port of shipment and the ultimate port of destination. That is perfectly true; but in a business sense it would be perfectly well understood to say that there were certain ports on the way between Malaga and Liverpool, and those are the ports at which I think the right to touch and stay is given” (pp.355-356) (my emphasis)

and:

“I do not think that [the phrase “in any rotation”] carries the matter much further. When once the conclusion which I have indicated is arrived at, if

the meaning to be given to those words is that the vessel may take those ports in any order she pleases in a reasonable sense, nevertheless the ports referred to must still, in my opinion, be ports lying between Malaga and the port of destination, Liverpool, even although there might be a justification for her not touching at any particular one of those ports, or more than one of them, in the exact order in which they would come in the voyage between those two places. It is not necessary to decide what effect should be given to those words “in any rotation”; but even giving to them the fullest possible effect they do not seem to me to enlarge the number of ports at which it would be justifiable for this vessel to touch during the course of her voyage.” (p.356) (my emphasis)

74. In *Frenkel*, another bill of lading case, the question was whether a vessel carrying olive oil from Malaga to Liverpool had deviated by calling first at various ports on the Mediterranean coast of Spain. A liberty clause allowed the vessel to “*touch at any ports whatsoever, although they may be outside the route without it being considered a deviation*”.
75. The Privy Council held the route taken was a usual commercial route, bearing in mind that the shipowners owned a fleet of steamers that had always been in the habit of performing round trips from the Mediterranean to Liverpool, picking up cargo from port to port. It was therefore not strictly necessary to consider the liberty clause (as Viscount Sumner noted at p.562 and again at p.564).
76. In the course of considering what the contractual route was, Viscount Sumner (with whom Lord Blanesborough agreed) made several references to reasonableness. First, he stated:

“... in these bills of lading I think it is clear that the voyage is not stated in terms. ... Yet until a contract voyage is established, questions of deviation do not arise. Evidence was needed to prove what that voyage was and that evidence was tendered and was admitted without objection. Its effect was that the ship, having shipped the oil at Malaga, was to proceed “via Levante,” calling at various ports as far eastward and northeastward as Palamos, and, returning thence, calling at other ports, until, having passed Malaga without calling again, she proceeded “directo” for the United Kingdom. No question arises here as to the precise meaning of “via Levante” or as to the ports to be called at and the order of the calls, which that expression may connote. This was shown to be a usual commercial route for the *Cervantes* to follow under the circumstances and to be the route which had been advertised for her for this voyage some time beforehand, and it was one which I think was reasonable under the circumstances. I cannot see that it is the less a reasonable and usual commercial route, though the evidence referred only to the ships of the respondents' own line. Their prominent position in this trade, the number of ships they run, and the length of time that this kind of practice has been followed by them all go to prove this conclusion. ...

If a voyage via Levante became in fact the contract voyage, to which the contracts of carriage apply, or if, commercially, it was a due performance of whatever was agreed, the action fails, for the ship did not depart from a voyage so described and the bill of lading exceptions accordingly covered the loss sued for.” (p.561-562) (my emphasis)

77. Viscount Sumner went on to reject the contention that the court was bound by *Glynn* to find in the shippers’ favour, particularly the judgments of Lord Herschell (in the House of Lords) and Lord Esher MR (in the Court of Appeal) in that case. He said:

“If a voyage via Levante became in fact the contract voyage, to which the contracts of carriage apply, or if, commercially, it was a due performance of whatever was agreed, the action fails, for the ship did not depart from a voyage so described and the bill of lading exceptions accordingly covered the loss sued for. At the Bar, however, it was contended that *Glynn v. Margetson* bound your Lordships to find that there had been an unauthorized deviation and that the exceptions did not apply.

The authority of that case is unquestionable but the limits of the decision are also clear. The termini of the bill of lading voyage were expressly stated. The shipowner's claim was boldly made that a liberty to deviate, framed in almost universal terms, entirely overrode those limits and prevented what the ship actually did, or indeed almost anything else of the sort that the captain chose to do, from being an unauthorized deviation. The House decided that he was wrong and that the liberty did not cover the deviation, the principle being that these two parts of the bill of lading, the described voyage and the liberty to deviate, must be read together and reconciled, and that a liberty, however generally worded, could not frustrate but must be subordinate to the described voyage. It follows that, as soon as it is established in the present case that the described voyage was not departed from, there is no need to resort to or to interpret the liberty to deviate at all.

...

The deviation [in *Glynn*] was one, which not only took the ship to Burriana, a long way to the East and North-East of Malaga, but one, of which every league had to be retraced, and this, with a cargo of ripe fruit, necessarily involved deviation consisting in the delay to proceed promptly towards the destination, apart altogether from the line of route. Both judgments endeavour to keep the door open to a certain measure of departure from the strict “sea-track” without its being considered a deviation. These expressions were not meant to state the limits of permissible departures but to indicate the kind of facts to be taken account of, when proved, with a view to the recognition of a liberty. Lord Herschell speaks of certain ports being in the way of the voyage

“in a business sense”. Lord Esher mentions various circumstances as to season and safety that may be material. It would have been enough for the decision to have said “Malaga to Liverpool is not Malaga to Burriana and back to Liverpool”. The mention of other matters, all of them depending on facts relating to the circumstances of trade and navigation and varying somewhat as time goes on and progress takes place, really shows how clearly these great authorities desired to guard themselves in view of the fact, that on many grounds deviation from the sea-track might still not be beyond the ordinary route, though in the case in hand they had not been put in evidence. Such things must be matters of degree and may not always be equally important for all classes of ships, all kinds of cargo, or all periods of trade.” (pp.562-563) (my emphasis)

followed by the observations already quoted in § 66 above beginning “*In more recent years*”.

78. Viscount Sumner concluded his judgment by referring to the liberty clause:

“The conclusion of the Court of Appeal, with which I concur, that the agreed voyage was one, which included the passage on which the oil was damaged, makes it unnecessary to discuss now the terms of the liberty to deviate and I will only say that, if, as I suppose is the case, parties may, if they can find apt words to do so, contract themselves even out of *Glynn v. Margetson* and make the liberty to deviate control the terms of the described voyage, the words used here - namely, “at any ports whatsoever, although they may be outside the route,” seem to go far, and possibly far enough, to achieve this object.” (p.564) (my emphasis)

79. Alianca submits that the references to reasonableness in the observations quoted in §§ 76 and 77 above related to the scope of the liberty clause, and were *obiter*. They were, Alianca says, echoing the point made by Lord Herschell in *Glynn* that where there was a widely-drawn liberty in the bill of lading to call at ports in any order, the ports and order thereof at which the vessel calls must nonetheless still be reasonable in all the circumstances. Thus, not only was a route from Malaga to Liverpool via Levante the usual commercial route (such that it did not amount to a deviation), it was also a reasonable port to call at (for the purposes of the liberty clause).

80. I do not accept that submission. The passage quoted in § 76 is expressly concerned with the question of identifying the contract voyage by ascertaining what was a usual commercial route. Moreover, although the passages quoted in § 77 above refer to the consideration in *Glynn* of the scope of the liberty clause, Viscount Sumner was not there considering the liberty clause in the case before him: on the contrary, his observations at pp.562 and 564 (quoted in §§ 77 and 78 above) made clear that the remainder of his reasoning was not concerned with the liberty clause but rather with the prior question of usual route. It was in the latter context that Viscount Sumner considered what route was “*reasonable under the circumstances*”, “*a reasonable and usual commercial route*”, “*the usual and reasonable commercial character of such a voyage*”; and it was

in the same context that he referred to the delay caused by the deviation in *Glynn* “with a cargo of ripe fruit” and made the point that the matters relevant to considering the usual route may not always be equally important for (*inter alia*) “all kinds of cargo”.

81. Lord Wright in *Reardon* referred to this aspect of *Frenkel*, and to the issue more generally, in the following terms in a passage which again refers to reasonableness and needs to be quoted at some length:

“The contract voyage has to be identified. It must refer to some route or other. It cannot be said as a matter of law that the meaning is necessarily by the direct sea track. In *Frenkel v. MacAndrews* Lord Dunedin quotes from Wills J. in *Evans, Sons & Co. v. Cunard Steamship Co.*, the statement that the expression

“the voyage from Bari to Liverpool”

must be understood in a business sense, which were the words used by Lord Herschell in *Glynn v. Margetson & Co.* Lord Dunedin then proceeds:

“That case (i.e., *Evans'* case) puts an end to the idea of the geographical route being the only route. It lets in the evidence of what the route under the circumstances of the ship really was. Many cases may be figured where there is more than one route which might be used by a ship. It might be a choice between the Suez Canal, the Panama Canal, or round Cape Horn. In such a case even if the port of starting and of destination were stated, it would be necessary to make inquiry to find out which was the usual route.”

Again in *Frenkel's* case Lord Sumner to the same effect said that evidence in that case was needed to prove what the voyage was and, being admitted, showed what was a usual commercial route, which in his Lordship's opinion was reasonable under the circumstances. Lord Sumner again, after referring to opinions of Lord Esher and Lord Herschell in *Glynn's* case, goes on to say:

“The mention of other matters, all of them depending on facts relating to the circumstance of trade and navigation and varying somewhat as time goes on and progress takes place, really shows how clearly these great authorities desired to guard themselves in view of the fact, that on many grounds deviation from the sea-track might still not be beyond the ordinary route. Such things must be matters of degree, and may not always be equally important for all classes of ships, all kinds of cargo, or all periods of trade.”

... In *Frenkel's* case the authorities last cited [*Leduc* and *Glynn*] were distinguished. ... The real distinction drawn was that there was evidence showing that the contractual voyage was not the

direct or ordinary sea route; ... The shipowners did not rely on the deviation clause. They contended that the steamer was on the contract voyage and had not departed from it when the oil was damaged in a storm between Malaga and Cartagena. In support of their contention they relied on the evidence which showed that the route taken was a usual commercial route for the vessel to follow under the circumstances, and was the route which had been advertised for her for the voyage some time beforehand and was a route which was (as Lord Sumner in fact held) reasonable under the circumstances. Lord Sumner added:

"I cannot see that it is the less a reasonable and usual commercial route, though the evidence referred only to the ships of the respondents' own line."

This shows how remote such evidence is from evidence which would be required to prove a strict custom. Lord Sumner also treated the fact that the course of business was well known to those of the plaintiff's employees to whom he confided this part of his business, as strongly confirming the usual and reasonable character of such a voyage, since no objection was taken, though no estoppel or collateral agreement arose. ...

...

The cases cited above were cases of liners or general traders, and it may be said that the same principles do not apply in the same sense to a chartered vessel, carrying a single cargo for a single shipper or consignee. But even in such cases it is obvious that there will be in general various considerations, commercial or navigational, which determine what sea route is usual and reasonable. Thus in the old sailing ship days, routes were chosen in order to make use of trade winds, and varied from season to season, and between the same termini there might be several usual routes. In modern times in all long ocean voyages, the need to replenish bunkers (coal or oil) has to be considered. The doctrine of stages of the voyage which enables a shipowner to start with bunkers sufficient for the stage, so long as he fills up his bunkers at the next bunkering port, necessarily involves calling at that port, and also perhaps, later ports, in order to fulfil the recurring obligation to keep the vessel seaworthy in regard to bunkers. Thus to call at such ports has become an ordinary incident of the voyage. The need to do so may help to determine the general route, for instance, whether it is to be by the Cape of Good Hope or the Suez Canal. A shipowner is entitled, within certain limits determined by what is reasonable, to be guided in his choice of bunkering ports by considerations of cheapness and convenience. Thus evidence was given in this case that it is usual for a coal-burning ship bound to Australia by the Cape of Good Hope to bunker at Durban, where coal is cheaper instead of at

Cape Town, though Durban is farther off the route. Other similar instances were given in evidence. ...

... The position therefore is that to call at some port for bunkers is no deviation, and the only question is whether Constantza is a usual and reasonable port of call for this purpose.

... There are no doubt other available ports of call for this purpose, some, and perhaps all, of which would involve much less extra steaming. I think the shipowner is entitled to balance the cost to him of extra steaming against the cheapness or convenience of Constantza, so long as to do so is not unreasonable in regard to the interests of the charterer or any other persons who might be concerned. ...

As the necessity of using ports of call for bunkering is so obvious, I think that less evidence is needed to justify that it is usual and reasonable to use a port like Constantza for that purpose, than if the ship had gone there for purposes of trade. But I do not think it necessary to lay down any specific measure of departure from the direct sea route which may be held to be reasonable. If I am asked how far I go, I say that I go as far as this case requires. The test of what is usual and reasonable in a commercial sense may arise in very different circumstances and must be decided whenever it arises by the application of sound business considerations and by determining what is fair and reasonable in the interests of all concerned." (p.235lhc – p.238 rhc)

82. It is thus apparent from both *Frenkel* and *Reardon* the question of what is usual and reasonable in the interests of all concerned (including charterers and shippers) is relevant when deciding what is a contractual route, *before* considering any liberty clause and assuming no specific contractual stipulation as to the route. It also appears that Viscount Sumner in *Frenkel*, in the passage quoted in § 77 above (last quoted paragraph) considered that (a) the cargo being carried might be a relevant factor in that regard, and (b) the fact that the vessel in *Glynn* was carrying a cargo a ripe fruit tended to indicate that the prolongation of the voyage entailed by a routing up the east coast of Spain, before returning and proceeding up the west coast to Liverpool, meant it was not a usual and reasonable route.
83. Based primarily on these authorities, Ameropa submits that (leaving aside any liberty clause or any express stipulation as to route):
- i) if a vessel takes the direct sea track, in the sense of the shortest geographical route from A to B – which in the present case would be the Panama Canal route – then it has taken a contractual route; but
 - ii) if a vessel diverges in any respect from the direct sea track, then a full range of considerations, including the way in which the cargo is best protected, apply when deciding whether the route taken is a usual and reasonable route.

84. However, there are a number of problems with that approach.
85. First, it leads to a distinction that seems arbitrary in principle. It would mean that a shipowner is entitled to take the direct sea track regardless of all other considerations; however, as soon as any divergence occurs (e.g. for bunkering) then a wholly different set of factors become relevant in deciding what is or is not a contractual route. That might seem unsurprising and unobjectionable at one level: if, as in *Glynn*, the departure from the direct sea route involves taking and then retracing a long journey in the opposite direction from the direct route, thereby prolonging the voyage consideration, then a range of considerations may well need to be taken into account in order to determine whether it is a contractual route. However, that is very different from treating any departure from the direct sea track as entailing a detailed consideration of questions of cargo care and the relative merits of different routes from the point of view of matters such as ventilation.
86. An illustration of the potential arbitrariness may be seen by varying slightly the facts of the present case. Suppose the vessel instead of steaming via Cape Horn (very slightly longer than the Panama Canal route) had gone via the Magellan Strait (a few hundred kilometres to the north of Cape Horn), and assume the latter route to be slightly shorter than the Panama Canal route. In those circumstances, Ameropa's argument would founder because the vessel had taken the shortest sea track, despite the fact that any consequences for the cargo of taking the Magellan Straits route would be likely to be very similar to those of routing via Cape Horn.
87. Secondly, the consequences for a carrier of being held to have deviated are severe, including loss of the right to claim freight, and of the protection of exception clauses under the bill. For such consequences to ensue where a vessel had taken a standard, commonly used route between two ports, as a consequence of the particular nature of the cargo, would be a marked departure from the generally accepted position.
88. Thirdly, in order to avoid such consequences vessel owners would have to comply with a highly uncertain standard. They would routinely have to weigh up the costs and duration of alternative routes with their possible effects on particular cargos. It is unclear what test owners would have to apply when striking the balance. Particular problems would arise where:
- i) voyage charterparties are concluded before knowing the precise type and/or quality of the cargo, such as its propensity to spoil in particular conditions. In such circumstances Ameropa's approach might even lead to shipowners (which expression I use in this judgment to include, where appropriate, disponent owners under time charters) being compelled to undertake unprofitable voyages once the precise nature of the cargo and resulting routing implications become clear;
 - ii) more than one type of cargo is carried in bulk carriers' holds, or on container ships; or
 - iii) the route that might be considered best for the cargo, or one of the cargos, would also cause delay (which, if lengthy, might amount to deviation by delay).

