Case No: AD-2013-000175

Neutral Citation Number: [2016] EWHC 2412 (Admlty)
IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
ADMIRALTY COURT
SITTING AT THE CROWN COURT IN TRURO

Royal Courts of Justice
Rolls Building, 7 Rolls Buildings
Fetter Lane, London EC4A 1NL

Date: 11/10/2016

Before :

MR. JUSTICE TEARE

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Between :

(1) KAIROS SHIPPING LTD

(2) THE STANDARD CLUB EUROPE LTD

Claimants

- and -

(1) ENKA & CO LLC

(2) ALL OTHER PERSONS CLAIMING OR BEING ENTITELD TO CLAIM DAMAGES BY REASON OF THE FIRE ON BOARD THE M/V ATLANTIK CONFIDENCE ON OR AROUND 30 MARCH 2013 AND/OR THE SUBSEQUENT LOSS OF THE M/V ATLANTIK CONFIDENCE OFF MASIRAH ISLAND, OMAN, ON OR AROUND 3 APRIL 2013

(3) AXA INSURANCE (GULF) BSC

Defendants

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Robert Thomas QC, Thomas Macey-Dare and Koye Akoni (instructed by **Clyde & Co. LLP**) for the **Claimants**
Nigel Jacobs QC and Ruth Hosking (instructed by **Holman Fenwick Willan LLP**) for the **Third Defendant**

Hearing dates: April 11-14, 18-21, 25-28, May 3-5, 9-12, 16-17, 23-25, 27 and July 7-8, 12-13 2016 and further written submissions on 15 and 27 July 2016, 10 and 25 August 2016 and 23 September 2016

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Judgment

Mr. Justice Teare :

Introduction

1. On 30 March 2013 ATLANTIK CONFIDENCE, a geared bulk carrier, was in the Gulf of Aden in the course of a laden voyage from the Ukraine to Oman, via Turkey. She had loaded three cargoes of steel products in Oktyabrsk and Odessa (both in the Ukraine) and in Gemlik (in Turkey). At about 0530 (local time, or 0130 UTC) a fire alarm sounded indicating a fire in the unmanned engine room. Fire fighting took place consisting of boundary cooling and injection of CO2 into the engine room. Shortly afterwards the vessel was observed to be listing to port and her master and crew abandoned her into two lifeboats. They were taken on board by a passing merchant ship. Over the next four days the vessel continued to take on water until she sank on 3 April at 1055 (local time).

2. The First Claimants, Kairos Shipping, the Owners of the vessel, have issued proceedings in the Admiralty Court seeking a limitation decree, that is, a declaration that the liability of Kairos for losses arising out of the sinking of the vessel is limited pursuant to the provisions of the Limitation Convention 1976.

3. The cargo laden on board in Turkey, which was to be used in the building of a passenger terminal at Muscat International Airport, was insured by the Third Defendant, Axa Insurance (Gulf) BSC ("Axa"). Axa has been subrogated to the claim of the owners of the cargo against Kairos. Axa's claim is in the sum of about Euros 10.2m (excluding interest) and Kairos' limit of liability under the Convention is of the order of £7.3m plus interest. Axa is only one of several claimants and so, if Kairos is entitled to limit, Axa will only be entitled to its proportionate share of the limitation fund. I am told that the difference between Axa's claim and its share of the limitation fund justifies the cost of these proceedings.

4. In this judgment I shall refer to Kairos as the Owners and to Axa as Cargo.

5. A shipowner is entitled to limit his liability unless it is proved that the loss resulted from his personal act or omission, committed with the intent to cause such loss, or recklessly and with knowledge that such loss would probably result; see Article 4 of the Limitation Convention. The burden of proving such conduct lies upon the person challenging the right to limit, in this case, Cargo. That burden was described by Sheen J. in *The Bowbelle* [1990] 1 WLR 1330 as a "very heavy burden", which description has been approved by the Court of Appeal in *The Leerort* [2001] 2 Lloyd's Rep 291 and by the Privy Council in *The Cape Bari* [2016] UKPC 20. The burden is "very heavy" because of the nature of the conduct which must be proved to break the right to limit. It was described by Lord Clarke in *The Cape Bari* at paragraph 14 as "a high hurdle to jump". Cargo seeks to jump that hurdle in the present case, and thereby break the right to limit, by alleging that the Owners scuttled the vessel. It is said that the fire was deliberately started and that the sinking was carried out upon the instruction of the *alter ego* of the Owners, Mr. Ahmet Ali Agaoglu, the sole shareholder and director. If that case is proved then it is said that the loss suffered by Cargo resulted from the personal act or omission of the Owners committed with the intent to cause such loss.

The burden and standard of proof

6. It is common ground that Cargo must prove its case on the balance of probabilities and that in determining whether Cargo has discharged that burden the court's approach should be the same as it is when a shipowner makes a claim on a hull insurance policy and the insurer alleges that the ship was scuttled. The two situations are not identical; for example, the shipowner claiming on his hull insurance policy must prove that the loss was caused by an insured peril whereas the shipowner claiming a right to limit bears no such burden of proof. But I accept that in determining whether Cargo has proved on the balance of probabilities that the vessel was scuttled in a limitation action the court should follow the same approach as it does when determining whether a hull underwriter has proved on the balance of probabilities that a vessel was scuttled.

7. That approach was summarised by Aikens J. in *Brownsville Holdings Ltd v Adamjee Insurance Co. (The Milasan)* [2000] 2 Lloyd's Reports 458 at paragraph 28 as follows:

> "(4) if a defendant insurer is to succeed on an allegation that a vessel was deliberately cast away with the connivance of the owner, then the insurer must prove both aspects on a balance of probabilities. However as such allegations amount to an accusation of fraudulent and criminal conduct on the part of the owner, then the standard of proof that the insurer must attain to satisfy the Court that its allegations are proved must be commensurate with the seriousness of the charge laid. Effectively the standard will fall not far short of the rigorous criminal standard;

(5) although there is no "presumption of innocence" of the Owners, due weight must be given to the consideration that scuttling a ship would be fraudulent and criminal behaviour by the Owners;

(6) when deciding whether the allegation of scuttling with the connivance of the Owners is proved, the Court must consider all the relevant facts and take the story as a whole. By the very nature of these cases it is usually not possible for insurers to obtain any direct evidence that a vessel was wilfully cast away by her owners, so that the Court is entitled to consider all the relevant indirect or circumstantial evidence in reaching a decision;

(7) it is unlikely that all relevant facts will be uncovered in the course of investigations. Therefore it will not be fatal to the insurers' case that "parts of the canvas remain unlighted or blank" (see *Michalos and Sons v Prudential Insurance (The Zinovia)* [1984] 2 Lloyd's Rep 264 at p.273 per Bingham J.);

(8) ultimately the issue for the Court is whether the facts proved against the Owners are sufficiently unambiguous to conclude that they were complicit in the casting away of the vessel;

(9) in such circumstances the fact that an owner was previously of good reputation and respectable will not save him from an adverse judgment;

(10) the insurers do not have to prove a motive if the facts are sufficiently unambiguously against the Owners. But if there is a motive for dishonesty then it may assist in determining whether there has been dishonesty in fact."

8. ATLANTIK CONFIDENCE sank in deep water. The wreck has not been inspected with a view to determining the cause of the fire or the cause of the sinking. The available evidence as to mechanism is therefore limited and consists of surveys of the vessel prior to the final voyage, the observations of the fire by the chief engineer and second engineer and photographs of the vessel taken after the vessel had been abandoned and before she sank. In such circumstances it is inevitable that Cargo will be unable to give a full and complete account of the alleged scuttling (and unsurprising if the account changes as the litigation proceeds). That need not be fatal

to Cargo's case so long as, after examining all of the evidence, the court is able to infer that the vessel was scuttled on the instructions of Mr. Agaoglu. In deciding whether the court is able to draw such inference the court must keep well in mind that it is possible, especially where the evidence is limited, that the case may be one where Cargo is unable to establish its case with the result that the cause of the loss remains in doubt and the court is unable to make a finding as to the cause of the loss; see *The Popi M* [1985] 2 Ll. L. Rep. 1 at pp.3-6.