89. Ameropa submitted in answer to point (i) above that where, under a voyage charter, there were a range of cargos that might be shipped, then it would be more difficult for the carrier to take cargo care into account and it may be legitimate not to because it cannot: though if the range of possible cargos were all types of grain then perhaps the carrier could take that into account. As to point (ii), Ameropa suggested the answer was to apply a ‘sound system’ under Hague-Visby Article III rule 2 and make an informed decision, which may be a trade-off between commercial considerations on the one hand and the impact on various cargos on the other. However, those submissions in my view tend to underline the unsatisfactory and uncertain nature of the test the shipowner would be required to apply to routing decisions, while being at risk of the serious consequences mentioned in § 87 above if it were later held to have struck the balance incorrectly.
90. Fourthly, whilst the carrier has the duty to care for the cargo in terms of the onboard operations of the vessel (such as ventilation), to extend that duty to routing decisions may well strike the wrong balance between the charterer and the carrier. The charterer has the opportunity to negotiate for a specific contractual route, and if the particular cargo will be better served by taking one route rather than another (customary) route, the charterer may be better placed than the shipowner (whether head owner or time charterer) to know or ascertain that and to seek the appropriate stipulation.
91. In my view the references to reasonableness and to cargos in the judgments in *Frenkel* and *Reardon* do not support Ameropa’s approach, with its consequences as outlined above. They do indicate that if a shipowner chooses to take a longer route than the direct sea track, then in order to be contractual (and leaving aside any liberty clause) it must be both usual and reasonable bearing in mind the interests of all involved. In addition, the statements in *Frenkel* tend to support the view that cargo considerations may be relevant in the elementary sense that a much longer voyage is likely to be detrimental to a perishable cargo. However, the case law does not in my view require shipowners to undertake the far more refined analysis urged by Ameropa, which would involve (in the present case) considering in detail how predictable climactic conditions on the Cape Horn and Panama Canal routes would impact on the need to ventilate the cargo and the vessel’s ability to do so.

(c) The usual route in the present case

92. The experts in this case agree that “[t]he usual route was via the Strait of Magellan/Cape Horn based on available vessel traffic data. A minority of vessels used the Panama Canal route”. They also agree that:

“In terms of geographical distance, the route via Panama Canal is marginally shorter than the route via Cape Horn. If ‘direct’ is taken to mean non-stop, then both Panama and Cape Horn are near enough equal in terms of transit time, when account is taken of the time taken to transit the Panama Canal transit (e.g. reduction in speed and clearing locks etc.).”

In terms of distance, Captain Soomro explains that the Panama Canal route is 200 nautical miles shorter, representing about 2% of the overall distance of 9,340 nautical miles from Topolobampo to Durban.

93. By way of context, Captain Soomro's evidence was that there are no recommended or customary routes between the west coast of Mexico and South Africa. The trade between Mexico and South Africa appears to have resulted from a drought in South Africa resulting in a local and temporary need to import maize.
94. Data from Collins Marine indicates that between January 2015 and December 2016, 29 vessels performed a voyage between Topolobampo and ports in South Africa, of which:
- i) 25 appear to have gone southwards down the west coast of South America, rounding the tip either by the Cape Horn route or the Magellan Strait; and
 - ii) 4 proceeded via the Panama Canal.
95. Data from Collins Marine also indicates that between 4 June 2016 (immediately prior to the Vessel's loading at Topolobampo) and 20 August 2016 (soon after the Vessel's arrival at Durban), 14 vessels departed from Topolobampo to South African ports, all of which took a southern route via Cape Horn or the Magellan Strait.
96. The Defendant's expert, Mr Rice, commissioned Made Smart to perform a similar analysis, focussing on the 24-month period preceding the Vessel's Voyage in the present case. During that period, 20 vessels sailed from Topolobampo to Durban, of which:
- i) 16 vessels proceeded southwards down the west coast of South America, and
 - ii) 4 vessels used the Panama Canal route.
97. There is no evidence of Ameropa having made any request for the Vessel to take the Panama Canal route, or having objected to the route actually taken either during the Voyage or on arrival in South Africa.
98. In his supplementary report, Mr Rice suggested that a distinction should be drawn between the Cape Horn route and the Magellan Strait route; and/or between routes which after rounding Cape Horn involve steaming to the north or south of the Falkland Islands. However, there is no pleaded case to that effect, nor any clear evidence of how any such difference in routing affected the outturn of the cargo. In these circumstances I do not consider it necessary to address that refinement.
99. Ameropa submits that the Cape Horn route was not a usual and reasonable route because:
- i) it is geographically longer (slightly) than the Panama Canal route;
 - ii) it involves a voyage through predictably and significantly colder ambient temperatures than the Panama Canal route, thereby increasing the need for ventilation of a cargo of grain; and
 - iii) it involves a voyage through predictably worse weather conditions than the Panama Canal route, thereby increasing the likely restrictions (due to rain or storm) on the vessel's ability to ventilate the cargo.
100. As to factors (ii) and (iii), it was agreed at the experts' meeting that:

- i) on the Panama Canal route, there was potential for condensation on 16 days against 33 days on the Cape Horn route;
 - ii) cargo ventilation on the Panama Canal route was 'safe' for 11 of 15 days (73%) that ventilation was required, and there were 4 days when ventilation would have been restricted;
 - iii) cargo ventilation on the Cape Horn route was 'safe' for 12.8 of 33 days (38%) that ventilation was required, and there were 20 days when ventilation would have been restricted; and
 - iv) the period to which the Cargo was potentially exposed to condensation, and the severity of the condensation was "*far greater*" via Cape Horn than via the Panama Canal; and on the Cape Horn route, the cargo hold/outside air differential was up to 30 degrees.
101. Ameropa also points out that Captain Soomro stated or accepted in his oral evidence that:
- i) if asked by the managers to advise on what route to take from the point of view of cargo care, he would say "*definitely Panama Canal is the obvious choice*", and agreed that the countervailing considerations were all financial;
 - ii) one of the factors that the decision maker should have in mind when choosing the route is cargo care;
 - iii) the decision maker should also have in mind that:
 - a) maize is a hygroscopic cargo;
 - b) it was loaded in a hot climate;
 - c) ventilation is required if such a cargo is carried through colder climes;
 - d) temperature differences between the cargo temperature and the ambient temperature will lead to condensation;
 - e) the bigger the temperature difference the greater the condensation; and
 - f) ventilation cannot take place if the weather worsens beyond a certain point;
 - iv) the decision maker would also have in mind the temperatures/weather likely to be experienced, and that:
 - a) compared to the route via the Panama Canal, the temperatures to be experienced via Cape Horn would be likely to be far lower;
 - b) the weather conditions likely around Cape Horn would be far more severe; and

- c) all of these things would be “*very basic common knowledge*” to a seafarer;
 - v) the routing charts, and the chart extracts inset into them, which show the weather likely to be experienced on both routes at the relevant time based upon historical data (and would have been available to someone deciding which route to take), show that the temperatures to be expected via Cape Horn are much lower, and the weather far worse, than via the Panama Canal, and that there would be a need to ventilate all the way across from Cape Horn to Durban with a very large difference between the Cargo temperature and the ambient temperature; and
 - vi) it was entirely predictable that:
 - a) a route via Cape Horn would be associated with low temperatures and therefore the potential for heavy condensation, and
 - b) the weather conditions likely to be experienced via Cape Horn would restrict ventilation.
102. However, the considerations referred to in §§ 99.ii) to 101 above would be material to the issue of contractual route only if identifying the, or a, “*usual and reasonable route*” entailed the broad-ranging enquiry proposed by Ameropa, which I have concluded (above) it does not.
103. I therefore conclude, on the evidence provided, that the Cape Horn route was a usual and reasonable route for the purposes of identifying the contractual route, and so did not amount to a deviation.

(2) Care of the cargo

104. Ameropa alternatively frames its case on choice of route as a facet of the shipowner’s duty to take care of the cargo. It submits that the choice of the Cape Horn route was in breach of that duty, relying on the same matters as I summarise in §§ 99.ii) to 101 above.
105. The duty derives from the following Hague-Visby rules:

Article 1(e): “Carriage of Goods covers the period from the time when the goods are loaded on to the time they are discharged from the ship”.

Article II: “Subject to the provisions of Article VI, under every contract of carriage of goods by sea the carrier, in relation to the loading, stowage, carriage, custody, care and discharge of such goods, shall be subject to the responsibilities and liabilities, and entitled to the rights and immunities hereinafter set forth.”

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”.

106. The period of the shipowner's responsibility runs from loading until discharge of the cargo carried (see Cooke et al., *Voyage Charters*, 4th ed. at § 85.115; *Gosse Millerd v. Canadian Merchant Marine* [1927] 2 K.B. 432, 434, per Wright J).
107. "Properly" means in accordance with a sound system. Soundness does not require perfection, but should be judged in the light of the knowledge which the carrier has or ought to have about the cargo to be carried and in the light of the accepted practices of prudent carriers. The significance of differentiating between "properly" and "carefully" is that the carrier is bound not only to adopt a sound system for handling, carrying and caring for the goods as contracted, but must also be careful in his application of that system. Thus, it is no defence for a carrier to argue that he adopted a sound system if his crew are negligent in operating it and, similarly, it is no defence if his crew have carefully applied a system of carriage which is not a proper one for the carriage in question (see *Voyage Charters*, paragraph 85.117).
108. One of the indicia of a sound system is that it is in accordance with general industry practice (see the Court of Appeal's decision in *Volcafe* [2017] 1 Lloyd's Rep. 32 (CA) § 72 per Flaux J). I return to this case in more detail later in the context of ventilation.
109. However, the parties disagree as to whether, and if so when, the adoption of a route that imperils the cargo can constitute negligence and thus a breach of Article III rule 2. Ameropa submits that it can, and that from the point at which the cargo is loaded, the carrier must, amongst other things, properly and carefully carry, keep and care for the cargo; and that those obligations apply just as much to the choice of the route by which the cargo is to be carried, as to matters such as the (admitted) obligation to ventilate. Ameropa makes the following points:
- i) The choice of route is a central aspect of 'carrying', 'keeping' and 'caring for' the cargo.
 - ii) It impacts directly on the condition of the cargo. The choice of route in the present case gave rise to the temperature conditions for severe condensation, together with the likelihood that the ability to ventilate would be severely restricted by weather conditions and, therefore, the likelihood that damage would be incurred. Indeed, Ameropa points out that Alianca's case involves the proposition that the very serious damage that in fact occurred was inevitable given the route taken.
 - iii) It would be illogical if the failure properly to ventilate were a matter within Article III rule 2 (which it is common ground it would be) but the choice of route, which itself gave rise to the need (or exacerbated the need) for ventilation were not.
 - iv) That a choice of route can in principle constitute a breach of Article III rule 2 is shown by *The Washington* [1976] 2 Lloyd's Rep. 453, 459rhc-460rhc (Canadian Federal Court).
 - v) There is no unfairness to the shipowner in such a conclusion, as he is protected (if he qualifies or protection) by the exceptions set out in Article IV where applicable.

- vi) That the choice of route is subject to the duty in Article III rule 2 reflects the intention of the parties. It cannot have been intended that an owner can take a route that is damaging to the cargo, at least without justification.
 - vii) Accordingly, pursuant to Article III rule 2, the choice of route must be a reasonable route, carefully chosen pursuant to a sound system.
110. Alianca submits that Ameropa's approach conflates two fundamentally distinct parts of the shipowners' duties:
- i) duties arising from the vessel as a moving object, including in particular the seaworthiness obligation in Article III rule 1 and the duty not to deviate; and
 - ii) duties of a warehousing nature, including in particular the cargo care obligation in Article III rule 2.
111. These are generally regarded as distinct, for example in the discussion in *Carver on Bills of Lading* (4th ed.) §§ 9-011 to 9-033. *Carver* § 9-012, after referring to the duties to furnish a ship suitable for the adventure and to take due care of the cargo, states:

“The above duties are what may be called warehousing duties. They could equally apply to a ship used only for storage or with modifications to the holding of goods in a warehouse onshore. It is therefore usual to say there are two further duties connected with the fact that while it is in a sense a warehouse, the ship moves. They are the duty to proceed with reasonable despatch and the duty not to deviate from the normal contract route.”

112. *Carver* § 9-033 states:

“... beyond the warehousing duties lie duties connected with the ship as a moving conveyance. It is undoubtedly in the contract for carriage by sea and indeed in contracts for carriage in general ... there is an implied obligation to proceed with reasonable despatch. This is a matter which the Hague and Hague-Visby Rules do not attach (though the Hamburg and Rotterdam Rules do) so where delay is alleged it is common law which if anything must be relied on.” (my emphasis)

Similarly, *Carver* § 9-036 begins by stating that the duty not to deviate requires a section on its own, and that “[u]nlike the principles so far referred to this has further and special consequences when the duty is broken.” *Carver* § 9-149 states:

“... Article III.2 is directed at care of cargo and does not take in pure delay. From this it is sometimes argued that the carrier is under the Rules under no liability for delay, at least unless this risk is specifically accepted. It is submitted however that the common law duty of reasonable despatch must still be applicable: it is difficult to see on general grounds any reason why it should be excluded.”

113. Alianca submits that the only overlap between the Hague-Visby rules and the law on deviation is Article IV rule 4:

“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”

114. Alianca says there is no authority for the view that the distinction between the seaworthiness/deviation duties on the one hand, and the Article III rule 2 cargo care duties on the other, are blurred in the way Ameropa contends; moreover, Ameropa’s approach would lead to difficulties about:

- i) identifying the nature of the obligation (what, precisely, is a ‘sound system’ for selecting the route?)
- ii) how the alleged Article III rule 2 duty as to route fits in with the principle of deviation or the case law on deviation by delay; and
- iii) how the alleged duty fits with *Reardon* and the established principles about identifying usual and reasonable routes.

115. In the *Washington*, a decision of the Canada Federal Court (Trial Division), the claimant shipped a cargo of cases of sheet glass on the defendant's vessel from Taiwan to Vancouver. The bills of lading incorporated the Hague Visby Rules. The master had been advised of high winds, and seas and winds of up to 40 knots were experienced. The master altered course to the south of the route recommended by the weather routing service. The cargo was damaged and on arrival was found to be a total loss. The defendant denied liability based on Article IV rules 2(a) and (c) on the basis that the loss had been caused by perils of the seas and/or neglect or default of the master in the navigation or management of the ship.

116. Heald J held that the cargo was destroyed by negligent stowage by the defendant, and that the defence of perils of the sea failed because the defendant failed to establish that (i) the damage was caused by the weather encountered and (ii) the danger of damage to cargo arising from the bad weather could not be foreseen or guarded against. Heald J continued:

“Having decided that "perils of the sea" has not been established and that the cargo loss was caused by the negligence of the defendants in not stowing same properly, it is not necessary to pursue the question of liability any further. However, even had my conclusion been otherwise on these matters, I would have found for the plaintiff because of the master's negligence in maintaining his course and speed on Nov. 18 and 19 in view of the weather reports he was receiving. As early as 05 00 hours on Nov. 18, he received a weather facsimile report which warned him that the storm centre was located to the southeast of his vessel and was moving in a northeasterly direction. It was clear to him that unless he changed his course, the ship's course and

the storm's course were converging and yet he took no steps at that time to change course. His explanation for this failure to alter course was that since he was under a weather routing from Ocean Routes Inc., he would remain on the Great Circle route prescribed by them until advised to deviate. He also acknowledged that if he had not been on the routing prescribed by Ocean Routes Inc., and had been left to his own judgment, he would have taken action earlier to avoid the converging storm centre by altering course much sooner than he did. At 07 30 hours on Nov. 19, he finally altered course 30 deg. on his own initiative, having received no advice to this effect from Ocean Routes Inc. This action, however, was clearly "too little too late". The defendants, however, submit that the provisions of art. IV, r. 2 (a) of the Hague Rules protect them from liability in such circumstances and submit that said negligence is negligence "in the navigation or in the management of the ship" as contemplated by that rule.

The leading authority covering a situation of this kind is the dissenting judgment of Lord Justice Greer in the Court of Appeal in the case of *Gosse Millerd Ltd. v. Canadian Government Merchant Marine*, (1927) 29 Ll.L.Rep. 190 who was upheld in the House of Lords (1928) 32 Ll.L.Rep. 91. At p. 200 of the report, Lord Justice Greer stated:

If the cause of the damage is solely, or even primarily a neglect to take reasonable care of the cargo, the ship is liable, but if the cause of the damage is a neglect to take reasonable care of the ship or some part of it, as distinct from the cargo, the ship is relieved from liability; for if the negligence is not negligence towards the ship, but only negligent failure to use the apparatus of the ship for the protection of the cargo, the ship is not so relieved.

The House of Lords upheld Lord Justice Greer declaring the error was in the management of the cargo because, although made by persons directing their attention to the ship, it was one which affected cargo alone.

Applying the ratio of this case to the facts in the case at bar, I have concluded that the master's negligence referred to sup. in maintaining his course and speed on Nov. 18 and 19 in view of the weather reports he was receiving was an error constituting a negligent failure to use the apparatus of the ship for the protection of the cargo and affected the cargo alone. There is no evidence that the ship was in danger at any time throughout the storm, and, in fact, the ship suffered no damage. The evidence is that the master took good care of his ship. He decreased his speed twice, on Nov. 19 to less than 18 knots at 05 45 hours and to 12 knots at 10 59 hours. The reason he gave for said decreases was because the propeller was coming out of the water resulting in

"over torquing" which would have resulted in no motor power. The master took good care of his ship but was negligent in his care of the cargo by not altering course much earlier than he did which would have enabled him to get away from the converging storm centre. For these reasons, the defendants are not, in my view, entitled to rely on the exculpatory provisions of art. IV, r. 2 (a)."

117. Alianca submits that *The Washington* was merely a decision "which concerned the express deviation exception in Article IV of the Hague-Visby Rules", i.e. Article IV rule 4 quoted above, and that the point being made was that one could not rely on the deviation exception in order knowingly to steer into a heavy storm about which a warning had already been given. In any event, *The Washington* has not been cited in any English case.

118. I do not accept that submission. The observations from *The Washington* quoted above do not relate to the Article IV rule 4 deviation exception, to which the decision makes no reference. The issue, and the finding (albeit *obiter*) in the relevant portion of Heald J's decision related not to the question of whether the shipowner had a defence by reason of having deviated in order to save life or property, but rather to whether the owner was liable for having *failed* to diverge from its planned course in order to avoid a storm that threatened the cargo. Heald J concluded that the owner would be so liable, and, moreover, that the Article IV rule 2(a) navigation exception would not apply because the failure was not to take care of the ship but rather to use the apparatus of the ship for the protection of the cargo. That view of *The Washington* is further supported by Aikens, Bools and Lord, "*Bills of Lading*", 2nd ed., § 10.296 and footnote 624:

"... In practice it is rare that a deviation that is reasonable within the meaning of the Hague Rules will be a deviation at all at common law, because one of the elements of deviation at common law is a departure from the usual route "unless for cause justifying such deviation" [fn. citing *Scaramanga v Stamp* (1880) 5 C.P.D. 295, per Bramwell LJ at 306]. Thus, a specific departure from the usual route, for example, to protect the cargo from the effects of bad weather, would be justified.

[fn. 624] And indeed a failure to do this may be a breach of the obligations to care for the cargo, with no defence afforded by Art. IV r.2(a) – see *The Washington* [1976] 2 Lloyd's Rep. 453."

119. As a matter of ordinary language, a decision to hold a course through the middle of a storm, in circumstances where that could reasonably be expected to result in damage to the cargo, is a failure "*properly and carefully [to] carry, keep, [and/or] care for ...the goods carried*" within Article III rule 2, notwithstanding that it concerns the course steered by the ship rather than matters occurring onboard the ship. I would reject any doctrinal objection to the effect that Article III rule 2 can have no application to such matters. To that extent, and providing it is kept within appropriate limits, I would respectfully agree with those *obiter* reasoning and conclusions of Heald J on this issue in *The Washington*.

120. The question is what those appropriate limits are. Ameropa submits that the present case is simply *The Washington* ‘writ large’ and that the same principle applies. It says the Vessel failed to take care of the Cargo by proceeding on a route that involved low temperatures and bad weather which came together to cause damage.
121. The difficulty with that submission is that if one extends the approach taken in *The Washington* from the level of local course decisions based on local weather conditions, by generalising it to the overall routing decision for the voyage as a whole, then it creates the same difficulties arise as I have discussed in §§ 85-91 above. It would overlay the relatively clear and well-established principles for identifying the contractual route with a need for wide-ranging consideration of the subtleties of how one or more cargo being carried by the vessel may be affected by the length, likely temperatures/humidities and sea conditions of alternative routes, and of which factors prevail given potentially countervailing considerations of voyage time, cost, and the different needs of other cargos that may be on board. Ameropa’s approach would create considerable uncertainties, for example (as explored with counsel in oral closing submissions) whether the duty is to choose the route that minimises the risk to the cargo, or merely to avoid a route where cargo damage would be almost inevitable; how to make the decision where one route is markedly longer or more expensive whilst creating a modest reduction in risk to the cargo; and by what standard the shipowner/Master’s decision will later be measured.
122. Ameropa’s proposed ‘sound system’ approach would also have to incorporate, but would also augment and in reality displace, the well-established law on contractual route. Leaving aside strictly localised situations such as arose in *The Washington*, I cannot see how Ameropa’s approach can be reconciled with the long-established case law; and there appears to be no authority in support of it.
123. Finally, Ameropa suggested, by analogy with the decision of Teare J in *Alize 1954 v Allianz Elementar Versicherungs (The “CMA CGM Libra”)* [2019] EWHC 481 (Admiralty) that it could alternatively have framed its case as one of unseaworthiness due to having a defective passage plan. In that case the passage plan was defective because it failed to contain an indication that outside of the fairway there were numerous depths less than those shown on the chart. Thus Ameropa says it could equally have advanced a case under Article III rule 1 (which is not subject to the Article IV exceptions). Aside from the fact that the case was not framed in that way, it would be subject to the same objections as identified in §§ 121-122 above, and I would therefore reject it
124. For these reasons, I am unable to accept Ameropa’s submission that Alianca was in breach of Article III rule 2 by reason of the decision to take the Cape Horn route.

(F) VENTILATION

(1) Duties of the shipowner

125. As already noted, under Article III rule 2 of the Hague-Visby rules, incorporated into the Charterparty, Alianca had a duty properly and carefully to carry, keep and care for the cargo, with “*properly*” having the meaning summarised in § 107 above.

126. In *Volcafe*, a claim by the consignee of a cargo of coffee beans that had arrived with condensation damage, the Court of Appeal held that the consignee had failed to show that the shipowner had not used a sound system for lining the containers in which the beans were carried. The court noted that a sound system does not mean one that will necessarily prevent damage (§ 64 citing *The Albacora* [1966] 2 Lloyd's Rep. 53) and that the judge below had erred in that respect (§ 68). The court also rejected the view that a sound system needs to be supported by scientific theoretical calculations or empirical studies (§§ 69-72). Flaux J continued:

“72. ... Furthermore, because he considered that general industry practice could not render a system sound, unless it was underpinned by this theoretical calculation or empirical study, the judge essentially discounted general industry practice. In that regard, he also erred in law. It is well established that one of the indicia of a sound system is that it is in accordance with general industry practice.

73. This emerges from the passage in the speech of Lord Pearce in the *Albacora* case cited at para 66 above [in which Lord Pearce referred to “*a sound system under all the circumstances in relation to the general practice of carriage of goods by sea*”] and also from the judgment of Bingham J in *Gatoil International Inc v Tradax Petroleum Ltd* [1985] 1 Lloyd's Rep 350. In that case, upon discharge of a cargo of crude oil, a high percentage of the cargo was found to have formed a hard, waxy, un-pumpable residue in the bottom of the vessel's tanks (“the ROB”). The cargo claimants contended that the carrier was in breach of its obligations under article III, rule 2 in failing to heat the cargo. The judge rejected that contention, on the basis that there was no general industry practice to heat crude oil cargoes of that particular blend. Having cited the *Albacora* case and *The Flowergate*, he held, at p 365:

“... I readily accept that owners cannot escape liability by appointing a stupid or ignorant master and then relying on his unawareness of the risks involved. It is what they know or ought to know which matters. But even applying that test I am satisfied that Panatlantic did not act carelessly or inconsistently with standard practice in failing to heat the cargo at the beginning of this voyage. It is not general practice to heat crude oil cargoes. If the cargo had been of a crude known to be abnormally heavy and viscous, the position might be different, but the Belayim blend was not generally known or believed to give rise to problems of this kind. Panatlantic omitted no reasonable precaution which any ordinary owner would have taken, particularly where the charterer required no heat. The excessive ROB formed because, for reasons not foreseen or apprehended by Panatlantic, the cargo would not survive a voyage of this length at this time of year without heat. There was, in my

judgment, no breach of article III, rule 2, but in any event Panatlantic are entitled to rely on article IV, rule 2(m).”

...

76. ... I consider that there are two serious problems with the judge's conclusion about the absence of any general practice. The first is the one I have already alluded to, that his conclusion was clearly influenced by his erroneous view that no general practice would be effective to demonstrate a sound system, unless it was underpinned by a theoretical calculation or empirical study. The second is that his conclusion is simply against the weight of the evidence, specifically it completely ignores the common ground between the experts, set out in the joint memorandum, by reference to the industry publications they had exhibited that: (i) carriage of coffee beans in bags in lined non-ventilated containers is widespread commercial practice; (ii) although corrugated cardboard is preferable to kraft paper, kraft paper is common commercial practice and covered by the industry recommendations; (iii) two of the guides specifically recommend using double layers of kraft paper but the others are silent on the point; and (iv) the industry recommendations did not specify a particular grade or thickness of kraft paper, but some mention “good quality” and “sufficiently strong” kraft paper.”

127. The court thus held that in deciding what was a sound system, it was wrong to ignore evidence of general practice in the industry.

(2) The mechanism of ship sweat

128. It is common ground that the cause of the damage in this case was ship's sweat. The West of England Loss Prevention Bulletin referred to by Captain Soomro explains that:

“Ship sweat refers to condensation which forms directly on a vessel's structure when the air within a hold, made warm and moist by the cargo, comes into contact with cold surfaces as the vessel moves into cooler climates. Cargo may be damaged by overhead drips, by contact with sweat which has formed on the ship's sides or by condensed water which may accumulate at the bottom of the hold.”

129. The bulletin goes on to explain the process in more detail:

“Influencing factors

Saturation

The amount of water vapour that air may contain is highly dependent on its temperature. A given volume of air is said to be saturated when no more water can be absorbed. If the air

temperature then falls, condensation will occur. As air rises in temperature so does its saturation moisture content; its capacity to retain water climbs by ever-increasing amounts. Thus when air is cooled, its potential for releasing water in the form of condensation is far greater when it is cooling from higher temperatures than when cooling from lower temperatures. Apart from periods of fog or rain, ambient air is rarely saturated. Moreover, it will never be totally dry. Within these two extremes the amount of water retained by the air will vary according to the prevailing conditions.

Relative humidity

Relative humidity is the actual amount of water vapour in the air compared with the saturation amount of water vapour in the air at the same temperature and pressure. The figure is usually expressed as a percentage, with saturated air having a relative humidity of 100%. At main deck level, ambient sea air over the open oceans will normally have a relative humidity in excess of 80%.

Dewpoint temperature

When an isolated volume of air cools, relative humidity increases as the temperature falls. Once the temperature has descended to the level at which saturation occurs, water begins to condense. This temperature is known as the “dewpoint” ...”

130. Thus a cargo requires ventilation when the potential for condensation within the hold exists, namely when the outside air dew point temperature is lower than the dew point temperature of the air inside the cargo hold. In these conditions the inner steel surfaces of the cargo hold act as a condensation surface.
131. It was not disputed that the degree of condensation is proportional to the difference in temperature: the greater the difference between the ambient temperature and the cargo temperature, the greater the degree of condensation that will be formed. Hence, according to Mr Rice’s evidence, when the Vessel in the present case encountered large temperatures differentials between the outside air and the cargo hold dew point, the scope for condensation was high, and “*The very large temperature differential at these times meant that condensation moisture would have fallen like rain onto the surface of the cargo piles*”.
132. Captain Soomro agreed that the basic mechanism relating to the formation of ship sweat included the following aspects:
 - i) warm air is capable of containing more moisture than cool air;
 - ii) as air cools, the dew point is reached, and (liquid) condensation forms;
 - iii) ship’s sweat is formed where condensation collects on the steel of the cargo hold, and the steel is a condensation surface;

- iv) the cargo itself provides a source of moisture
 - v) a cargo (say) of 40,000 mt with a 10% moisture content will hold 4,000 mt of water in total;
 - vi) the air in the head space of the hold will be at the same temperature as the Cargo loaded into it;
 - vii) if the temperature of the air *outside* the hold is 3 degrees or more below the temperature inside, then the moist, warm air in the head space will condense on the steel of the hold, and condensation forms;
 - viii) as the water condenses out of the air in the head space, more moisture is taken up from the Cargo, which provides a “reservoir”;
 - ix) when the conditions are right for it, condensation is an *ongoing* process;
 - x) the bigger the difference between the temperature in the holds/head space and the temperature outside the holds, the greater the quantity of condensation which is going to form;
 - xi) the only way in which that process can be arrested is to ventilate;
 - xii) there are two rules which can be used to determine when to ventilate: “the dew point rule” and the “3 degree rule” (as to which see below); and
 - xiii) ventilation should be carried out in accordance with those rules: to fail to ventilate when those rules require it will allow the condensation process to continue; and to ventilate when those rules say it is not required, can *cause* condensation.
133. In broad terms, ventilation will be required when a ship carries cargo from a hot climate to a cold climate, and will not be required where the reverse is true. The West of England Loss Prevention Bulletin states:

“What to expect

In broad terms it is often possible to estimate ventilation requirements in advance by considering the climatic changes likely to be encountered during the voyage. The following examples indicate what may be expected on passage, but do not obviate the need for detailed monitoring and recording:

Hygroscopic cargo - cold to warm climate

If a stable cold cargo is carried to a warm climate, ventilation will always be unnecessary. Indeed, in some circumstances ventilation may lead to cargo damage.