9. The court will only be able to draw such inference when the case is established on the balance of probabilities. Shipowners do not generally resort to scuttling and an allegation that a shipowner has done so is a grave charge to make. Thus, as Aikens J. said in *The Milasan*, "effectively the standard of proof will fall not far short of the criminal standard". Precisely what that means and how the court determines whether the charge of scuttling has been proved on the balance of probabilities has been elucidated in the cases, in particular by the Court of Appeal in *National Justice Compania Naviera SA v Prudential Assurance (The Ikarian Reefer)* [1995] 1 Lloyd's Rep. 455. Thus, if Cargo is unable to exclude "a substantial as opposed to a fanciful or remote possibility that the loss was accidental" the court will be unable to draw the inference. But "the mere existence of an opposing possibility does not prevent the balance from tilting heavily and sufficiently far in favour of the insurers" (see p.459 rhc). To the same effect is the following later passage, "there must be a real or plausible explanation which is supported by the evidence, or at the least is not inconsistent with it……..It imposes too high a burden on the underwriters to say that such witnesses must be telling the truth unless the underwriters prove their accounts are impossible" (see p. 484 lhc). In *Strive Shipping v Hellenic Mutual War Risks Association (The Grecia Express)* [2002] 2 Lloyd's Rep. 88 at pp. 97-99 Colman J. concluded that it must be "highly improbable" that the vessel was lost accidentally and that there must be derived from the whole of the evidence "a high level of confidence that the allegation is true." As Aikens J. said in *The Milasan*, the facts proved against the owner must be "sufficiently unambiguous" to establish that the owner was complicit in the casting away of his vessel.

10. It is inevitable that when the court narrates the evidence and comments on it the court concentrates upon parts only of the evidence. This is inevitable and there can be no objection to doing so, so long as the court's ultimate findings are based upon a consideration of the evidence as a whole; see *The Filiatra Legacy* [1991] 2 Lloyd's Reports 337 at pp.365-6.

<u>The witnesses of fact</u>

11. Cargo's case is that those involved in the conspiracy to scuttle the vessel were the master and chief engineer and, in the office, Mr. Agaoglu, Captain Toran, the chief executive officer or fleet manager of the Owners, and Captains Taner and Mahmut, two deck superintendents. They, and other witnesses of fact called by the Owners, were Turkish. Some gave their evidence in English, such as the master and Captain Toran, using the interpreter when necessary. Others gave their evidence through an interpreter, such as Mr. Agaoglu and the chief engineer. The alleged conspirators all denied the serious allegations put to them. Determining whether they were telling the truth or lying depends upon a consideration of all the evidence in the case. There are several reasons for that. First, a fact-finding judge can gain little from the demeanour of a witness when the witness is foreign, comes from a different culture and does not

give evidence in his first language or does so through an interpreter; see *The Business of Judging* by Tom Bingham at p.11. In *The Ikarian Reefer* at p.484 lhc para. (4) Stuart-Smith LJ said that "most experienced judges recognise that it is not easy to tell whether a witness is telling the truth, particularly if the evidence is given through an interpreter." Second, in all cases, but especially in those cases where scuttling is alleged, the assessment of the reliability of a witness depends, not only upon a consideration of the extent to which his evidence is consistent with what is not in dispute, is internally consistent and is consistent with what the witness has said on other occasions but also upon a consideration of the extent to which his evidence is consistent with the probabilities. That involves placing the evidence in the context of the case as a whole. As was said in *The Ikarian Reefer* at p.484 lhc para. (4) the evidence of those impugned "has to be tested in the light of the probabilities and the evidence as a whole". Third, other aspects of the evidence will or may have a bearing upon whether their evidence is true. For example, if no real or substantial explanation can be put forward to explain an accidental loss of the vessel, that will or may have a bearing upon whether factual evidence that the loss was accidental is true; see the approach of the Court of Appeal in *The Ikarian Reefer* at p.484 lhc para. (3) to the issues in that case.

12. I shall therefore make only brief comments on the demeanour of the witnesses but shall, where appropriate, comment on certain aspects of their evidence which are relevant to their credibility. Whether their evidence as to not being involved in the alleged scuttling of the vessel is true can only be determined after all the evidence has been considered and their evidence has been placed in the context of the case as a whole.

<u>The owner, Mr.Agaoglu</u>

13. He gave his evidence patiently and politely, notwithstanding that he appeared to regard parts of the cross-examination as unnecessarily repetitive, that he thought some of the questions should have been put to others and that he said he required the assistance of an accountant to answer some of the questions. He denied the serious allegations put to him "vehemently".

14. There were several respects in which his credibility was challenged during his cross-examination.

15. First, reference was made to the accounts of the Owners which Mr. Agaoglu had approved. Thus the accounts recorded that Mr. Agaoglu had contributed US$3.5m to the share capital of the Owners. There was no documentary evidence that he had done so and the document provided by the Owners' solicitors as evidence of such a contribution was in fact evidence that the Owners' Netherlands based bank Credit Europe Bank ("CEB") had lent $3.5 million to the Owners in 2011. In fact, a document (disclosed very shortly before the trial) recorded that Mr. Agaoglu had actually provided capital of only US$2,000. Also, the accounts recorded that the "cost" of the vessel was US$19.8m. when in fact it was US$15m. He referred in his third statement to a valuation of the vessel in the sum of US$18.5m. but that valuation is undated (and Captain Toran in his disclosure statement said that no vessel valuations had been obtained between 1 January 2010 and 31 December 2013) and is any event not in the figure of US$19.8m. There was no evidence from the company's auditors as to the provenance of this figure. The fact that these two misrepresentations

in the Owners' audited accounts had been approved by Mr. Agaoglu suggested that he was prepared to make statements in important documents which were not true.

16. Second, in his witness statement he said that all the hull insurance proceeds of US$22m went directly to CEB and that neither he nor the Owners received any of the proceeds. He said that whilst there may have been some marginal reduction of the borrowings due from Capella (another company in the same group which owned the vessel ATLANTIK GLORY), the remainder of the fleet received no benefit. However, it appears from the analysis carried out by Mr. King of Moore Stephens LLP (which was not challenged by any accountant's report commissioned by the Owners) that that was not so. In fact, whilst Kairos used the greater part of some US$20.29m. paid by the brokers Willis to discharge part of its indebtedness to CEB (and Capella used the US$1.6m. paid by the brokers Willis to discharge part of its indebtedness to CEB) some of the insurance proceeds, approximately US$4.56m., were transferred by Kairos to other companies within the group, including the owners of ATLANTIK GLORY, ATLANTIK MIRACLE and ATLANTIK PRIDE. Of that sum of US$4.56m. some US$1.5m. consisted of unidentified transfers. Mr. Agaoglu accepted that his witness statement was not accurate in this regard but he maintained that it was not a lie. However, I found it very difficult to accept that Mr. Agaoglu did not know that US$4.56m. of the proceeds had been used for the benefit of other owning companies within the Atlantik group when he made his statement.

17. Third, other aspects of his evidence did not suggest that he was a reliable witness. He was reluctant to accept that a loan from CEB of some $437,000 had been required to pay for the dry docking in January and February 2013 when he had said in his statement that the Owners had paid for the dry docking "with the full support of CEB" which, when asked, he accepted meant that the Bank had lent that sum of money. He also said that he was unaware that the loan agreement with CEB required an asset/loan ratio of 130%. It is improbable that he was unaware of that. His difficulty in accepting that if the market value of the vessel had been used in the company's accounts the company would have been "balance sheet insolvent" suggested that he was unwilling to accept matters which were obvious. For example, the audited accounts showed that Kairos had net assets of US$2.38m. at the end of December 2012 whereas when the market value of ATLANTIK CONFIDENCE was taken into account Kairos had net liabilities of over US$9m.

18. Fourth, his repeated response to questions about the accounts was that if they were to be pursued he would wish to instruct an accountant to consider them or that the questions should be put to his accountant. These responses were, it seemed to me, hollow in circumstances where the Owners had had permission to adduce evidence from an accountant but had chosen not to adduce such evidence, thereby leaving the evidence of Cargo's accountant effectively unchallenged on matters of accounting.

19. In the result, although Mr. Agaoglu protested more than once in his cross-examination that he was telling the truth, I concluded at the end of his evidence and after reflecting upon it, that I should approach his evidence with caution. He appeared willing to hide the truth.

<u>Captain Toran, the CEO or fleet manager of the Owners</u>

20. He had an easy manner when giving evidence. He appeared careful to make clear what he knew to be the case and what he regarded as probable. He denied clearly and firmly the allegations put to him that he was party to the conspiracy to scuttle the vessel.

21. In addition to being a witness in the case Captain Toran had made statements concerning disclosure by the Owners. There does not now appear to be any dispute that, although a considerable amount of material was disclosed, the disclosure process was not conducted in an appropriate manner. Large amounts of documentation were produced just before the trial and during the trial. Mr. Robert Thomas QC, in his closing submissions on behalf of the Owners, apologised to the court for the most unsatisfactory way in which disclosure was handled. Some aspects of the unsatisfactory disclosure were not, I was told, the fault of Captain Toran. For instance, although the Owners disclosed the vessel's technical plans to their solicitors Clyde and Co., the latter provided the plans to their experts but only disclosed to Cargo such plans as their experts suggested should be disclosed. The result was that Cargo's experts did not have the plans which the Owners' experts had and saw some of them for the first time when cross-examined. That was unfair; but it was not the responsibility of Captain Toran. However, when Cargo's solicitors Holman Fenwick Willan LLP ("HFW") sought better copies of certain plans (poor copies having been supplied) Captain Toran said that no better copies were available. Had he checked what had been provided and compared that with the plans supplied to Clyde and Co. he would have seen that better copies were available. This first became apparent during the trial and was confirmed after the trial when Clyde and Co. supplied HFW with a full set of the plans which had been received from the Owners. Moreover, there are two further aspects of the unsatisfactory disclosure which were his responsibility. The first was the financial disclosure and the second was the photographic disclosure. I shall deal with the former when dealing with the question of Motive. The latter I shall deal with now.

22. The photographs were the most important evidence for the naval architects to study in forming their views as to the compartments which had flooded and in what sequence. This was observed by HFW when making an application for specific disclosure of the photographic metadata in March 2015. Captain Toran replied in his disclosure statement dated 14 May 2015 that "electronic copies of all photographs in the [Owners'] possession have been provided to HFW on 14 January 2015. Therefore, HFW have just as much access to the metadata as we have." Notwithstanding this response, during the trial and following the electrician's evidence, the Owners disclosed the metadata for the electrician's photographs. This disclosure, on 22 April 2016, after Day 8 of the trial, required the naval architects to reconsider their work. Other "photographic" developments during the trial included (a) the evidence of Captain Taner (one of the superintendents who went to the vessel after she had been abandoned and before she sank) that he had taken photographs on 2 April 2013 when no photographs for that date had been identified at that time and (b) the evidence of Mr. Uzun (the Owners' insurance broker) that photographs which had been disclosed as having been taken by the Omani coastguard had in fact been taken by a private company. Captain Toran was asked during his cross-examination to explain why the metadata from the electrician's photographs had only been produced a few days earlier. He replied that he had not known what metadata was and had discovered from the internet that it was the date of the photograph. He said that it was very hard to

collect all the metadata and so he had put all the photographs into one file (I assume an electronic file) which he sent to Clyde and Co. in 2013. Then, the week before he gave evidence, he said he had done the same again. He was asked again why the metadata from the electrician's photographs had only been provided the week before. He replied that counsel would have to explain what is meant by metadata.

23. In view of the fact that Captain Toran had answered the request for metadata in April 2015 he must have known what metadata was. If he did not I have no doubt that Clyde and Co. would have explained it to him. Since the metadata for the electrician's photographs was not supplied to Clyde and Co. in 2013 but was supplied to Clyde and Co. in 2016 during the trial I can only infer that Captain Toran in fact supplied to Clyde and Co. during the trial electronic data which he had not previously supplied. The electrician had given evidence that he had supplied his photographs to the Owners on a memory stick. Whether that memory stick was located I do not know. It would appear that Captain Toran did not give a full and frank explanation as to why the metadata for the electrician's photographs was only supplied during the trial after the electrician had given evidence. Mr. Thomas' closing submissions at paragraphs 352-361 contain no such explanation.

24. Captain Toran was also a witness of fact and his account in his witness statement of the circumstances in which the master vessel altered course in the Gulf of Aden prior to the sinking was incomplete and inconsistent with the contemporary documents. He stated that he had passed on to the master a piracy warning on 28 March 2013 and said that the route the master had decided to take was not unusual. He made no reference to the fact that the Owners had in fact instructed the master what route to take on 25 March 2013. Captain Toran's account of the circumstances in which the master changed course appeared calculated to hide the role of the office in instructing the master to alter course.

25. Captain Toran's unsatisfactory evidence regarding disclosure of the photographic metadata and the circumstances in which the master altered course does not mean that he cannot have been telling the truth when he denied being part of a conspiracy to scuttle the vessel but it does mean that I must treat his evidence, like Mr. Agaoglu's evidence, with caution.

<u>The master, Mehmet Emin Onal</u>

26. He had a pleasant manner and appeared to me to be relaxed during his cross-examination. He denied that he had been instructed to scuttle the vessel and said that he did not do so.

27. However, with one or two exceptions he was unable to give much evidence because, he said, he had no recollection of the matters about which he had been asked. No doubt this was true in relation to some of the matters about which he was asked but it surprised me that he had no recollection of whether or not he had made a report about the casualty to his owners. The master had suffered the loss of a vessel under his command. One would expect that a master in such circumstances would have wished to make a full report to his owners about the loss, not merely to comply with the Owners' Fleet Instruction Manual, but to explain to those who had entrusted him, a skilled and experienced master mariner, with the care of a valuable asset and its crew, that the cause of the loss was not his fault and that he had done all he could do to

prevent it. One would expect him to have a clear recollection either of having made a full report to his owners or, if for some reason he did not make such a report, of the fact that he did not do so and the reason for not doing so. The fact that he maintained that he could not remember whether he had made a report to his owners about what must be the worst event that can befall a master mariner, caused me to suspect that he might not be a reliable witness.

28. Like Captain Toran the master made no mention in his first or second statements of the fact that he had changed the vessel's route shortly before the sinking on the Owners' instruction. That suggested that he was seeking to hide the Owners' involvement in the events leading up to the sinking.

29. He was willing to sign clean bills of lading when the cargo had not been loaded in good order and condition. He explained that the mates' receipts had been claused and that the bill of lading was merely a "commercial" matter, "the price will change if there is such remarks in the bill of lading". Although this is a practice in the shipping business it does involve the making of statement which is known to be untrue. He was also willing to hide the fact that he had armed guards on board the vessel from the Suez Canal authority (and others). His conduct in this regard indicated that he was willing to state matters which were not true on behalf of his owners.

30. Of course, it does not follow that his evidence about the loss of the vessel was untrue (that must depend upon an assessment of all the evidence in the case) but all of these matters persuaded me that I must also approach his evidence with caution.

The chief engineer, Ahmet Altun

31. Unlike the master he did not appear relaxed when cross-examined and appeared to show signs of nervousness and irritation when allegations of deliberate misconduct were put to him. Save for certain topics, such as what he did to the main engine after the outbreak of fire, he was firm and clear in his replies, though they tended to become longer and more repetitive as the cross-examination progressed.

32. What was striking about his evidence was the fact that he said that his first statement, taken on 3 April 2013 and signed on 25 April 2013, was in error in a number of respects, for example, with regard to his actions when he went into the engine control room after the outbreak of fire and with regard to whether or not he went up to the bridge to inform the master of a risk of explosion from a diesel oil tank. His explanation for these (and other suggested errors) was that his first and second statements had been written in English which he did not understand and had not been translated for him. He said in his oral evidence that he had written a manuscript statement of the events for his own purposes before he gave his second statement which was dated 19 November 2014. In his third witness statement dated 7 April 2016 he had said that he had prepared the manuscript statement in April 2013 and in re-examination he suggested that it might have been written shortly after his first statement. The existence of this manuscript statement was only revealed in his third statement dated 7 April 2016. He did not refer to it in his second statement.

33. The statement taken on 3 April 2013 and signed on 25 April 2013 was the chief engineer's first account of the circumstances surrounding the loss of the vessel. I am doubtful that he did not sufficiently understand English to understand what he had

said in his statement. He was interviewed by representatives of Clyde and Co. and of Norton Rose. Before the interviews Norton Rose had asked whether the crew spoke English and had been informed that the master and officers should be fluent. Mr. Nigel Jacobs QC, on behalf of Cargo, submitted that Clyde and Co. and Norton Rose would not have allowed a witness to make and sign a statement in a language which he did not understand when they interviewed him face to face. Certainly, one would not expect them to do so. The second statement, also in English, was expressly for the purpose of clarifying the first statement and yet did not suggest that he did not understand English or that he had not understood his first statement. The suggestion that it had not been translated for him was made for the first time in the chief engineer's third statement dated 7 April 2016. I consider it more likely than not that the chief engineer had a sufficient understanding of English to understand what he had said in his first statement.