Hygroscopic cargo - warm to cold climate

Vigorous surface ventilation of the cargo spaces will almost certainly be required due to the likelihood of ship sweat developing.”

(3) The dewpoint and three degree rules

134. There are two recognised methods for determining the particular occasions when ventilation is required:

- i) the “*dewpoint rule*”, under which ventilation should take place if the dewpoint of the air inside the hold is higher than the dewpoint of the air outside the hold, and ventilation should *not* take place if the reverse is true; and
- ii) the “*three degree rule*”, under which ventilation should take place if the ambient temperature is 3 degrees Celsius or more below the cargo temperature, and otherwise should not occur. The West of England bulletin states this rule as follows:

“Three Degree Rule

In many instances it is impracticable to measure hold dewpoint temperatures accurately, or at all. In such cases ventilation requirements may be estimated by comparing the average cargo temperature at the time of loading with the outside air temperature several times a day. Ventilation may then be carried out on the following basis; VENTILATE if the dry bulb temperature of the outside air is at least 3°C cooler than the average cargo temperature at the time of loading. DO NOT VENTILATE if the dry bulb temperature of the outside air is less than 3°C cooler than the average cargo temperature at the time of loading, or warmer. In order to apply the Three Degree Rule, it will be necessary for the ship’s staff to take a number of cargo temperature readings during loading. Hand-held infrared thermometers are ideal for this task and are relatively inexpensive.”

135. The ability to ventilate can be compromised by heavy weather conditions, due to the risk of rain/spray entering through the ventilators.

136. The application of the dew point rule requires wet and dry bulb temperatures to be taken in the holds, and of the ambient air, and the dew points determined using standard tables.

137. The application of the three degree rule requires the temperature of the cargo in the holds to be taken by the crew during loading (and it is possible, if not likely, that the average cargo temperature may differ between holds). Ventilation according to the three degree rule should then proceed by reference to the temperatures of the cargo as loaded in the holds, and the ambient temperature.

138. On the subject of record-keeping, the West of England bulletin states:

“Records

Ventilation records are crucial. In the event of moisture damage, evidence showing that the vessel ventilated correctly may be instrumental in defending any ensuing claims. If the Dewpoint Rule has been followed, wet and dry bulb temperatures and dewpoints should be logged once per watch, bearing in mind that these may change considerably over a short period. For the same reason, the sea temperature should also be noted. This information should be recorded for each hold together with the times of commencing, ceasing or resuming ventilation, and the reasons for doing so.

If the Three Degree Rule has been followed, a record should be kept of the ambient air temperature and the sea temperature once per watch together with the average temperature of the cargo at the time of loading. Again, ventilation details should be documented for each hold.”

139. The ventilation of grain and other cargoes is also the subject of guidance by many other P&I Clubs, including the North of England, American, Gard, London and Japan clubs.
140. It was not disputed that a sound system for the ventilation of corn would employ either the dew point rule or the three degree rule. Captain Soomro in his oral evidence stated:

“Q. ... You would agree, I am sure, that a ship needs a proper system for ventilation if it is going to carry grain cargoes.

A. That is correct, yes.

Q. And by “system”, I mean proper procedures that are in place on the vessel.

A. That is correct.

Q. And do you agree that that system should incorporate either the dew point rule or the three-degree rule?

A. I think in most procedures, you find it would be both. And it would be dependent upon the cargo and the master who would then make that decision, which one to apply.”

(4) Efficacy of ventilation

141. There was some dispute about the effectiveness of ventilation. Ameropa’s expert, Mr Rice, gave oral evidence to the following effect when cross-examined on the topic:
- i) Ventilation is “*very effective*” in controlling condensation, and in ships it is the only tool at one’s disposal.
 - ii) It is incorrect to suggest that ventilation will simply minimise sweat formation in the head space:

“A. It is not correct because ventilation, properly carried out at times when conditions are conducive to ship sweat, will remove the moist and warm air and replace it with less moist, less warm air, stopping -- reducing the scope for -- if it is done at all times when it is possible to do it, it is safe to do it and it is required, ship sweat does not happen. Otherwise, we would have a global crisis with carrying hygroscopic cargoes. The majority of cargoes do not arrive in a wet and spoiled condition, and the reason for that is ventilation.”

- iii) It is correct that ventilation operates to remove the hot, moist air from the head space (and does not penetrate deep into the stow) but “*it is in the head space that the problem originates*” and:

“A. Yes. ... It is important to understand that the headspace is the spring. It is where the moisture -- the liquid moisture that is running down the sides of the holds and soaking the top, it is where it originates. You switch that off, you stop the problem. The longer it continues, the more you are adding to the problem, I mean below the surface.”

- iv) That ventilation is an effective solution to condensation is shown by the fact that the majority of grain cargoes arrive without damage.
- v) Ventilation can dry out wetted cargo, and arrest the development of mould:

A. No. Just starting at the end, the cargo at Durban was rotten. It contained huge quantities of water and huge quantities of mould. If you go back to a stage earlier in the voyage where the cargo had been simply wetted, as I said, it can be dried. A cargo which is beginning to undergo a process of deterioration through mould can be stopped. Moulds will not proliferate [below] 75% humidity. You reduce the humidity, you take away the environments in which the moulds will proliferate and you can arrest a process of mould development and that is a fact”

142. Part of this evidence resulted from it being put to Mr Rice, as representing a serious flaw in his evidence, that various publications suggested that natural ventilation can affect only the surface of a stow of corn, rather than penetrating to the whole cargo. For example, descriptions in some P&I club bulletins indicate that natural ventilation on a bulk carrier can only minimise sweat formation in the head space; the North of England bulletin states that “[w]hether using mechanical ventilation or natural ventilation, there are many cargoes where the average ventilation will not penetrate the stow. For all grain cargoes, the best that can be achieved is for the air to circulate over or around the cargo. The ventilation system will not force air through the cargo itself” and “ventilating air only moves over a bulk cargo and not through it. 99% of the bulk cargo will not be affected by ventilation”; and the Cargo Handbook states that ventilation on normal bulk carriers can do “little more than control the small amount of moisture inevitably arising from any bulk agricultural product”.

143. Mr Rice said his evidence was based on his work for several of the world's largest traders and carriers of grain, and for shipowners who work predominantly in the carriage of grain, and their insurers. His essential evidence on this issue was that the objection that ventilation operates only in the headspace and the top layer of the corn misses the point: because it is precisely on those areas where the problem of sweat arises, due to condensation forming on the tank surface and then dripping onto the outer layer of the corn. Effective ventilation slows or prevents that process, and hence the deterioration of the cargo as a whole, even though the ventilating air itself does not penetrate the majority of the cargo. That explanation is consistent with the accepted understanding of the mechanism by which ship sweat operates, as summarised earlier, and I accept Mr Rice's evidence on this point.
144. I acknowledge that Mr Patterson was prepared to accept the bulletin passages referred to above at face value, though Mr Patterson also added that:

“on this particular vessel, the hatch covers were opened. The vast majority of the damage was possibly to stow surfaces and we concluded that the moisture would have eventually migrated down there”.

145. More generally, it seems to me implausible to suggest that the very same P&I bulletins which unanimously recommend ventilation according to the dew point or three degree rules should be interpreted as meaning, however, that such ventilation will be virtually ineffective as Alianca appear to suggest.

(5) Ventilation at night

146. Both the dew point rule and the three degree rule operate on the basis that ventilation should occur whenever their respective criteria are met. Neither contains any in-built limitation to the effect that ventilation should occur only during the day. On the contrary, all the P&I bulletins produced in evidence make clear that, where the criteria are met, ventilation *should* occur at night.
147. For example, the West of England Loss Prevention Bulletin states:

“During periods of heavy weather, steps should be taken to prevent rain and spray from entering the cargo spaces. This may mean suspending ventilation until conditions improve. If so, the circumstances should be logged. It is important to appreciate that ventilation should also be carried out during the night if the readings indicate that ventilation is appropriate. Ambient temperatures are usually lower therefore the risk of ship sweat developing is more likely during the hours of darkness. In addition to ventilating the holds according to the above regimes, it is important that regular inspections of each compartment are carried out where possible. This need not involve entry into the cargo space itself - for example, ship sweat may be seen forming on the underside of hold access covers. In such instances, and especially at night, the cargo should be ventilated irrespective of the Dewpoint Rule or the Three Degree Rule, weather permitting.” (my emphasis)

148. All the other guidance provided to the court was to the same effect:
- i) American Club (“*the risk of developing ship sweat is more likely during the hours of darkness so ventilation should be continued if conditions permit*”);
 - ii) North of England (reference to temperature changes between night and day, implying that night time ventilation is envisaged);
 - iii) Gard (“*ventilation should continue to take place night and day*”);
 - iv) London (“*ventilation should be continued even at night if required*”); and
 - v) Japan (“*Given the ventilation rules outlined in this article, it should be obvious that conditions may well be most appropriate for ventilation at night (when temperatures are often lowest)*”).
149. This guidance is, moreover, consistent with the points that (a) at night the ambient temperature is likely to be lower, and thus the scope for condensation at its greatest, and (b) the benefit of ventilation is greatest when the ambient air being introduced is colder and therefore drier.
150. The oral evidence of Mr Rice was many ships do carry out night-time ventilation, for example those of the Chinese State carrier COSCO, and
- “if bulk carriers didn’t ventilate at night-time, when it was safe to ventilate, there would be a lot more cargo damage on grain cargoes than there actually is. Grain would become uninsurable.”
- He did not consider the practice adopted by Alianca in the present case to reflect the industry as a whole.
151. Captain Soomro in his written and oral evidence expressed the view that it was not safe to ventilate holds at night, and it was not done on bulk carriers carrying grain, because:
- i) ventilators form part of the hatch covers, which need to be weathertight at all times;
 - ii) ventilators can be secured within minutes during the day if the weather turns, as the entire day crew is available to do so, whereas manning levels are lower at night time, increasing the time required to close the ventilators and creating a risk of ingress of spray/rain through open;
 - iii) darkness impairs the night vision of the officer of the watch, delaying his appreciation of weather changes, and therefore increasing the risk of ingress of spray/rain through open ventilators;
 - iv) there is a risk of injury to crew members when they respond to a call for assistance or while trying to close the ventilator flaps in the dark; and
 - v) at night, with lower ambient temperatures, the ambient air is moister than that in the holds, and ventilation would increase condensation.

(a) Hatches to be weathertight

152. As to the first of the reasons summarised above, Captain Soomro accepted in cross-examination that if hatch covers had to be kept weathertight at all times, then ventilation would be impossible, which was incorrect.

(b) Spray risk and manning levels

153. Secondly, Captain Soomro agreed that the damage to the cargo done by condensation through a lack of ventilation is “*far, far worse*” than the damage which might be done if rain/spray comes through the ventilators. As to manning levels, he said:

“At night, if you are going to send somebody out on deck, it will be at least two people on deck.”

and on that basis, taking account of the need to use one hand to hold onto the ship (which might be rolling 5-10 or even 15-20 degrees) while using the other to close the ventilator, the ventilators could be closed in 20 minutes.

154. However, Captain Soomro added:

“A. But you will need to have the crew members on standby, taken off their normal duty rota, standing by in the mess doing nothing and just waiting for the officer of the watch’s call to say, “Boys, there is rain out there. I want you to close the hatch covers.”

Q. Bear in mind the reason why we are doing this, or the reason I am suggesting you should do it is because all of this time, in the holds, you have a constant process of condensation forming on the underside of the hatch and pouring water down on to the cargo.

A. I absolutely agree with that point, but the reality is that these are modern ships where you have a minimum amount of crew which is stipulated by the flag administration. They have a finite number of resources, and looking after the cargo is not one of their main concerns.”

155. Mr Rice observed on this point:

“If it was your intention to follow a voyage where ventilation was required - - sorry, where ventilation was required on a 24-hour basis, you would, as a prudent shipowner, make those crews available. And at \$350 a month, which is the salary that the Filipino APs are being paid, is small potatoes, quite frankly.”

I take the reference to “APs” to be a mis-type for “ABs” or able seamen. Mr Rice said that more professional, diligent owners would ensure that ventilation would not be omitted for want of manpower, and if that meant adding to the crew for the voyage and issuing detailed instructions and procedures for ventilation than that is what would

happen. There were many higher quality shipowners who would not pare down their crews to the absolute minimum.

156. Alianca advanced no case to the effect that having a second deckhand available at night, in case the need should arise to open or close ventilators in accordance with the dew point or three degree rules, would make voyages uneconomic. Nor did Captain Soomro suggest that: rather, he said, “*I think it is a matter of reality of what happens over there*”. I do not understand Captain Soomro’s reference to “*over there*” to be a suggestion that the universal or general practice on bulk carriers is to have only a single person available for work on deck should the need arise during the night, and any such suggestion would be inconsistent with Mr Rice’s point that other carriers including COSCO ventilate at night. I would in any event not accept the proposition that a practice in a portion of the market to fail to provide sufficient manning to comply with the dew point or three degree rule during the night, when ventilation may well be most needed, would render failure to ventilate at night consistent with a sound system.
157. Captain Soomro expressed a related concern, relating to the possibility of the Master being blamed if seawater were to enter through an open ventilator:

“Ship masters, including myself, are very finicky about damaging cargo. Now, if you do it, you are damned. If you don’t do it, you are damned. But in this instance, at night, no master would like to take the risk of keeping the ventilators open and just missing that one green sea he takes over the bow of the vessel and it ends up in one of the cargo holds. Now he is faced with seawater ingress. This is the whole point, that no ship master wants to take that risk.”

158. However, Captain Soomro agreed that the ventilators on the Vessel had grills which operate to inhibit sea spray and rain getting through, and that:

“Q. ... when you are talking about the risk of spray or rain entering the hold, it has to come through that grill and then it has to come through into the hold, and then it is only that area of the cargo below the ventilator inlet that is going to be affected, isn’t it? And it is only going to be affected for a period of 20 minutes, at most.