34. I am also surprised that in circumstances where the vessel had suffered a fire in the engine room and was later lost the chief engineer did not take more care to ensure that the statement he signed on 25 April 2013 was accurate. I would have expected him to have wished to check that the statement he signed on 25 April 2013 accurately stated what he intended to say about the circumstances of the loss of the vessel on which he had served as chief engineer and on which there had been a fire in the engine room. It was after all, at that date, his only account of those circumstances. I am also surprised that if he had written his manuscript statement before he made his second statement in November 2014 he did not provide the Owners or their solicitors with his manuscript statement when making his second statement. If, as he said in re-examination, he prepared it shortly after making his first statement I would have expected him to have provided it to the Owners without delay, particularly if his first statement had not been translated for him.

35. It therefore seemed to me appropriate to treat his evidence also with caution.

36. Three other members of the crew gave oral evidence, the chief officer, the third engineer and the electrician. They were not alleged to have taken part in the scuttling of the vessel.

<u>The chief officer, Ethem Haluk Solakoglu</u>

37. He gave his evidence quietly and, with regard to the events on board the vessel following the outbreak of fire, with confidence. For example he was clear in his evidence that when he was asked to check the draft gauges by the master they were all at zero and that he concluded that they were not working.

38. By contrast, when asked about the usual operation of the ballast system, he was hesitant, often referring to his statements. Thus, with respect to whether it was his practice to keep the hydraulic power pack (which operated the ballast valves) powered up during a voyage he was vague. In his supplementary statement he had said that the power pack was left on standby whilst the vessel was at sea. When asked why this was done, given that no ballast operations would ordinarily be required at sea, he was unable to give any answer, save to refer to his statement. The explanation for this was probably that this voyage was the only time he had served on the vessel and, as he said in re-examination, he had not come across this particular ballast system before. In the result I did not find his written evidence as to the operation of system convincing.

It appeared probable that his written account of the operation of the system had been suggested to him.

The third engineer, Serkan Maral

39. He is a young man who gave every appearance of being a witness who wished to give such assistance to the court as he properly could.

40. There was only one matter in respect of which his evidence was challenged. That related to the question whether the hydraulic power pack was kept on standby. He had said in his second statement that it was but he accepted that ballasting was not part of his responsibilities and that he could not recall whether it was kept on standby or not. Thus he appeared to be a very fair and responsible witness.

The electrician, Sercan Unal

41. My impression was that he was a thoughtful and careful witness. The most remarkable aspect of his evidence (to which I have already referred) was that, when cross-examined, he said that he had provided his employers with a memory stick containing photographs of the vessel on 30 March 2013 which he had taken after the vessel had been abandoned. This led to the provision of the metadata relating to his photos after Day 8 of the trial. Although this metadata had previously been sought it had not been disclosed. Its late disclosure caused the naval architects to reconsider their opinions.

42. The Owners sent another of their vessels, the chemical tanker HEATHER, to the casualty. Two superintendents, Captains Taner and Mahmut, were embarked at Muscat and taken to the casualty. They were said to be party to the conspiracy to scuttle the vessel and gave oral evidence. The master of HEATHER also gave oral evidence. He was not said to be party to the conspiracy.

The operations superintendent, Captain Taner Hasozgu

43. He was unflustered when cross-examined notwithstanding the serious allegations which were put to him, namely, that he was sent to the casualty on board HEATHER to ensure that the vessel sank. He was careful to ensure that he understood the questions put to him. He appeared to have difficulty in explaining what he intended to do when setting out to the casualty in a small boat from HEATHER.

The deck superintendent, Captain Mahmut Akyurekli

44. Like his colleague superintendent he was relaxed in the witness box. But his evidence in the first half hour of his cross-examination that his statement contained three errors (the time when he was told that the crew were in the lifeboats, the persons who attended the meeting in the office on 30 March and the date of the decision to send him another superintendent to the casualty on board HEATHER) suggested that he had not exercised much care when making the statement to ensure that it was accurate or when confirming in his evidence in chief that his statement was accurate. A little later he admitted to a fourth error, that the telephone calls to which he referred were between Captain Toran and Captain Taner, not between Captain Toran and the master of HEATHER.

45. Some of his answers were surprising. When asked what pirates might have done with an abandoned, apparently disabled and flooded vessel, listing to port, he suggested that they might carry out a transhipment of the steel cargo at sea. (By contrast Captain Taner had been unable to comment as to whether the casualty "held any value for pirates".) When asked why he took a bag of tools including spanners, a wrench and hammer when proceeding to the casualty by a rescue boat from HEATHER he suggested that "the integrity of the ship" might have been "compromised structurally" making it necessary to "apply extra force in terms of trying to open certain places on the ship" and that the tools might assist him to do so. These answers suggested that I should treat his evidence with caution.

The master of HEATHER, Samet Onal

46. He gave every appearance of enjoying his opportunity to tell the court of HEATHER's diversion to assist ATLANTIK CONFIDENCE. He was not at all reticent and his responses to the questions put in cross-examination, which were (generally) helpful to Cargo's case, suggested that he was hiding nothing from the court. It did not, however, follow that everything he said must be accurate. In some respects his recollection might well have been imperfect.

Mr. Uzun, the Owners' insurance broker

47. Mr. Uzun worked with the Owners after news of the casualty had reached Istanbul in his capacity as their insurance broker. It was not suggested that he was party to the conspiracy to cause the loss of the vessel. He gave his evidence in English and, so far as it was possible to tell, gave his evidence in a manner which suggested that he was seeking to assist the court with his honest recollection. But there were faults in his recollection. For example, he thought that the decision to send HEATHER had been taken on Sunday 31 March 2013 when it was clear from that vessel's log and the emailed instructions to the master of HEATHER on 30 March 2013 that the decision had been taken on Saturday 30 March 2013. That gave rise to the possibility that his recollection was mistaken in other respects. Shortly before the end of the trial late disclosure of some of his documents was made. His statement did not appear to have been taken with the benefit of those documents and he had not been cross-examined upon them. For this reason care was required in evaluating his evidence.

Mr. Beriker, the CEO of CEB

48. He was the final witness of fact and had been the CEO of CEB from 2001 until 2011. He gave every impression of seeking to be accurate in his evidence and there was no reason to doubt that he was an entirely honest witness. He described a warm relationship between CEB and Mr. Agaoglu but he was unable to give evidence about the relationship between CEB and Mr. Agaoglu after he had left in 2011. There was therefore an obvious limit to the value of his evidence.

The technical cases as to the mechanism by which fire broke out and the vessel sank

(a) Cargo's case

49. Mr. Nigel Jacobs QC, on behalf of Cargo, submitted that the fire was deliberately started in the store room using oil as an accelerant. The fire was extinguished because

of the application of CO2 and because there was limited fuel for the fire in the store room. Cargo also say that the engine room, aft peak tank and nos. 5 and 4 double bottom tanks (portside) and their connected top side tanks were deliberately flooded. The engine room was flooded by shutting off the relevant valves of the lower sea water chest in the engine room, loosening the filter cover by slackening back the bolts and then opening a valve to let water enter the engine room. The aft peak tank, nos 5 and 4 double bottoms (portside) and their connected top side tanks were flooded by deliberately ballasting them. Some further flooding into the steering gear room and other spaces aft occurred as a result of down flooding. Cargo say that this was assisted by the opening of the door to the steering gear room on the poop deck.

50. It is accepted by Cargo that the flooding of the engine room, aft peak tank, nos. 5 and 4 double bottom tanks (portside) and connected top side tanks and the steering gear room would not have caused the vessel to sink. Cargo further accepted that the vessel sank because, in addition, hold no.5 flooded. However, Cargo does not suggest that hold no.5 was deliberately flooded. Cargo's case (advanced very late in the day, in part after the pre-trial review and before the commencement of the trial) is that hold no.5 flooded as a result of down flooding through the hatch cover, inspection hatch and air vent. That occurred as the vessel, whilst listing to port, lay beam on to the wind and swell causing water to flow across the deck and enter the no.5 hold. Thus, on Cargo's case, those who deliberately flooded the vessel achieved their aim of sinking the vessel because, in addition to the flooding caused by their own efforts, down flooding of hold no.5 occurred when the weather worsened. In answer to the point that those who plan to sink a vessel would not restrict their efforts to flooding a number of spaces which would not cause the vessel to sink Mr. Jacobs said in his closing address that those responsible for the sinking probably did not know what extent of flooding would cause the vessel to sink and perhaps thought that the spaces they flooded were sufficient to flood the vessel. With regard to the fact that only 2 ballast tanks were flooded Cargo had pleaded that those responsible for the sinking did not deliberately flood all the ballast tanks because to do so would have raised suspicions as to the deliberate nature of the casualty. In his oral opening Mr. Jacobs made a different point. He said that those who opened the ballast lines might well have intended to flood more of the ballast tanks but for some reason the ballast valves failed to open because, for example, there might only have been enough hydraulic pressure to open four ballast valves.

The Owners' technical case

51. Mr. Robert Thomas QC, on behalf of the Owners, observed that there is almost no evidence as to what actually happened and for that reason proposed, not a case, but "a cogent and plausible explanation" that the fire and flooding were accidental. He prefers not to call it a "case" because the Owners do not bear any burden of proof. I accept that the Owners do not bear any burden of proof but it is obviously sensible for the Owners to put forward a scenario or case that the fire and sinking were accidental, if they can. If such scenario or case is real or substantial rather than remote or fanciful and Cargo is unable to exclude it then Cargo will fail to discharge the burden of proof which they bear. It is therefore helpful also to set out at this stage the Owners' scenario or case. I will, for convenience, refer to it as the Owners' case whilst accepting that the Owners bear no burden of proof and that the court's task is not

simply to decide which of two cases it prefers but to decide whether Cargo has proved its case to the required standard.

52. The Owners say that the fire may have started accidentally in the engine room by reason of a leak of diesel oil from no.2 generator which ignited on the turbo charger. The Owners say that such a fire could have spread into the store room. The Owners also say that the fire could have led to a crack developing in the vessel's shell plating below the waterline thereby causing the engine room to flood. The fire could also have created a "flashover" capable of attacking the cables which control the activation of the solenoids for the ballast valves thereby causing double bottom tanks 5 and 4 (and their associated topside tanks) to flood. Separately, as a result of mechanical damage to ballast piping in cargo hold no.5 or of damage to such piping by corrosion, water also leaked into that hold when no.5 double bottom tank had flooded.

The expert witnesses

53. There was a considerable amount of expert evidence as is customary and inevitable in a case of this type, especially where it has not been possible to inspect the wreck. The subjects covered included fire investigation, marine engineering, metallurgy, fluid dynamics, electrical engineering and naval architecture together with photogrammetry. The paucity of evidence as to what actually happened together with the detail and complexity of some of the matters debated meant that cases originally advanced were modified or abandoned during the trial as particular matters were studied in more depth than had been the case when the initial or even later reports had been produced. In addition, new points emerged during the trial, as did some technical documents relating to the vessel together with the metadata to the electrician's photographs. These matters led to the revision of views previously formed. The discussions between the experts also caused views to be revised; that is to be expected and is part of the purpose of such discussions. Although some criticism of Cargo and its experts was advanced in this regard it was not justified. What happened was not unusual or deserving of censure. As was said in *The Ikarian Reefer* at p.497 rhc:

> "In this type of case it is almost inevitable, and is certainly a common experience so far as the members of this Court are concerned , that experts will change or modify their views in the light of the opinion of opposing experts and cross-examination. This is because in fire cases, whether at sea or on land, much of the evidence is destroyed by fire and for one reason or another inspection may not have concentrated on every point that is subsequently thought to be relevant, and however good photographs may be, they frequently pose problems of interpretation. "

54. Criticism was also made of experts for going outside their area of expertise or in setting out what other experts have said and commenting thereon. It seemed to me that when a number of different experts are focussing upon a particular issue, for example the cause and effects of a fire on board ship, it is to some extent inevitable that an expert will find himself considering or commenting upon matters strictly not within his expertise and using his general understanding to do so. That this may happen was also recognised in *The Ikarian Reefer* at p.496 rhc:

> "….where the subject of inquiry is fire, an experienced fire expert, when he is assessing the significance of certain evidence, must be entitled to weigh the probabilities and this may involve making use of the skills of other experts or drawing on his general mechanical or chemical knowledge."

55. Mr. Thomas submitted that Cargo's experts lacked credibility and objectivity. It is therefore necessary to comment on those experts. Cargo's fire expert was Dr. Kelman. He is a fire investigator and mechanical engineer with some understanding of electrical engineering, though no particular experience of electrical engineering on board vessels, save to the extent that it related to his investigation of fires. He has been investigating fires for some 10 years. He expressed opinions with regard to electrical engineering, hydraulic engineering and combustion engineering (of which he had experience before becoming a fire investigator) which I did not regard as impermissible given his training and experience and that he was commenting upon the cause and effects of the fire.

56. He gave his evidence in a measured and reasoned manner. When asked to explain his opinion he was able to do so concisely and with clarity. In that regard he was an impressive and cogent witness. However, in other respects his evidence suggested that the court should examine his evidence with care before accepting it. First, during the course of his investigation of the fire he had made some mistakes. For example he had misread the electrical diagram of the ballast solenoids; he thought there was a fail-safe device (operated by a spring) when there was not (there was no spring shown). He had also misunderstood a research article; he thought it dealt with the rate at which fire could spread when in fact it considered the rate at which a fire consumed fuel. These (and other) errors (which Dr. Kelman accepted when they were pointed out) are evidence that, with regard to the subject-matter of those errors, he failed to exercise sufficient care when advancing his opinions in this case. Second, there was at least one occasion during his cross-examination when he accepted that he was in error but nevertheless maintained the conclusion he had drawn but for reasons put forward for the first time in the witness box. Thus he had said that no hot gases would be trapped under the deckhead of the store room and had concluded that there was no possibility of a "flashover". Having accepted in cross-examination that some hot gases would be trapped he then articulated another basis for maintaining his conclusion. This was open to the interpretation that he was willing to say what he could to support Cargo's case. However, the alternative basis for maintaining his conclusion could well have been his honest belief. But even if that were so, as I think it was, the episode indicated that the court, before accepting any views expressed for the first time in the witness box, should carefully consider those views. Third, during the trial he prepared a further report in which he sought to describe, based on photographs and some undisclosed researches of manufacturers, the relative positions of the particular electrical cables within their steel sheath. In the two sheaths in question there were 33 cables in one and 26 cables in the other. Photographs of cables on a sister ship enabled him to identify the position of two cables in one sheath and of one cable in the other. A photograph of another sheath suggested that the cables were placed within the sheaths in an ordered manner and he assumed that that ordered manner applied also to the sheaths in question. It seemed to me that this was an unsure basis upon which to form an opinion as to the relative positions of the cables within the sheaths and that, if an opinion were to be expressed on this matter, it ought to have

been expressed in much more tentative terms than those he used. Another example of Dr. Kelman expressing his view in dogmatic terms, when more guarded terms would have been appropriate, concerned the question whether it was possible for an oil spray from the high pressure fuel pipe to reach the turbo charger. He suggested that that was not possible when it was possible. He accepted that his opinion in this regard had been reached too hastily.

57. It was suggested that Dr. Kelman lacked objectivity, assumed matters in favour of Cargo and endeavoured to do all he could to show why the Owners' case was implausible. Having carefully considered this matter I do not consider that that would be a fair conclusion to draw. I accept that he could and should have exercised more care than he did with regard to certain matters. I also accept that he was willing to express a clear view on matters which justified more guarded language. His opinion as to the respective positions of the cables within the sheaths was, in my judgment, a clear illustration of that. But I do not accept that he set out to be anything other than objective and fair. On the contrary, I gained the clear impression that he was seeking to express his honest and objective opinion. Nevertheless, he is capable of error and of reaching clear conclusions when he should have been more cautious. When assessing his evidence and the assistance which the court can gain from it I must keep that well in mind. Further, if any part of Cargo's case depends upon views of Dr. Kelman expressed for the first time in the witness box, I must examine those views very carefully before accepting them.