A. Yes.

Q. Now, isn’t the reality that the damage which is being done to the cargo through condensation if you don’t ventilate is far, far worse than the damage which might be done if water or rain or sea spray comes through the ventilators?

A. You are correct, yes.

Captain Soomro ultimately accepted that a master who took the view that he was not going to ventilate because he was worried about being criticised by the owner would not be properly performing his functions as a master.

159. I would also accept Ameropa's submission that the risk of a small quantity of rain/spray entering through the small aperture of the ventilators, for 20 minutes or so, must be set against the consequences of the holds going without necessary ventilation for a period of up to 17 hours.

(c) Night vision

160. Captain Soomro's third concern was that darkness impairs the night vision of the officer of the watch, delaying his appreciation of weather changes, and therefore increasing the risk of ingress of spray/rain through open ventilators. However, he was suggesting a delay of only a "*few minutes or so*" and agreed that it was only a risk, rather than a certainty, that water would actually enter the ventilators.

(d) Risk of injury to crew

161. Fourthly, Captain Soomro referred in his report to a risk of injury to crew members when they respond to a call for assistance or while trying to close the ventilator flaps in the dark. In his oral evidence he said:

"The likelihood of injuring themselves goes up at night, purely and simply because the vessel is on the high seas. She is rolling, it is night-time, the decks are wet and slippery. Somebody has to stand up above the deck to secure the ventilators. So there is that risk."

adding that:

"The context is that at night, you would not want to have a crew member venture out on deck on his own. If you have to send somebody out, the people - - whoever is sending him out should know, there should be a good form of communication and he should be accompanied by somebody. Because, like I say, in dark, it is a very treacherous area, the forward decks. You don't want somebody out there walking on his own."

162. I would be reluctant to conclude that ventilation ought to have occurred at night had persuasive evidence been put forward that that would inevitably compromise safety. However, the reasons given by Captain Soomro in the first passage quoted above do not suggest any augmented danger to crew in opening/closing ventilators at night as compared to during the day. Opening and closing ventilators during the daytime may involve spending time on a wet and slippery foredeck of a rolling vessel, but it was not suggested that those risks cannot be managed. The additional factor arising at night, explained by Captain Soomro in the second passage quoted above, concerns being alone on the deck at night without good means of communication. On the footing, however, that two men would undertake the task, that risk should also be manageable.
163. In addition, it seems unlikely that the crew would repeatedly have to open and close the ventilators, with the possible exception of occasions of particularly changeable weather (in which event it might be reasonable having closed the ventilators once during the night to leave them closed until daylight).

164. Mr Rice was pressed on this point in cross-examination:

“Q. I tell you what is industry practice: you simply don’t ventilate at night. You simply don’t do it because there is an inherent risk to the crew. That is right?”

A. No, it is nonsense, quite frankly. With all due respect, it is nonsense to say it is not done for the safety of the crew.

..

A. If it were true, then all those diligent, competent, prudent shipowners that do ventilate at night are, by definition, placing their crews at risk and always have done, because this has been industry practice, in general cargo and multipurpose dry cargo and container cargoes as well as bulk carriers, for my entire career.

Q. So as I say, Captain Soomro, Mr Patterson, the chief officer who was actually on deck, all talking nonsense; not industry practice to ventilate at night?

A. I said it is a nonsense to suggest that it is industry-wide practice not to ventilate at night. There is a proportion of the market that does that, but they are also the ones that you will find don’t supply torches, don’t supply safety helmets, don’t supply boots, don’t supply thermometers.”

165. A further aspect was put to Mr Rice in cross-examination, namely that at night the person working on deck would have to use one hand to carry a torch. His evidence, however, was that crew can wear head torches, and better equipped crew do so; and, as an alternative, one crew member could hold a torch while the other closed the ventilator. (Mr Rice also suggested at one point that the deck lighting could be used to help the crew, but he accepted that that would have the significant disadvantage of impairing the night vision of the officer of the watch.)

166. Alianca’s contention on this point is, in effect, that it is not standard practice for crew to be given head torches, that without a head torch it is risky to close a ventilator at night, and that a sound system therefore does not require the dew point or three degree rule to be followed at night. I do not accept that argument. The fact, if it be the fact, that a portion of the shipping market refrains from equipping crew with an inexpensive item such as head torch does not render failure to comply at night with the dew point or three degree rules (which *prima facie* represent sound systems) a ‘sound system’. Moreover, Alianca suggested no answer to Mr Rice’s point that a hand held torch could be held by one crew member while the other closes the ventilator.

167. Alianca submits that the evidence of Mr Patterson, the marine surveyor who gave evidence on Ameropa’s behalf, was that night ventilation on board bulk carriers is inappropriate and would not be carried out due to safety reasons, and that he took that view not only in respect of the Vessel but also another vessel, the “*Virginia*” which arrived at Durban carrying grain during the same period.

168. Mr Patterson’s survey report on the Vessel included the passage:

“During periods of sea passage where cargo ventilation was considered possible it was seen that on average the cargo was ventilated between 09h00 – 16h00; it may be argued that the cargo could have been additionally ventilated from 0600 and up to 18h00 thereby providing an extra 5 hours ventilation per day.”

His report on the *Virginia* cargo included reference to “*relatively limited cargo ventilation, only possible in fair weather conditions and in daylight hours*” and said “*As the vessel was not mechanically ventilated, manual ventilation of the cargo holds was accordingly only undertaken during daylight hours with corresponding periods of fair weather*”, noting that the cargo hold ventilation log indicated that the cargo was ventilated during daylight hours of sea passage on a daily basis for periods ranging from 3 to 9 hours.

169. It is not clear to what extent Mr Patterson was thereby intending to express a view on the matter, as opposed to recording what he had found had occurred during the voyages and the reasons that had been given to him for those practices. The following exchange occurred in his cross-examination:

“Q. You don’t think that night ventilation on board bulk carriers carrying bulk cargoes is appropriate.

A. I have not expressed an opinion on it. I would say that it would depend very much on the prevailing weather and sea conditions at the time.”

170. On the other hand, it was put to Mr Patterson in cross-examination that in the passage quoted in § 167 above he was saying it would not be appropriate to ventilate at night, to which Mr Patterson answered “*Given the way I put it , you are correct* ”. In relation to the *Virginia*, there were following further exchanges:

“Q. ... So you repeating, aren’t you, that you can only ventilate in daylight hours?

A. I have said that, sir, yes.

Q. Yes, and that is because it reflected your view that night ventilation was inappropriate.

A. It makes sense.

Q. Well, I am asking what your view is. You must have held that view, because you wrote what you did.

A. That is correct. I stand by the - - I stand by what I have said in the reports and - - yes.

Q. If we turn over the page to 1291, do you see point 10 towards the bottom of that page?

A. I see that, yes, sir.

Q. You write: “As the vessel was not mechanically ventilated, manual ventilation of the cargo holds was accordingly only undertaken during daylight hours with corresponding periods of fair weather.” Do you see that?

A. Yes, sir, I do see that, yes.

Q. So what you are saying is if you manually ventilate, you can only do that during the day.

A. I am saying that. I don't know whether masters of the vessels would express alternative views, but I am saying that.

Q. Yes, but that is your view.

A. Yes.

Q. Obviously you must have a reason for that view.

A. The reason for that view is based on the fact that when they did undertake ventilation, it was during fair weather and during daylight hours, which suggested to us that they had opted not to undertake ventilation at night, perhaps for safety reasons. That was the view that I expressed.

Q. That it would be for safety reasons?

A. Yes. That was the conclusion that I reached."

171. I do not find this evidence of particular assistance in deciding whether ventilation at night, at times when the dew point or three degree rule would indicate ventilation was required, was required in order to implement a sound system. The answers quoted above indicate that, whilst Mr Patterson may have formed the view that night ventilation was not appropriate, that view was at least influenced by (if not largely based on) the practice which certain carriers appeared to have opted to follow, and his surmise about the reason for that practice.

172. Finally as regards risk of injury:

- i) the P&I club bulletins' apparently unanimous recommendation of night ventilation would be surprising if such a practice could reasonably be regarded as unsafe for crew; and
- ii) it is notable that the records indicate that the Vessel did not ventilate at night even when it was at anchor in Durban in September/October 2016, which casts doubt on whether safety was the real reason why night ventilation did not occur during the Voyage.

(e) Ventilation increasing condensation

173. Captain Soomro's fifth point on night ventilation was that at night, with lower ambient temperatures, the ambient air is moister than that in the holds, and ventilation would increase condensation. However, in cross-examination he accepted that that confused relative humidity with total moisture content. Replacing hot moisture-laden air in the hold with cooler outside air with much lower total moisture content, by night ventilation, is positively desirable and will reduce condensation.

(f) *Generally*

174. Viewing the matter in the round, Alianca submits that Ameropa has failed to discharge the burden of showing that the general practice in the market is to ventilate at night, and that in those circumstances it cannot establish that a sound system requires night ventilation. In my judgment this approaches matters in the wrong way, and is in any event incorrect. A sound system of ventilation for a hygroscopic cargo would involve the use of either the dew point rule or the three degree rule. That reflects the recommendations made in all the P&I club bulletins in evidence, and was not disputed by any witness (factual or expert) in this case. Neither rule makes any distinction between daytime or night-time ventilation; and for the reasons given earlier ventilation at night is generally likely to be even more necessary and effective than daytime ventilation. None of the P&I club bulletins gives any indication that ventilation is not expected to occur at night: on the contrary, they are (so far as the evidence before me goes) unanimous in stating the contrary. Mr Rice's evidence was also to the contrary, as indicated above.
175. In these circumstances, I am unable to accept either Captain Soomro's experience, or the limited documentary evidence that some of the other vessels arriving at Durban in 2016 carrying grain appear not to have ventilated at night, as representing the general practice in the industry. Even to the extent that they might reflect the practice of part of the industry, such practice would be no more than an indicator of what would represent a sound system. In any event, to refrain, without sufficient reason, from ventilating at night in circumstances where the application of the accepted dew point and three degree rules indicate that ventilation would occur could not, as a matter of logic, be described as a sound system.

(6) Actual ventilation system employed during the Voyage to Durban

176. The evidence as to what system of ventilation Alianca actually employed during the Voyage was somewhat unsatisfactory:
- i) In its statements of case, Alianca alleged that the Cargo was ventilated in accordance with a sound system but provided no details of any such system.
 - ii) Alianca adduced no evidence from the Master or the vessel's managers describing the nature of any ventilation system that was in place. The Chief Officer, who did give evidence, stated only that "*During the Voyage, we ventilated the cargo using the Three Degree Rule*".
 - iii) There is no description of, or reference to, any system, whether incorporating the three degree rule or otherwise, in the Vessel's SMS documents. The Cargo Operations Manual did not describe any system but left it to those manning the Vessel to refer to other publications:

"The Charterers instructions for cargo care to be strictly followed, unless it is felt that it is detrimental for the cargo. Ventilation of cargo is extremely critical on certain voyages. Please refer to guidelines on Ventilation of cargo, in Thomas' stowage, and refer to the individual properties of the cargo. The relevant publications for cargo care to be consulted and

ventilation, monitoring and recommendations to be carried out accordingly. In case any doubts about cargo care, do not hesitate to contact the Office for consultation/ advice/instructions.”

There is no evidence as to what, if any, publications were actually available on board.

- iv) The basis for the application of the three degree rule is the measurement of the temperature of the Cargo during loading, but it is common ground between the experts that there is no evidence that the crew actually measured/recorded the temperature during loading.
 - v) The Chief Officer referred in his oral evidence to a manuscript ventilation log from which the computer log had been written up, but this was not disclosed.
 - vi) The Chief Officer gave evidence of a practice whereby rather than the officer of the watch always completing the deck log, including entries relating to ventilation, the officer (when not the Chief Officer) would provide the information on a piece of paper to the Chief Officer who would himself use it to complete the deck log.
177. Ameropa did not admit the authenticity of the log entries relating to ventilation, and there was for a time an issue about whether any ventilation at all had occurred during the Voyage. This issue arose not merely from the state of the records as outlined above, but also from two further factors, namely statements made by the Master and the condition of the cargo on outturn.
178. Mr Patterson said in his witness statement that when his firm interviewed the Master:
- “He ... told us that the cargo was not ventilated at all during the sea passage. However, this account conflicts with the deck logs and ventilation logs which show that some (albeit limited) ventilation did take place.”
179. In his survey report, Mr Patterson noted this answer but also that the Master showed a limited understanding of the English language.
180. In addition, Alianca’s surveyors, Africargo, also recorded that: *“It was also established through conversation (again not formerly) that the cargo had not been ventilated during the sea passage as per instructions issued to the vessel. Again no correspondence and or written instructions issued to the Vessel in this regard have been sighted by us.”*
181. Mr Rice said in the course of the narrative section of his report:
- “At an early stage of the surveys in Durban it was indicated independently to the Disponent Owner’s surveyor that the cargo holds had not been ventilated at any stage during the ocean voyage from Mexico to South Africa [fn. citing Africargo report dated 27 September 2016]. The Disponent Owner’s survey report does not make clear the source of this information

although it is implicit that the source was a member of the vessel's crew.

Very shortly afterwards the Master stated to the cargo underwriter's surveyor that the cargo holds had not been ventilated at any stage during the thirty-nine day voyage from Mexico to South Africa [fn. citing Mr Patterson's witness statement].

Following these exchanges, the crew were instructed not to discuss the voyage or any other matter with representatives of the Disponent Owner, the cargo insurer or the cargo receiver. The surveyors for cargo interests and Disponent Owners were informed that they were not permitted to speak to any member of the Vessel's crew on any subject. Any questions concerning the voyage or cargo care were to be routed through the Shipowners' P&I surveyors [fn. citing Patterson report dated 20 January 2017]."

182. However, Mr Rice's report proceeded on the basis that ventilation *was* in fact carried out at the times recorded in the deck and ventilation logs, and he analysed the matter on that basis. He returned to the possibility of no ventilation having occurred later in his report, in particular at § 164:

"Had the Master/Chief Officer closely monitored the sea and wind conditions on a 24 hour basis and opened the hatch cover ventilators and access hatches at each and every opportunity it was safe to do so, then the degree and extent of moisture damage would have been far less than was sustained. Conscientious management of cargo hold ventilation is essential if condensation is to be prevented or kept to a minimum in conditions where heavy condensation is certain to occur on each and every occasion that the ventilators are closed. That attention to cargo care did not occur in 'Santa Isabella'. I cannot say with certainty there was any ventilation of the cargo holds. The ventilation effort that was recorded in the Ventilation Log disclosed by the ship owner was wholly insufficient."

and at §§ 185-187:

"There are significant questions regarding the ventilation that the ship owner says were carried out. The Master initially stated to surveyors attending on board at Durban that the cargo had not been ventilated during the long ocean voyage. The damage to the cargo in all holds, including heavy wetting, caking and fermentation of grain around the peripheries, and sprouting grain across the top surface, fits with the scenario initially reported by the Master. It is consistent with sustained high temperature and sustained high humidity. If that is the case, then it is possible the Ventilation Log was produced at Durban after the fact. That would explain the seemingly random nature of the entries.