58. Mr. Charlton was the fire expert called by the Owners. He gave his evidence very fairly and was very experienced. When he could agree matters which did not assist the Owners he did so with clarity. When matters were not within his expertise he said so.

59. Mr. Parsons was the marine engineering expert called by Cargo. He answered questions in simple and straight-forward terms. He obviously relied heavily on his own experience as a chief engineer at sea. He, like Dr. Kelman, had made some errors in his reports and had made certain assumptions. It was suggested to him in cross-examination that he had given a dishonest explanation of at least one of his errors. I was wholly unpersuaded that his explanation had been dishonest. It appeared to me that the reason for his errors had been either that he had initially been provided with poor copies of the ship's plans or that he had not exercised sufficient care when reading them. It may be that he was also too ready to rely upon his own experience without checking it against the evidence in the case. This appeared to have been particularly so with regard to his criticism of the master's conduct in the matter of fire fighting. In that regard he made assumptions when he should not have done so. However, I do not consider that he made assumptions in order to advance Cargo's case. His errors mean that I must be cautious when considering his evidence and the assistance which the court can gain from it. But I accept that he sought to give his opinion on the issues put to him honestly.

60. Mr. Chell was the marine engineer called by the Owners. He answered questions clearly and fairly. He accepted that he too had made mistakes in his reports and that on occasion he had strayed outside his expertise. His mistakes were a reflection of the large amount of detail all experts had to master and the occasional straying outside his area of expertise was, it seemed to me, in a case of this nature where several disciplines are required to answer a particular question, inevitable. He was not alone in doing that.

61. Mr. Hughes and Dr. King were metallurgists who considered the question whether the fire may have caused a crack to develop in the side shell plating which would explain the flooding of the engine room. Mr. Hughes was called by Cargo. When cross-examined he willingly engaged in the discussion of general propositions notwithstanding his concerns about doing so. He was, however, clear in stating where, based upon his examination of the photographs (about which he was not cross-examined), he could not agree. I thought that he was persuasive, conspicuously honest and fair. Dr. King, who was called by the Owners, appeared to be, in many ways, a careful and honest witness. I was, however, concerned about three aspects of his evidence. First, with regard to the question whether the buckling seen in the photographs was limited or severe he was reluctant to give his own opinion ("limited" in his own report) and preferred to defer to the views of Mr. Colman, Cargo's naval architect. He explained that he deferred to Mr. Colman in terms of the "structural significance" of buckling. Nevertheless, it was surprising that he was reluctant to give his own opinion about the extent of buckling visible in the photographs, which must have been a matter within his own expertise. He accepted that metallurgists examine the physical evidence to deduce what might have happened. Second, he appeared to concentrate on theoretical possibilities (to which he added in his oral evidence) without standing back and considering how realistic they were in the light of the photographic evidence. He said that without a finite element analysis (for which the data was not available) firm views could not be expressed. But nevertheless he made little attempt to relate his theories to the only evidence in the case, namely, the photographs. Third, in putting forward one of his theories he made some surprising errors as to the location of the fire. Mr. Thomas said that his diagram was "schematic" only but the errors were nevertheless concerning.

62. It seemed to me that consideration of any proposed mechanism for a crack below the water line had to take into account what was observable on the photographs of the side shell fire damage. Mr. Hughes explained that the absence of any gross or significant buckling indicated that the thermal gradients in the shell plating and attached structures were not significant. Indeed, for the metallurgists the photographs were the only evidence of the effect of the fire on the shell plating. Mr. Hughes' opinions were founded upon that evidence. Dr. King's opinions did not appear to be.

63. The parties each called a naval architect to express his opinion as to the cause of the flooding in the sense of explaining which compartments were likely to have been flooded and when. This was a difficult task because of the paucity of evidence resulting from the fact that the vessel had sunk in deep water and there had been no inspection of the wreck. In truth, the only evidence available to the naval architects as to what happened were the photographs of the vessel after abandonment and before she sank. These were taken by, in particular, the electrician and fitter of ATLANTIK CONFIDENCE, those on board the vessels which came to the scene of the casualty and the crew of an aircraft chartered by the Owners to fly over the casualty. When originally disclosed some of the photographs had metadata (recording the date and time of the photograph) but others did not. In particular, the electrician's photographs of which there over 80 did not. Certain assumptions about their timing were made. The naval architects exchanged some 6 reports before the hearing. They achieved considerable agreement as to the spaces which were likely to have been flooded in order to cause the vessel to sink. The principal spaces were the engine room, double ballast tanks nos. 4 and 5 port (and their associated topside tanks) and hold no.5.

Having regard to the paucity of evidence it was, it seemed to me, remarkable that the naval architects were able to achieve this level of agreement. The photographs which enabled this agreement to be reached were primarily of 30 March 2013. Thereafter there was not a continuous photographic record. There were none for 31 March 2013. There were some (taken by an aircraft) for a period of less than an hour in the early morning of 1 April 2013. Initially it was thought that there were none for 2 April 2013 but then it was learnt that Captain Taner's four photographs had been attached to an email dated 2 April 2013 and so must have been taken on that day when he arrived on HEATHER. There were some for 3 April 2013 from 0700 until the vessel sank at 1103. When the electrician gave evidence he revealed that he had provided his photographs to the Owners on a memory stick. The result of this evidence being given in cross-examination was that the metadata for the electrician's photographs was disclosed on 22 April 2016, after 8 days of the trial. That data (and the revision it brought about in the suggested timing of the fitter's photograph) required the naval architects to re-evaluate their work and in a flurry of activity during the trial and right up to its end (the naval architects being the last experts to give evidence) 10 further reports were served. By the end of the trial there, however, three limited, but important, issues which remained in dispute between the naval architects: (i) whether the source of entry of water into the engine room was at a low level (the sea chest, Cargo's case) or at the level of the second deck (a crack in the shell plating, the Owners' case); (ii) whether, on Cargo's case, down flooding of the steering gear room and other spaces aft occurred from a time before 0600 on 1 April 2013 and (iii) whether, on Cargo's case, the only source of flooding into hold no.5 was down flooding on 3 April (as suggested by Cargo). All three of these issues were dependent on the photographs.

64. Mr. Colman was the Owners' naval architect. He is an able and skilled naval architect. He has much experience of investigating shipping casualties and of litigation and arbitration resulting from such casualties. He is particularly skilled in creating mathematical models of ships to explain how they sank. In doing so he is particularly careful to be as accurate as he can in the assumptions which he makes as to the construction and shape of the vessel, including the size and capacity of the various compartments. In this case it was also necessary to deduce the draft of the vessel in certain of the photographs. That information enabled the mathematical model to be verified and for conclusions to be drawn as to the compartments which were likely to have been flooded and in what sequence so as to produce the "observed" drafts. The photographs, or rather, the drafts deduced from them were targets for the model to match.

65. The creation of a mathematical model was difficult because there was no Lines plan (though a Docking plan existed which assisted). Although information as to the capacity of the vessel's compartments was available from the GA plan and the Capacity Plan, the Trim and Stability booklet assumed an even draft whereas the vessel was in fact trimmed by the stern and developed a port list. Thus, when the experts met, there were differences between them as to the assumptions fed into their models. These were considered and at their second meeting the naval architects agreed that the respective models were "consistent with each other, within expected tolerances." (After the hearing the full set of plans was disclosed to Cargo's experts. Mr. Jacobs informed me in written submissions that some of the plans, had they been disclosed at the proper time, might have resulted in Mr. Burnay producing a different

model. Perhaps they would, but it is nevertheless likely, it seems to me, that, as agreed by the experts in their meeting, their respective models were within expected tolerances. Mr. Thomas' response that the disclosure of additional plans would not have led to any materially different model is therefore likely to be correct.)

66. Reading the draft of the vessel from the photographs was difficult. Much depended upon the quality and detail of the photographs and the naval architects used different reference points to measure distances (the transom was used by Mr. Colman, the pilot ladder and the guardrail were used by Mr. Burnay). Unsurprisingly the naval architects reached different figures for the draft of the vessel as indicated by the photographs. For example the appendix to the memorandum of their first meeting recorded drafts assessed by Mr. Colman for one photograph as 10.9-11.3 metres and by Mr. Burnay as 10.5 metres. There were also differences in their assessment of trim and list. Their respective readings were considered and at their first meeting the naval architects agreed that their respective measurements were "consistent with the other, allowing for a reasonable tolerance on the measurement." That Mr. Colman reached such an agreement was unsurprising because in his report he had said that "the distances off, perspectives, waves, ship motions and timing uncertainties associated with these photographs result in a level of error in the readings which is probably quite considerable."

67. During the course of the trial Mr. Colman studied the electrician's photographs for a second time (following the disclosure of their metadata). He refined his measurements of the drafts and for some of the photographs used a new method, the "Rhino" model. But whereas he had agreed that his and Mr. Burnay's measurements were consistent with each other he now considered that his were correct and that Mr. Burnay's, where different, were wrong.

68. The exchange of reports revealed that Mr. Burnay had made a number of errors with regard to such matters as tank capacities. Following criticism by Mr. Colman, he changed his suggested flooding sequences several times. Right to the end of the trial Mr. Colman continued to attack the assumptions in Mr. Burnay's model (notwithstanding the agreement in March 2016 that their respective models were consistent with each other, within accepted tolerances).

69. At the end of the trial each counsel criticised the approach of the other's naval architect. Mr. Thomas submitted that Mr. Burnay was an "expert turned advocate" who suffered a "loss of objectivity". Mr. Jacobs submitted that Mr. Colman was an "advocate for his client's case".

70. I do not consider that Mr. Colman intended to be an advocate for his client's case. He is an experienced expert witness and knows very well that that is not his role. But I do consider that Mr. Colman allowed his belief in the accuracy of his own work to cloud his objectivity. It seemed to me that his agreements at the experts' meetings in February and March 2016 had displayed appropriate objectivity. For, whilst he had carefully assessed as best he could the draft of the vessel in the photographs, he nevertheless recognised that the exercise involved a margin of error so that although Mr. Burnay's drafts were different they were nevertheless acceptable. When in June 2016 he hardened his opinions it seemed to me that, whilst I do not doubt his good faith in any way, he had forgotten, or more likely put to one side, those considerations which had caused him to make the agreement to which I have referred. Whilst in

February 2016 he had appreciated the inherent difficulties in the exercise upon which he was engaged, in June 2016 he had persuaded himself that he had overcome those difficulties and that far from different views being possible only his were accurate. His later reports ignored the agreement he had earlier reached with Mr. Burnay. The late disclosure of the metadata for the electrician's photographs meant that the timing uncertainties had been removed and the Rhino model was no doubt considered an improved method of reading off the drafts but there remained the problems mentioned in his first report of "the distances off, perspectives, waves, ship motions". As a result, despite the very sensible agreement reached between the experts that their respective measurements were acceptable, towards the end of the trial there was criticism of Mr. Burnay's use of the pilot ladder and guard rail (and, in response, criticism by Mr. Burnay of Mr. Colman's measurement of the transom from the GA plan). Mr. Colman's impaired sense of objectivity was also reflected in the unusually confrontational language used in his last report ("astonishing", when commenting upon Mr. Burnay's use of the pilot ladder to measure drafts; "this theory is at a lower level than A level maths. It should be completely clear to any engineer who has a degree with maths in the syllabus", when explaining the "cubic" formula). In his oral evidence he went so far as to accuse Mr. Burnay of dishonestly using only a particular analysis (a "quadratic" rather than a "cubic" analysis) in order to achieve a desired result. This was deeply improbable and an extreme view to express. When asked in cross-examination why he had used that analysis Mr. Burnay said that his computer had failed to return a cubic analysis, an answer which I accept, notwithstanding that Mr. Colman experienced no such difficulty when using Mr. Burnay's own spreadsheet.

71. Thus, whilst recognising Mr. Colman's undoubted intellectual rigour and passion for accuracy, I reached the conclusion that I should be cautious before accepting his opinions as to the accuracy of his own work and his criticisms of Mr. Burnay's opinions.

72. Mr. Burnay was also an able and skilled naval architect. There was however, it seemed to me, a difference between his approach to mathematical models and Mr. Colman's approach to such models. Mr. Burnay had, I felt, less confidence in the value of mathematical models than Mr. Colman, at any rate for the purposes for which they used in this case, namely, to explain the flooding and sinking of the vessel. He accepted, as he said in his first report, that they can give "very precise answers and analysis" but the results are "based on the inputs involved". Due to the "variable quality of the data available it is possible that individual list and/or trim comparison points cannot be perfectly recreated." It was apparent from his oral evidence that he considered that whilst models could give some assistance in understanding what had happened they were not the complete answer. They were simply part of the evidence upon which he, as a naval architect, could express an opinion as to the mechanism by which a vessel had sunk. That evidence also included the photographs and what they suggested as to the spaces which were probably flooding between 1 and 3 April 2013. Perhaps for that reason (and perhaps also because he had been supplied with a poor copy of the vessel's GA plan and did not have the Docking plan until March 2016) his model contained inaccuracies. Some errors were repeated and not removed. This is not something Mr. Colman would have done but Mr. Burnay considered that in circumstances where a model could not be entirely accurate it did not matter and where the effect of the errors could not be significant there was no reason to start

afresh. There were some errors which ought not to have made but the explanation for those errors did not, in my judgment, lie in any lack of objectivity on his part. Having read his reports, listened to his evidence and observed the manner in which he gave it I have no doubt that the opinions which he expressed were his honest opinions. I do not accept the suggestion that he was an advocate, rather than an expert, for Cargo.

73. Repeated comment was made of the fact that Mr. Burnay had put forward several flooding sequences to explain the casualty and that they had been superceded by others following criticisms and comment by Mr. Colman. This history probably shows that Mr. Colman is more adept and experienced in producing models than Mr. Burnay. Certainly, Mr. Colman's model and proposed flooding sequence did not require substantial change in the manner that Mr. Burnay's did. It also indicates that Mr. Burnay lacks Mr. Colman's intellectual rigour when producing mathematical models and paying regard to what they show. This was apparent in at least two respects. First, there was a discrepancy between the freeboard in way of certain down flooding points aft as indicated by his model for 1800 on 30 March 2016 and the freeboard in way of those points as indicated by the fitter's photograph for, approximately, that time. He considered that the differences were not that great and were in fact "acceptably close enough within the modelling process and with all its variances to indicate that down flooding could then occur". On an earlier occasion he had told me that he had run the model to the equilibrium point (that is when the level of water inside a flooded space is equivalent to the level of water outside) and that had placed the flooding points underwater. He later said that that was not correct "in literal terms". In fact, when the model was run to the equilibrium point it became clear that none of the down flooding points was under water. The amount of freeboard was (depending upon what corrections for "errors" were made) more than half a meter. Second, although it was his opinion that the spaces aft had down flooded (based upon the photographic evidence) he had not attempted to calculate the effect of such down flooding on the draft of the vessel. He considered that such calculations do not stand up to scrutiny, are subjective and depend heavily on the assumptions made. I suspect he is right about that to some extent but the absence of any calculation means that I do not know whether it is feasible to suggest that the suggested down flooding could account for the suggested further increase in the vessel's draft. It seemed to me that Mr. Colman's model, being the result of greater intellectual rigour, was likely to be more reliable.

74. But at the end of the day there was much common ground between the naval architects as to which spaces were likely to have flooded in order to cause the vessel to sink. The important issues which remained were the three which I have mentioned. The first issue, whether the entry of water into the engine room was at a high or a low point depended upon the drafts as indicated by the photographs (and in particular one photograph) and the second and third issues, whether there could be down flooding of the spaces aft and of hold no.5, depended upon the extent to which water could realistically enter those spaces. These latter two issues went to the cause of the likely flooding of hold no.5. Mr. Colman's opinion was that hold no.5 had flooded as a result of ballast water entering the hold (once ballast water had entered double bottom no.5 port) through a corroded or damaged pipe in the hold. His model showed that such a mechanism was consistent with the photographic evidence. At the end of the evidence I did not understand there to be any challenge to Mr. Colman's model. Certainly, Mr. Jacobs' closing address made no such challenge. However, Mr.

Burnay's model did not allow for any such flooding and instead Mr. Burnay suggested that water entered hold no.5 as a result of down flooding. Mr. Burnay's difficulty, as was clear at the end of the evidence, was that his model was inconsistent with the fitter's photograph which had no metadata but which, after comparison with the electrician's photographs and their metadata, was estimated to have been taken at about 1800 on 30 March 2013. His model showed a vessel with considerably greater freeboard at the suggested down flooding points than was shown in the fitter's photograph. This led Mr. Thomas to submit that Cargo's case was impossible and must fail.