The periods of cold air surface ventilation of the cargo implied by the Ventilation Log data should have controlled any populations of insect pests inside the cargo holds. Likewise, cold air aeration would have prevented germination or killed any existing sprouts on the wet grain. Nonetheless, sprouting grain was recorded on the top surfaces of the piles at Durban and tropical insect grain pests were found within the upper sections of the cargo piles. These observations are inconsistent with cold air ventilation and raise questions concerning the reliability of the Ventilation Log data.

If the Ventilation Log data is accepted at face value, then there was no ventilation for 72% (65%) of the period of the voyage that it was necessary and safe to ventilate the cargo to prevent ship's sweat."

183. In the experts' Joint Memorandum, Mr Rice said:

"The Master, and possibly other crew members, stated shortly following completion of the voyage, that the cargo holds had not been ventilated during the voyage. Nevertheless, if the cargo was ventilated during the voyage then the method used by the crew is not apparent from the contemporaneous records. The Ventilation Log contains almost none of the information one would expect to find in a Chief Officer's cargo temperature and ventilation record. For example, there are no temperatures, no point of reference temperature relating to the Three Degree Rule method, no dew point temperatures and no remarks explaining why ventilation is or is not being carried out. Given all of the above, it is not reasonable to conclude that the cargo was ventilated in accordance with a sound system."

184. Alianca did not call the Master to give evidence to address these matters. Nonetheless, they sought to use Mr Rice's evidence summarised above as the basis for a sustained attack on his reliability and impartiality. It was suggested that Mr Rice had been selective by not recording that according to Mr Patterson the Master had limited English; that he was advocating a position; and that by calling into question the reliability of the logs whilst not alleging in terms that they were forged, he was "*willing to wound and yet afraid to strike*". Mr Rice was cross-examined at some length on this topic.

185. In my judgment, Alianca's attack was unfounded. Mr Rice's position was clear and moderately expressed. He noted that it had been twice reported by others that the Master had said no ventilation occurred. He considered, giving detailed reasons, that that account was consistent with the condition of the cargo he inspected on arrival. On that basis, he thought there to be a possibility that the logs had, so far as ventilation was concerned, been forged after the fact. However, he had no evidence that that had taken place:

"Q. ... And I am putting to you that the deck logs, and indeed the ventilation logs, show as a matter of fact there was. Are you

accepting that those records are problematic or inaccurate or what? What are you saying?

A. If one is to accept them at face value, then there was partial ventilation. But the master's initial statement to Patterson and the other witnesses, including the receivers, that he did not ventilate the cargo holds is consistent with the condition of the cargo.

Q. Just to be very clear: you are accepting the accuracy of those documents at face value?

A. I have no evidence that they are not an accurate record of what took place."

186. Further, Mr Rice had performed analyses in his reports on the footing that ventilation had occurred at the times stated in the logs. He also acknowledged that the Chief Officer in his oral evidence appeared to recollect some degree of ventilation as having taken place, and did not seek to allege that that testimony was untrue.
187. I do not consider that Mr Rice was, in giving any of his evidence on this topic, seeking either to advocate a position or to mislead, nor acting otherwise than independently.
188. In the end, Ameropa did not invite me to make a finding to the effect that no ventilation occurred, submitting instead that the position was that:
- i) Ameropa did not admit that the ventilation records (the ventilation log and the deck log) are reliable;
 - ii) it was probable that there was some ventilation of a sort; and
 - iii) the best explanation of the evidence in relation to what the Master said to Mr. Patterson and Africargo was probably that he was admitting that the cargo had not been *properly* ventilated (consistent with the other evidence).
189. I therefore proceed on the basis that ventilation occurred at the times set out in the logs.
190. On that basis, Mr Rice collated the available information as to:
- i) the Vessel's course and position as at noon each day;
 - ii) wind direction and speed as recorded for each watch;
 - iii) swell/the Vessel's movement, sea state and weather conditions as recorded for each watch;
 - iv) the ambient temperature;
 - v) whether ventilation was required in accordance with the three degree rule (assuming a Cargo temperature of 30 degrees); and
 - vi) whether ventilation was (according to the ventilation log) actually undertaken.

191. It is evident from this analysis that there was on no occasion any ventilation before 0900 hours or after 1600 hours. There were thus significant periods of daylight when no ventilation was undertaken, and the cargo was never ventilated for more than 7 hours a day.
192. It is common ground between the experts that:
- i) the voyage to Durban via Cape Horn took 39 days;
 - ii) there were 792 hours (the equivalent of 33 days) during which (absent ventilation) conditions were conducive to condensation occurring in the holds;
 - iii) it was, subject to Captain Soomro's concerns about night ventilation, safe to ventilate the holds for an aggregate period of 308 hours (the equivalent of 12.8 days), excluding periods when the holds were sealed for fumigation and when weather conditions did not permit ventilation; and
 - iv) actual ventilation of the holds was carried out for 107 hours, equivalent to 4.5 days (roughly one third of the time during which ventilation was required and, subject to the night ventilation issue, safe).

The difference between (iii) and (iv) is 211 hours, the equivalent of 8.8 days in aggregate.

(7) The effect of the limited ventilation during the Voyage

193. Captain Soomro in his third report expressed the view that even had ventilation occurred at all times when Ameropa alleges it should have done, a large amount of ship sweat would have been generated at an early stage, from 9 to 12 July, when ventilation was restricted or not possible due to inclement weather, and when the ambient temperature dropped from 19 degrees on 9 July to about 10 degrees on 12 July. That moisture would have fallen on the cargo and started the cycle of rot and deterioration. Even if the holds had thereafter been ventilated from 12 to 17 July, that would not have reversed or retarded the moisture damage likely to have begun between 9-12 July, and the cycle of rot and deterioration would have continued. Captain Soomro continued:

“Given the restriction of ventilation due to adverse weather at the earlier stage of the voyage and subsequent long periods that prevented ventilation further into the voyage, the damage is likely to be about the same extent as that which was noted on arrival at Durban in that the top layer of cargo (and possibly further down) would have been wet and mouldy on at least the top layer, with caking in places.”

194. Mr Rice in his report expressed the view that “[t]he route around Cape Horn made the risk of extensive damage to the cargo inevitable in this case”; that given the scope for heavy condensation and spoilage and the climatic conditions to be experienced “it was wholly predictable that the cargo would suffer extensive damage if the vessel proceeded via Cape Horn”; and that the five vessel owners who routed their vessels south of Cape Horn “were exposing the cargoes to conditions which meant that significant cargo

damage due to condensation was inevitable". On the other hand, Mr Rice stated in his report that had the crew ventilated at all times when it was necessary and safe:

"then the effects of that condensation would have been ameliorated considerably. Humid air would have been purged from the void spaces and liquid moisture on exposed steel surfaces would have evaporated. Moisture in the cargo top surfaces would have evaporated to a degree or dried altogether. Ventilation during the coldest period to the south of Cape Horn would have drawn heat from the top surface altogether. Process of deterioration would have been retarded or stopped altogether, heat would not have amassed in the affected top surface and germination of wet grain would not have occurred.

Had the Master/Chief Officer closely monitored the sea and wind conditions on a 24 hour basis, and opened the hatch cover ventilators and access hatches at each and every opportunity it was safe to do so, then the degree and extent of moisture damage would have been far less than was sustained."

Towards the end of his report Mr Rice said:

"The Cape Horn route and the planned slow speed meant that wholesale deterioration in the cargo was largely unavoidable unless the crew were alive to care of the cargo 24 hours a day throughout the entirety of the voyage."

195. Both experts were cross-examined about these opinions.
196. Captain Soomro agreed that:
- i) there was no need for ventilation until 2 July;
 - ii) temperatures thereafter started to fall and the need for ventilation increased;
 - iii) there was a period in early July when weather conditions precluded ventilation and condensation would have built up, but it was then possible to ventilate from 12-17 July (inclusive);
 - iv) if the cargo had been ventilated for 24 hours a day during those days, instead of only 7 hours a day as actually occurred, then the cargo would have dried out;
 - v) since, however, the vents were open for only 7 hours a day, the cargo did not get a chance to recover i.e. dry out;
 - vi) ventilation was then precluded on 18 and 19 July but could have occurred on 20, 21 and 22 July, and again on 26, 29 and 31 July and on 2 August;
 - vii) if the vents had been left open all the time on those days, then that would have had the effect of drying out condensation which had built up.
197. The cross-examination concluded as follows:

“Q You told us yesterday that you had never carried corn around Cape Horn; is that right?

A. That is correct, yes.

Q. Have you ever before as an expert investigated a case of condensation damage to grain which has been carried around Cape Horn?

A. No.

Q. Have you ever before as an expert investigated a case of condensation damage to grain that involved the extremes of temperature that we see on this voyage, coupled with boisterous weather interrupting ventilation?

A. No.

Q. What I suggest to you is if there had been 24-hour ventilation in the way that we say, then the out-turn condition - - taking the route via Cape Horn, the out-turn condition in South Africa would have been that you have had a dried, cooled crust on top of the cargo and no worse than that. Do you want to comment on that?

A. If ventilation was allowed, if it was possible to allow, weather permitting, then yes, I would agree with you, because ventilation would then prevent - - can prevent the formation of condensation. But in any sea venture, there are periods where weather would be expected to be bad and if ventilation is required, then certainly ventilation would be restricted.

Q. What I am suggesting is that, in fact, if the crew had ventilated through the night on those occasions when weather permitted, then the out-turn condition would have been a cool, dry crust on top of the cargo and no worse than that.

A. I would agree.”

198. Mr Rice, in oral examination in chief, expressed the view that had the Vessel proceeded via Cape Horn at 13.3 knots, ventilating at whenever it was safe to do so including at night, then the ventilation would have prevented condensation (while the vents were open) and dried any condensation that had occurred, so that the worst case would have been (as Captain Soomro had agreed) a light and dried crust across the top surface on arrival with no damage below the top surface.
199. In cross-examination, Mr Rice said that during most of the fumigation period (26 June to 6 July 2016) the conditions were not conducive to condensation occurring, and indeed ventilation would have damaged the cargo. For the remainder of the fumigation period, the temperature differential was (as for periods late on in the voyage) much smaller than the very cold climatic zones south of Cape Horn and across the South

Atlantic experienced in the middle part of the voyage. At the end of the fumigation period, the manifestation of condensation would be no more than a very fine film of moisture on the inside steelwork akin to the mist on a bathroom mirror after a shower. Thereafter, any interruptions to ventilation would have caused increasingly heavy condensation and wetting to the grain as the Vessel proceeded south, with condensation falling like large droplets of rain onto the top of the cargo at the coldest point of the Voyage.

200. Ventilation would have been precluded during the 14.9 days of the 27 days following the end of the fumigation period when weather and sea conditions precluded ventilation. Had the cargo become wet and then not ventilated for 14.9 consecutive days, then the cargo would have deteriorated. However, Mr Rice said, if periods of non-ventilation were interspersed with periods of vigorous ventilation, then *“after consideration of this case in light of near identical cases in the past, I would expect, at worst-case scenario, a dry crust”*. By means of ventilation, deterioration can be interrupted, arrested and retarded. Mr Rice agreed with Captain Soomro that the likely outcome, given proper ventilation when safe (including at night), would have been 6 to 12 inches of dried crust at the top of the cargo. He was able to form this view because he knew what happened to grain cargos when one applied certain regimes. Mr Rice made clear that he was not saying there would have been *no* moisture damage, because there would have been periods when the cargo was wetted, and any grain that is wetted and then dried with natural ventilation will suffer a degree of deterioration, whether manifest or not. The damaged part of the cargo, in the form of the dried crust, would have needed to be skimmed in order to remove it.
201. This compared with the likely position had the Vessel taken the Panama Canal route rather than Cape Horn, in which case Captain Soomro and Mr Rice agreed that on the balance of probabilities the Cargo would have been dry and sound provided the crew had ventilated during the voyage. The worst case scenario was that if restricted opportunities to ventilate in the last four days of the voyage meant condensation wetting had occurred, then such wetting would have been *“superficial in way of the top surface”*: there may have been caking, it was highly unlikely there would have been any mould development, and following the opening of hatch covers the surface cargo would have been allowed to dry and return to a friable condition (with, Mr Rice said in cross-examination, perhaps clumps of cargo affected by a green powdery mould). Mr Rice said that following a Panama Canal voyage, there would at most have been a need to shovel off 10 or 20 tons of material per hold, which could have been done in a matter of hours. This would have had to be done following arrival, because it was not permitted to open the hatch covers prior to arrival.
202. Mr Rice accepted that he had not been able to perform a day to day quantitative analysis as to when, on the Cape Horn, route the cargo would have been exposed to wetting (and how much) and when it would have dried during subsequent days of ventilation. Had the data been available, it would have been possible to perform such an analysis, including calculating outside and inside vapour pressures and dew points. However, insufficient information was available from the ship’s records in order to do this, so there was inevitably a considerable degree of speculation. However, Mr Rice was able to draw comparisons with other experience, including an occasion about 15 years previously when he accompanied a client’s vessel carrying an experimental high temperature grain cargo which was kept dry for two months during the same part of the

year and in the same region (off the south coast of Chile) as the Cargo in the present case. In addition, as summarised in §§ 196-197 above, Captain Soomro accepted that the day by day pattern of times when ventilation could and could not have occurred indicated that the Cargo would have been able to dry out after each period for which ventilation was restricted.

203. Mr Rice was cross-examined at some length as to whether he was thereby disagreeing with sections of publications by P&I clubs suggesting that ventilation of grain cargos can at most circulate air over or around the cargo but will not force air through the cargo itself (a proposition with which Mr Rice agreed); and that ventilation can therefore only minimise sweat formation in the head space (above the cargo) with limited impact elsewhere in the cargo space.
204. Mr Rice explained that the whole point of ventilation was to circulate air in the head space above the top of the cargo, because that was the source of the moisture which would otherwise drip onto the top of the cargo and, if unchecked, in turn cause problems further down in the hold. By flushing out the unduly moist air from the head space, one prevented or minimised the formation of liquid moisture. It was the liquid moisture created in the head space that had caused the problem. The head space was, Mr Rice said, *“the spring. It is where the moisture – the liquid moisture that is running down the sides of the holds and soaking the top, it is where it originates. You switch that off, you stop the problem. The longer it continues, the more you are adding to the problem.”*
205. Thus, Mr Rice explained, ventilation of the critical area could be achieved, and would always be effective at least in minimising the formation of ship sweat. That was the case even if the holds were (as in the present case, apart from one hold) full i.e. 90% or more full. As a result, Mr Rice said, ventilation is very effective in controlling condensation, and in ships (as opposed to silos on land) it is the only tool at one’s disposal for that purpose. It can dry up sweat that has occurred, prevent further sweat, and arrest or retard deterioration in cargo which may previously have been affected. Cargo that has been wetted can be dried by ventilation, any incipient process of deterioration through mould can be stopped as moulds do not proliferate below 75% humidity. The reason why most hygroscopic cargos do not arrive in a wet and spoiled condition is, Mr Rice said, because of ventilation. In commenting on the condition in which grain and other hygroscopic cargos generally arrive, Mr Rice said he was drawing on his experience of working for several of the world’s largest traders and carriers of grain, and for shipowners who work predominantly in the carriage of grain, and for their insurers.
206. It was also suggested to Mr Rice that he could not say for certain when ventilation would have been safe, given the weather conditions encountered on the Voyage. Mr Rice accepted that one could never speak with certainty on this point, but said he had based his view on recent and extensive experience of ventilation, including six months in 2014 spent on board ventilating a total of twelve vessels carrying grain while alternatively drifting and steaming in the Gulf of Guinea, where open hatch cover ventilation had routinely been carried out in conditions up to Force 7. In his analysis on the present case Mr Rice had made the more prudent assumption that ventilation could occur up to Force 5.

207. Mr Rice was also asked about the other vessels known to have arrived at Durban from Mexico via Cape Horn carrying damaged corn during the same period, namely the “*Delphi Ranger*”, “*Virginia*”, “*Sbi Hera*” and “*Carlota Bolten*”. Mr Rice accepted that the Cape Horn route set up the potential for damage but not that it was predominantly to blame for the moisture damage to the cargos. I note also that in the case of the “*Delphi Ranger*”, Mr Patterson’s survey report indicated that no cargo ventilation logs had been provided for the voyage. His report on the “*Virginia*” indicated that ventilation had occurred only in fair weather and in daylight hours. The cargo surveyor’s report on the “*Sbi Hera*” referred to mould damage on the top of the stow but noted there was no cargo sweat, bad odours, condensation under hatch covers, water ingress or insect infestation; and it appears that only 282 mt of a total cargo of 47,250 mt had to be skimmed off. The report on the “*Carlota Bolten*” did not comment on what, if any, ventilation had taken place during its voyage.
208. Mr Rice was asked about the statements in his written evidence mentioned in § 194 about the predictability of damage if the Vessel took the Cape Horn route. He stood by his statement that that route made a “*risk*” of extensive cargo damage inevitable, but qualified his statement about the predictability of extensive damage by reference to whether conditions were encountered which prevented ventilation. In addition, whilst he had referred to the inevitability of cargo damage on the Cape Horn route, ventilation would affect the *extent* of damage. Even with ventilation it was generally accepted in the trade that there would be soft caking (aggregation) of grains as an inevitable consequence of taking a warm grain cargo through very cold conditions, but that was only “*the very, very early onset of deteriorative changes in the grain*”. In the end, his point about choice of route was that “*the choice of route, in a case where care of cargo is concerned, should take account of the climatic conditions, the ability of the vessel to ventilate and the competency of the crew in properly caring for the cargo*”.
209. There was, in this particular respect, a degree of possible inconsistency (or at least difference of emphasis) between Mr Rice’s written and oral evidence. However, having read and listened to that evidence, and having revisited it in the documents and transcripts, I find the explanation given in Mr Rice’s oral evidence about the mechanism and effect of ventilation, as summarised above, cogent and compelling. It is relevant also to bear in mind that Captain Soomro ultimately accepted the same position as being the likely outturn on the Cape Horn route assuming day and night ventilation whenever weather permitted it. I am inclined to think that in addressing the question of choice of route, Mr Rice may have overstated to a degree the likely effect on the Cargo of the Cape Horn route, in that if sufficient ventilation occurred then, whilst one could still predict a degree of damage, it would not necessarily be extensive damage. I have taken this factor into account in assessing Mr Rice’s evidence as a whole. Having done so, I nonetheless conclude that his evidence about the likely outturn had ventilation occurred (including at night) when safe to do so, the substance of which Captain Soomro ultimately accepted, is correct and I accept it.
210. Mr Patterson’s cargo survey reports made reference to a maximum recommended period of time at sea for the shipment of Mexican origin maize. His first report in relation to the Vessel also said “*North American origin white maize is capable of being shipped with a maximum moisture level of 15%. However, time at sea should be ideally limited to 21 days*”. The court was not provided with a copy of any written 21-day recommendation, or any information about the basis for such a recommendation.

211. In cross-examination Mr Patterson said he recalled having been given that information by the Southern African Grain Laboratory and the port's health department. In response to the suggestion that a cargo of white maize from Mexico was never going to arrive in a sound condition after a voyage of more than 21 days, Mr Patterson said:

“A. I would rather say that it was never going to arrive in pristine condition after five weeks. If you limit it to 21 days, it would be quite speculative and quite difficult to confirm.

212. The following exchange also occurred:

“So I want to be very clear about what you believed was the cause of the cargo damage: it was the duration of the voyage in excess of 21 days more than anything else.

A. Extended period at sea, correct, yes.

Q. Yes, so what you are saying is the damage to this cargo of maize was inevitable simply by virtue of the fact it was carried from Mexico, which was always going to take more than 21 days, whatever route was taken.

A. I believe that, yes.

Q. And what you are also saying here, I think, is that even if the cargo was ventilated constantly, that would not have eliminated the development of cargo damage.

A. That is correct, albeit it is debatable. But that is what I believed, yes.

Q. And I think that must be true because, as you go on to say, natural ventilation never gets down into the stows, does it? It can't penetrate the body of the cargo.

A. That is correct.”

213. In so far as Mr Patterson's view about maximum voyage time may be based on this latter point, i.e. ventilation not penetrating the stow, I consider it to be fallacious for the reasons set out above. It may be the case that natural ventilation does not penetrate anything other than the top part of the stow, but for the reasons explained by Mr Rice (whose evidence I accept) it does not follow that that renders ventilation ineffective. On the contrary, it is regular ventilation of the head space and top stow that is critical to preventing or minimising cargo damage.

214. Mr Patterson went on to accept statements made in P&I publications to the effect that ventilation cannot penetrate the stow, though he added:

“The only thing I would like to add, sir, is on this particular vessel, the hatch covers were opened. The vast majority of the damage was possibly to stow surfaces and we concluded that the moisture would have eventually migrated down there.”

215. When asked about a voyage of 30 days via the Panama Canal, Mr Patterson said:

“It may have been a different outcome. In other words, it may have been negligible damage. It may have been no damage at all. But that is pure speculation on my part, as we did not deal with any vessels carrying that maize from Topolobampo to Durban that had routed through the Panama Canal.”

That view is inconsistent with the suggestion that a voyage of more than 21 days is bound to lead to cargo damage.

216. Mr Patterson agreed, in a line of questions referring to his survey report on the *Delphi Ranger*, that damage to this kind of cargo taking the Cape Horn route was inevitable, irrespective of precisely what ventilation regime was in place. However, that agreement was given on the false premise that according to Mr Patterson’s report ventilation was restricted for only one day of the *Delphi Ranger*’s voyage. His report did not say that, but rather that “*the Master had the option to commence ventilating the cargo within one day of application of the fumigant*”. The report went on to say that the Master/Chief Officer advised that ventilation was not possible during periods of heavy weather, and that Mr Patterson had been provided with no cargo ventilation records for the voyage. It would therefore be incorrect to make any assumption as the ventilation which occurred during the *Delphi Ranger* voyage, including the hours of ventilation and whether it was carried out at night.

217. Captain Soomro stated in his first report that he was not aware of any 21-day maximum recommended limit for the carriage of Mexican rice, and did not believe any such limit to exist. He confirmed this evidence in cross-examination. Similarly, Mr Rice stated that he disagreed fundamentally with the suggestion that moisture damage was inevitable to a cargo of corn during a voyage of more than 21 days.

218. I accept the evidence of both experts on this point. Based on the evidence before me about the mechanism of condensation damage and the effect of ventilation, I see no logical basis for any such 21-day limit, and no such basis has been suggested.

219. I conclude, based on the matters set out above, that the likely outcome had there been proper ventilation when it was safe to do so (including ventilation at night save when weather conditions made it unsafe), would have been 6 to 12 inches of dried crust at the top of the cargo but no greater type or degree of level of cargo damage.

220. It follows that I do not accept Alianca’s submission that the moisture damage to the Cargo was an inevitable consequence of proceeding to Durban via the Cape Horn route and complying with the fumigator’s instructions not to ventilate during the first 12 days of the Voyage; nor, therefore, its submission that the cause of the cargo damage found on arrival at Durban falls within rule 2(q) of Article IV of the Hague-Visby Rules, which provides that the carrier is not responsible for loss or damage arising from “*any other cause arising without the fault or privity of the carrier*”.

(8) Ventilation at Durban

221. Having skimmed damaged Cargo in August/September, the Vessel awaited analysis results at the anchorage off Durban. When she returned on 16 October 2016, further

quantities of mould were discovered in holds 2-4. Ameropa alleges that Alianca failed to ventilate the cargo holds while the Vessel was at anchor, in breach of Article III rule 2 of the Hague-Visby Rules. The ambient temperature on 2 August, the day before arrival at Durban, was 21 degrees, a temperature differential (taking the Cargo temperature as 30 degrees) of 9 degrees.

222. The Chief Officer in cross-examination could not recall whether ventilation occurred while the Vessel was at anchor off Durban, or any instructions to that effect. However, the deck log indicates that there was ventilation at times, following the fumigation period from 13 to 24 August when ventilation could not occur. There was some ventilation on various dates from 24 August to 8 September, and again on 12 September, 14-16 September, 19 September, and 4-7 October. There is no record of ventilation at night.
223. For some of this period the hatches were open so ventilation would have occurred anyway, for example on 5 September and probably from 19 to 22 September. There were also times when ventilation was inappropriate because of rain. Records of rain vary as between the deck log and the statement of facts relating to conditions at Durban, and there was a difference of view as to whether rain at Durban indicated it was also raining at the anchorage. Ameropa produced a table, marked up by Alianca, indicating the periods in question. On either basis, though, the rain was far from constant and there were periods when ventilation was absent for no apparent reason (in addition to the failure to ventilate at night).
224. It is unclear what causal significance this has. Captain Soomro expressed the view that the build-up of condensation within the holds whilst the Vessel was at anchorage between 13 – 24 August is capable of being explained on the basis that (a) ventilation was restricted during that period because fumigation was taking effect, (b) conditions were conducive to condensation build-up during that period, and (c) even if ventilation had taken place after the end of the fumigation period, it would not have sufficed to retard damage that had already occurred in the interim.
225. In my view it is likely that the failure to ventilate at Durban led to further deterioration in the condition of the Cargo, but on present evidence it is not possible to quantify this further deterioration. I also bear in mind that, as Alianca point out, ambient temperatures at Durban would have been higher than those experienced *en route* via Cape Horn, and so one cannot readily assume that the rate of deterioration would in any way mirror what happened while the Vessel routed via Cape Horn.
226. Ultimately I consider this issue to be hypothetical. I have found elsewhere in this judgment that Alianca was in breach of its duties to care for the Cargo during the Voyage, and that but for those breaches the Cargo would have arrived with no more than 6-12 inches of dried crust on the top of the stow and could have discharged at Durban and then at Richards Bay without lengthy delays. On that footing, the question of ventilation while lying at anchor off Durban would not have arisen. It is therefore not necessary for me to decide the extent, if any, of further damage caused to the remaining Cargo discharged at Richards Bay by reason of inadequate ventilation at Durban.

(G) VESSEL SPEED

227. The charterparty expressly required that the Vessel proceed with all convenient speed, and the warranted speed was about 13.3 knots.
228. However, the Master was in fact instructed to proceed at “*eco speed on abt 12 knots*”, and it is common ground that the Vessel’s average speed, at least between Manzanillo, Mexico (where she bunkered on 26-27 June) and Durban was in fact only 11.3 knots.
229. I agree with Ameropa that the effect of this was inevitably to prolong the Voyage, and therefore the period for which the Cargo was exposed to potential condensation damage, and required proper ventilation but was denied it. Captain Soomro estimated that the Voyage was prolonged by some 3.35 days, and expressed the view that this was too short a period to have exacerbated the cargo damage experienced during the Voyage. However, it did mean the Cargo was further exposed to condensation damage during those additional days, for at least 17 hours per day. That is bound to have exacerbated the damage, particularly to the extent that it extended the period for which the Vessel was exposed to very low ambient temperatures and therefore to a large differential between the temperature of the Cargo in the holds and the ambient temperature.
230. It is not, however, possible to attribute any particular degree of damage or delay to this breach of contract. Probably most relevantly, it is not possible to say that, but for the breach, the Cargo would have arrived at Durban with any *lesser* degree of damage than the 6-12 inches of dry crust that I have found to be the likely outcome given proper ventilation during the actual Voyage.

(H) REINFESTATION

231. Following arrival at Durban, the Cargo was among other things found to have an infestation of weevils, requiring fumigation. Insect populations requiring further fumigation were detected on 13 August, on 23 September, and later in hold 3 at Richards Bay. Discharge at Richards Bay was delayed because of this reinfestation, as time was lost while fumigation took place.
232. Ameropa’s case is that the repeated re-infestations were the result of significant adult insect populations in cargo debris on deck, which entered the holds and thrived in the moist, warm atmosphere which the choice of route/failure to ventilate had produced. The Cargo was fumigated following loading, using a “J” circulation system, and kept under fumigation for 12 days thereafter. In Mr Rice’s opinion that would have been effective to eradicate all life stages of any insects present; and he considered the only plausible explanation for the infestations to be that adult stage insects were surviving in residues of grain debris on deck and then repopulated the holds.
233. I consider it unlikely that the initial fumigation at the load port was ineffective. This was a topic on which Mr Rice was well qualified to give a view, having extensive experience of fumigation, and having himself designed fumigation systems. The load

port fumigation used three times the recommended dose, and there is no suggestion of any defect in the fumigation process.

234. Captain Soomro suggested that the insects could have originated on shore, and flown onto the ship. The Cargo would have been exposed to the elements during the 102 days at Durban, and weevils are good flyers (according to Mr Zurcher, who assisted Captain Soomro in relation to parts of his evidence). It is notable, though, that Mr Zurcher did not claim to be an expert in infestation or fumigation issues. In addition, it would be surprising if there had been an influx of insects at both Durban and Richards Bay sufficient to warrant fumigation of the Vessel, particularly when there is no indication of any similar infestation on the other vessels discharging corn during the same period. There was also no evidence of a shore based source of infestation, and no evidence that the insects could and would fly out as far as the anchorage.
235. Alianca submits that it would be surprising if all of the following things occurred, namely (a) that cargo debris remained on deck after departure from Topolobampo, (b) that such debris contained adult-stage weevils, (c) that the crew did not sweep or clean the decks prior to departure from Topolobampo, (d) that such debris was not removed from deck by virtue of inclement weather and/or the relative wind speeds of about 30 knots experienced during the Voyage, and (e) that the weevils were capable (despite the relative wind speeds) of making their way into the cargo holds from the deck. Moreover, the evidence of the Chief Officer was that the decks would have been washed down after completion of loading at Topolobampo.
236. Alianca suggested that a theory advanced by Mr Rice that the weevils would have survived on deck following fumigations at Durban by existing in bags of damaged cargo that were kept on deck was unlikely: the crew and/or the authorities would be bound to have noticed and taken action. However, that point focussed on only part of Mr Rice's evidence. His main point was that following the discovery of insect infestation at Durban and fumigation of the holds, the vessel's decks should have been disinfested, but there was no evidence that that had been done or done properly. Insects may therefore have survived on deck and caused successive reinfestations. He said:

“In a situation such as this where a large proportion of the cargo has spoiled and there is a live infestation, had the shipowners sought proper expert advice, then together with the fumigation, they would have disinfested the areas outside of the cargo holds. That would have meant removing all of the cargo debris that was in bags or big bags or loosely piled on deck and then properly high pressure hosing down every inch of the topside areas. I am talking about the masts, the cranes, the deckhouses and the entire accommodation and then applying contact pesticides as necessary.”

Mr Rice added that it happened “*often enough*” that insects survived on deck after fumigation.

237. In my judgment, survival of insect populations on deck is the most likely explanation for the infestations in Durban and Richards Bay. The alternative explanations are less plausible for the reasons identified above. It is natural that there would have been grain residues on deck after loading. The Chief Officer's witness statement stated that it was

“*likely*” that additional cleaning of the decks was performed after loading, but he did not claim any actual recollection of the process. In cross-examination it emerged that he did remember sweeping, but did not recall the decks being washed. A monthly maintenance report indicates that there was “*deck and accommodation washing*” on 25 June but does not explain how the washing was conducted, where or of what (save for the “*deck*”) nor with what degree of care. As Mr. Rice said, it would have been necessary to clean thoroughly using a jet wash, “*getting into every nook and cranny and blasting out every last remnant of dust ...*”.

238. In addition, the Chief Officer said that damaged cargo was stored on deck, and he expressed the view that the Richards Bay reinfestation “*was likely to have been caused as a result of the damaged cargo remaining on the deck of the Vessel for a long period of time following the skimming and bagging operations at Durban*”.
239. On the basis of the evidence as a whole, I conclude that the infestations resulted, on the balance of probabilities, from inadequate cleaning of the topsides following loading and again following fumigation in Durban, and that the shipowner thereby breached its duty under Article III rule 2 properly and carefully to handle, keep and care for the cargo, and is not protected by rule 2(q) of Article IV.

(I) QUARANTINE

240. Ameropa submits in the alternative that the delay at Durban was within the scope of clause 23(3) and/or 46 of the Charterparty:

“23. Responsibilities and immunities

... (3) Save to the extent otherwise in this Charterparty expressly provided, neither party shall be responsible for any loss or damage or delay or failure in performance hereunder resulting from...quarantine...restraint of princes, rulers and peoples or any other event whatsoever which cannot be avoided or guarded against.

...

[Laytime at discharge]

46. ...

Any delays caused by ice, floods, quarantine or by cases of force majeure shall not count as laytime unless the Vessel is already on demurrage.”

241. Ameropa submits that the quarantine exception covers a temporary State prohibition on discharge, citing “*Voyage Charters*” §§ 85.307-85.317. Those paragraphs in fact relate to the exceptions in Article IV rule 2(g) and (h) (quoted earlier) to the liability of the carrier or the ship, but might reasonably be considered as relevant by way of analogy to charterparty provisions such as those quoted above relieving both parties of liability. The text relating to quarantine (§ 85.317) suggests that cases of quarantine restriction

will in practice always fall under the ‘restraint of princes’ exception anyway. Paragraph 85.308 indicates, citing *Finlay v Liverpool and Great Western Steamship Co* (1870) 23 LT 251, that the latter exception covers any forcible interference with the goods or the voyage by persons acting with governmental or quasi-governmental authority backed by force (including the explicit or implicit threat of force or the potential for the use of force), but does not apply to acts of persons not purporting to act legally or with governmental authority.

242. Ameropa makes two points as to how the quarantine principle applies here:

- i) The Cargo was in fact subject to quarantine, in that the authorities would not permit its discharge, and/or required it to be destroyed and/or returned to origin, and required to be persuaded that it could be discharged to receivers. Ameropa relies on the evidence of Mr. Patterson to the effect that the Cargo was to be rejected for import, and the authorities initially refused to permit discharge by reason of its condition and analysis results showing the presence of toxins. The lengthy process of skimming, sampling and testing was necessary in order to convince the authorities to permit the discharge of the Cargo. However, Ameropa says, the damage that led to the quarantine was caused by Alianca so this first point is unlikely to advance the argument.
- ii) If (contrary to Ameropa’s primary case) it were true that cargoes arriving at Durban were routinely sampled and tested, with a bar on discharge pending the test results, and that that would have happened regardless of damage, then such a regime would amount to a quarantine for the period of the bar.

243. Alianca submits that:

- i) The plain meaning of the word “*quarantine*” is to place a person or animal in isolation due to a concern that they have been exposed to infectious and/or contagious disease.
- ii) The South African authorities never isolated the Cargo in that sense, and no quarantine order or notice was ever issued. On the contrary, the authorities permitted the skimming of unsound cargo, its discharge in bags, and movement of the vessel to and from the berth.
- iii) There is no evidence that the Durban authorities purported to act under governmental or similar powers.
- iv) Even if any of the cargo had been quarantined, there is also no evidence that any delays in this case were attributable to such quarantine.
- v) In any event, the true and proximate cause of the delays at Durban is the fact the Cargo arrived damaged and not because of any “*quarantine*”. Therefore, neither clause 23(3) nor 46 is engaged.

244. In my view the events that occurred in Durban do not fall within the natural meaning of “*quarantine*”, because of the absence of any real isolation of the Cargo, or any part of it, or of the Vessel or its crew. Ameropa has not pleaded or sought to advance a case under the potentially wider ‘restraint of princes’ limb of clause 23(3), and it is not

therefore necessary to consider whether that provision might have been engaged. Whilst cases of quarantine may well also fall also involve ‘restraint of princes’, the converse is not necessarily true. I therefore do not accept Ameropa’s submissions under this heading.

(J) CAUSES OF THE DELAYS IN DISCHARGING

245. The actual course of events following the Vessel’s arrival at Durban and then at Richard’s Bay is outlined in §§ 31-32 above.
246. Ameropa contends that all of the delay experienced at Durban and Richards Bay was the result of the condensation damage to the Cargo. The damage resulted in the local authorities prohibiting discharge, and necessitated Ameropa’s actions to deal with the damage, respond to the situation and facilitate discharge (taken in mitigation of the loss and damage caused by Alianca’s breach of the charterparty). Ameropa notes that Alianca does not challenge the reasonableness of Ameropa’s conduct in responding to the damage at Durban and/or Richards Bay, nor make any suggestion that discharge could or should have been effected more quickly than was in fact the case. Even to the extent that delay was caused by the Vessel having been ordered off the berth to accommodate other vessels, or the intervention of bad weather, those problems would not have been encountered but for the cargo damage because the Vessel would have discharged promptly on arrival.
247. If the Vessel had arrived at Durban with cargo damage limited to 6-12 inches of dry crust at the top of each hold, then there would have been a need for that top layer to be skimmed off. A comparator of sorts is provided by the “*Sbi Hera*”, which I mention in § 207 above. In that case:
- i) the vessel arrived on 31 August 2016 with a cargo of 47,250 mt of corn and berthed at 08.12;
 - ii) when the hatches were opened on 31 August, it was noted that there was mould damage to the top of the cargo;
 - iii) 282mt of corn was skimmed off;
 - iv) discharge commenced at 14.15 on 31st and was completed at 10.50 on 7 September;
 - v) there was no delay while samples were taken/analysed, and discharge progressed at the rate of over 6,750 mt per day.
248. In the cases of the other vessels referred to earlier, the surveyors’ reports in evidence indicate that:
- i) The “*Delphi Ranger*” arrived on 16 July with 48,000 mt of corn; mouldy/caked corn was detected on the surface of the stows, and discharge was underway on 17 July and completed by 21 July.

- ii) The “*Virginia*” arrived at Durban on 16 August, and mouldy maize was found; the general view of the authorities was that discharge would not be permitted but discharge from less affected holds was allowed on 18 August. It was only discharge from the badly affected holds that was not permitted until skimming had been performed.
 - iii) The “*Carlota Bolten*” arrived on 22 August with 16,000mt of maize; surveyors attended on 23 August when discharge was already underway, notwithstanding that some wet, compacted, caked and mouldy cargo was found.
249. Alianca submitted, in reliance on evidence given by Mr Patterson, that at the relevant time the port authorities in Durban would not allow any discharge of cargo (even if visually sound) until sampling test results were received, which took about 7 days. That was not a point Mr Patterson had made in his reports or witness statement. However, in the course of cross-examination he said that, in addition to requiring samples of damaged cargos, the Durban port authorities would not allow, as a matter of standard procedure, the discharge of any cargo, even had the vessel arrived with visually sound cargo, because the same procedure would be followed, namely extraction of samples and analysis ‘regardless’.
250. Mr Rice gave evidence that in his experience the authorities in South Africa routinely sample all grain cargos, but that that does not prevent discharge from commencing. The samples are taken by superintendents at the time of opening of the hatch covers, and discharge then gets under way. The present case was different because the Cargo was severely and very extensively damaged. Days had to be spent digging out damaged cargo to reach the apparently sound grain, after which the authorities would then not allow discharge until test results had been received on that grain. Mr Rice inferred that Mr Patterson must have been referring the present cases of damaged cargos, because it was not the case that all grain cargos in South Africa are routinely delayed for a week in order for samples to be tested. Mr Rice accepted that Mr Patterson was more experienced than he was in dealing with the Durban authorities, but nevertheless was clear that there was, in his experience and understanding, no such standard period of delay.
251. I do not accept that there was a standard practice in Durban (or South Africa more generally) at the relevant time of delaying as matter of course the discharge of apparently sound grain cargos while samples were taken and tested, a process which it appears would take about a week. Had there been such a practice, I would have expected to see clear reference to it in one of Mr Patterson’s reports in relation to the Vessel, his witness statement, or the reports of Mr Patterson and other firms in relation the other grain-carrying vessels which arrived in Durban in the same period. The Vessel was the second to arrive, having been preceded by the arrival of the “*Delphi Ranger*” on 17 July with damaged cargo. There is no indication that discharge of that vessel’s cargo was delayed in order for sample test result to be obtained. If there was a change of practice, it seems likely to have arisen as a result of the severely damaged state in which the Cargo on the Vessel in fact arrived at the beginning of August. However, had the Vessel arrived at Durban with a visually sound cargo apart from 6-12 inches of dry crust on the top of the stow, on the balance of probabilities I conclude that its discharge would not have been delayed for sample tests result to be obtained.

252. The question therefore is how quickly the cargo would have been discharged taking into account the need to skim off 6-12 inches of crust from the top of each hold. In that regard, I do not consider the rate of actual discharge of the Cargo to provide a good guide. It had arrived in an extremely poor state, and Mr Patterson referred in his witness statement to the continued degradation of the cargo having given rise to a recurring need for the vessel to leave her berth for skimming operations to be carried out. The process was also slowed for part of the period by the Vessel having to use a standby berth outside the Agriport terminal, where a lower discharge rate would be expected. The Agriport terminal guaranteed a discharge rate of 5000 mt a day, and Mr Patterson said assuming no delays arising from sampling or bad weather one would have expected discharge at Durban to be accomplished in 5 days or so.
253. The discharge rate actually achieved by the *Hera* of about 6,750 mt a day was greater than the guaranteed rate at the Agriport Terminal in Durban of 5,000 mt referred to by Mr Patterson (who also indicated that a greater rate was achievable). It appears that the skimming in that case took place on the day of arrival, 31 August, and before discharge i.e. before 14.15 hours.
254. Even allowing for the possibility that skimming off 6-12 inches of dry crust might have taken slightly longer than the skimming of the *Hera* cargo, I consider it reasonable to assume that discharge of the present Cargo, with skimming taking place in parallel, could have proceeded at the rate of something approaching 5,000 mt a day. I take into account that fact that Mr Rice accepted in cross-examination that had the Vessel taken the Panama Canal route and up to 100mt had to be skimmed off, then the skimming process could possibly have taken over 4 days even assuming very vigorous work. However, it is notable that even with a need to skim off 282 mt, the *Hera* achieved a discharge rate of around 6,750mt a day. In all the circumstances, I consider the most reasonable assumption to be that the Cargo would have been discharged at Durban at an average rate of 4,000 mt a day.
255. 33,791 mt was discharged at Durban, which on the basis indicated above would have taken 8.5 days. I understand Ameropa to have accepted in argument that after tendering notice of readiness at Durban, it took the Vessel 37 hours to arrive at berth, so that only 4 days 20 hours (4.8 days) of laytime remained. On that footing, a discharge process lasting 8.5 days would have resulted in the Vessel exceeding its 6.4 days laytime at Durban by 3.7 days.
256. That left about 10,311 mt to be discharged at Richards Bay. The actual discharge process at Richards Bay was delayed by the need for fumigation. The Cargo was cleared for discharge on the morning of 17 November, and completed on the morning of 21 November. 10,287 mt of sound cargo was discharged at Richards Bay over about 3.5 days, a rate of just under the contractual rate of 3000mt a day for discharge at Richards Bay. Mr Patterson's witness statement indicates that as and when small quantities of discoloured/mouldy maize were discovered, these were removed by hand. This is likely to have slowed the process; moreover, it is unlikely to have been necessary had the Cargo arrived at Durban with damage limited to 6-12 inches of dry surface crust which would have been skimmed off in Durban. In those circumstances, I consider it reasonable to assume that the remaining Cargo could have been discharged at Richards Bay at an average rate of at least the contractual rate of 3,000 mt a day, a process which would have taken approximately 3.4 days. Even discharge at the actual rate achieved,

taking 3.5 days, would have been within the laytime at Richards Bay of 3.68 days but for the need for fumigation.

(K) SUMMARY OF CONCLUSIONS

257. My overall conclusions may be briefly summarised as follows:

- i) Alianca was not in breach of the Charterparty by taking the Cape Horn route to Durban.
- ii) The Vessel did not proceed to Durban in accordance with her warranted speed, though it is not possible to identify any particular element of damage or loss caused by that breach.
- iii) The Cargo was not properly and carefully ventilated in accordance with a sound system, in breach of Alianca's duties properly to care for the Cargo.
- iv) That breach was the cause of damage to the Cargo, which but for the breach would on balance of probabilities have arrived with damage limited to 6-12 inches of dried crust on the top of each stow. That in turn was the cause of the long delays in discharging at Durban.
- v) Alianca was also in breach of its duties properly to care for the Cargo by failing properly to disinfect the Vessel's topsides, that being on the balance of probabilities the likely cause of the insect infestations encountered at Durban and Richards Bay. The latter infestation was the cause of delay in discharging at Richards Bay.
- vi) But for Alianca's breaches, the discharge process at Durban would, on the balance of probabilities, have been completed within 8.5 days (3.7 days in excess of the remaining laytime after the Vessel's actual arrival at berth) and the discharge process at Richards Bay would, on the balance of probabilities, have been completed within the laytime of 3.68 days.
- vii) The South African authorities did not quarantine the Cargo within the meaning of clauses 23(3) and/or 46 of the Charterparty.

258. I shall hear counsel on the appropriate form of order consequent on my findings.

259. I am grateful to the legal teams on both sides for the clear and thorough way in which their respective cases have been presented.