75. I accept that Mr. Burnay's model did not replicate the fitter's photograph but I am unable to accept that Cargo's case must therefore fail. The ultimate decision in this case must depend upon an assessment of all of the evidence in the case, not just on one part of it. Making a finding on the balance of probabilities as to the cause of the sinking where the vessel lies in deep water and there is so little evidence as to what actually happened requires an assessment, not only of what little evidence there is as to what happened (the evidence of those on board and the photographs taken after abandonment) but also of the surrounding circumstances. The naval architects, working with very little material, have done well to identify the spaces which are likely to have flooded to cause the vessel to sink but I am unable to accept that the naval architectural evidence can determine the outcome of the case in circumstances where the only data on which they have to work comes from a limited number of photographs. There is an added factor in the present case. The metadata for the electrician's photographs was only disclosed during the trial. That very late and unexplained disclosure meant that the naval architects had to reassess their opinions in the middle of the trial under very great pressure. They are to be congratulated for doing to so but the court must, it seems to me, take into account that their final opinions were reached in circumstances of urgency rather than in circumstances of measured reflection and where a halt had to be called to further reports in order to ensure that their evidence could be completed within the time available. For that reason also the court must be careful to make its findings after having considered all of the evidence in the case, not just the naval architectural evidence.

76. There were also some non-technical experts. There were "experts on piracy", by which is meant master mariners with experience of routing vessels to avoid the risk of piracy. Both Captain Meintanis (for Cargo) and Captain Cleaver (for the Owners) gave their evidence as to the risk of piracy in the Gulf of Oman in a careful and conscientious manner. Their evidence was of interest but ultimately the question whether the master's change of route was to avoid the risk of piracy depended, it seemed to me, on a question of fact, namely, whether any, and if so, what information concerning recent pirate attacks (or possible pirate attacks) was taken into account by the Owners and/or the master and whether the change of route was motivated by fears of piracy or by something else. Finally, there was Captain Malhotra who gave evidence (for the Owners) about the master's conduct (although he himself had never sailed as master).

The vessel

77. The vessel was a standard design geared bulk carrier built in 1996, of 16,252 grt, 9,669 nrt, 167m. loa and 26.2m in breadth. Her accommodation and machinery spaces were aft and she had 5 cargo holds forward of the accommodation and machinery

spaces. Below each hold were double bottom tanks, port and starboard, which connected to upper side wing ballast tanks. No. 3 hold also served as a ballast tank. In hold no.5 (and no doubt in other holds) there was a ballast sounding pipe and a connection pipe between the double bottom tanks and the top side tanks.

78. The engine room had three levels. The main engine was on the tank top level together with the high and low sea chests, ballast pumps, bilge pumps and main and auxiliary seawater pumps. Above the tank top level was the third deck which housed the fresh water generators and main engine coolers. Above the third deck was the second deck where the three diesel generators were situated, numbered 1-3 from starboard to port. The floor of the generator flat formed a large save-all, though there were also individual save-alls around each generator. Also on the second deck were compressors, fuel and lube oil storage tanks and the ballast system solenoid valve cabinet. Aft of the generator flat was the steering gear room. The store room was on the starboard side of the second deck bounded by the curved shell of the hull. Above the second deck was, as described on the GA plan, the upper deck, but referred to at the hearing as the main deck of the accommodation, where the CO2 room, deck and engine office (starboard side) and emergency generator room (portside) were located. The ballast console, which enabled the crew to operate the ballast valves, was in the deck and engine office.

79. It is necessary to say a little more about the ballast system. The ballast valves were opened and closed hydraulically, by hydraulic fluid flowing through a device called an actuator, located on the ballast valve. Hydraulic pressure was generated by electrically driven pumps (the hydraulic power pack) and was stored in an accumulator. Hydraulic fluid was directed to flow through an actuator by a solenoid control valve. The 26 control valves were located in the solenoid cabinet on the second deck, about 5 metres forward of the store room. The valves were themselves operated electrically from the ballast control console, located in the deck and engine office on the upper deck, though they could also be operated manually at the solenoid cabinet. Each solenoid control valve consisted of a sliding shuttle fitted with electrical solenoids (a wire coil) at each end. When the solenoid at one end was energised by electrical current it caused the shuttle to slide "open" and permit hydraulic oil to flow in one direction though the actuator and the ballast valve would open. When the solenoid at the other end was energised it caused the shuttle to slide into the "closed" position and permit hydraulic flow in the other direction through the actuator and the ballast valve would close. The electrical supply to the solenoid control valves was carried by steel-sheathed cables running down a pillar into the top of the solenoid cabinet from the deckhead. In order to energise a solenoid one end of the solenoid had to be connected to a live wire carrying one phase of the 220V AC supply and the other end of the solenoid had to be connected to a live wire carrying the second phase of the AC supply. One end of every solenoid was permanently connected to a wire carrying one phase of the AC supply (phase W or "return"). The other end was connected to a wire which led up to a push-button switch on the ballast control panel in the deck and engine office. Pressing the button would connect that wire to the second phase of the AC supply (phase U). The solenoid would then be energised. Each solenoid control valve was served by two dedicated wires carrying the phase U supply, one for each solenoid. A group of valves was served by a single "return" wire.

<u>The Owners</u>

80. Atlantik Denizcilik ve Sanayi AS ("Atlantik"), a Turkish company, was established in 1984. It appears to have commenced in business as a shipbuilder, its first ship being built in 1984. But it now also owns and operates ships. In 2013 Atlantik had a fleet of six vessels which it owned and operated. One of those was ATLANTIK CONFIDENCE of which the legal owner was Kairos. A further 8 vessels were operated on behalf of third parties. Some were managed on behalf of CEB, which has been involved in the financing of some of Atlantik's vessels. There is a tanker fleet and a dry cargo fleet. The tanker fleet is managed by Atlantik whilst the dry cargo fleet, which includes ATLANTIK CONFIDENCE, is managed by Zigana Gemi Isletmeri AS. Mr. Agaoglu is the sole shareholder and director of the Atlantik group of companies.

The financing of the vessel

81. ATLANTIK CONFIDENCE was bought in 2010 for the sum of US$15m. At the same time a chemical tanker, ATLANTIK GLORY, was also purchased for the sum of US$27m. The purchases were financed by a Loan Agreement dated 9 March 2010 between CEB, the Owners (Kairos) and Capella (the owner of ATLANTIK GLORY). The loan in respect of ATLANTIK CONFIDENCE was to be repaid over a period of almost 6 years. The loan in respect of ATLANTIK GLORY was to be repaid over a shorter period with a final "balloon" repayment of US$24,546,000 on 1 April 2012. The total loan was US$38.2m. and was personally guaranteed by Mr. Agaoglu.

82. Following the purchases Mr. Agaoglu found it necessary (because poor market conditions had created financial difficulties for Kairos and Capella) to seek variations of the borrowers' repayment obligations in 2011, 2012 and 2013. The effect of the 2011 Supplemental Agreement was to delay the May 2011 repayment in respect of ATLANTIK CONFIDENCE until April 2012 and to delay the April and July 2011 repayments in respect of ATLANTIK GLORY, together with accrued interest, until dates between September 2011 and April 2012. The effect of the 2012 Supplemental Agreement was to reschedule the repayment of principal and interest and to reduce the amount of the balloon repayment by Capella to US$23,019,000 and to delay it until 1 April 2014. Finally, the effect of the 2013 Supplemental Agreement was to reduce the quarterly repayments by the Owners but to introduce a balloon repayment of US$6.45m in November 2015. It appeared that at this time additional borrowing in respect of the costs of dry docking ATLANTIK CONFIDENCE in January and February 2013 was obtained, though no loan documentation in relation to this was disclosed despite being sought. In his second statement Mr. Agaoglu referred to the "support" of CEB in this respect which he explained in his oral evidence meant that he borrowed from CEB.

83. There was unchallenged expert accounting evidence that at the date of the casualty the sum outstanding was over US$36m. (That included US$3.5m due under a Framework Credit Agreement dated March 2011 which had been due for repayment in April 2013 but which had been extended in October 2012 until November 2015.) Over US$1m. was due to be repaid by the end of 2013 and over US$24m. by the end of 2014. The debt attributable to Kairos (ignoring the cross-collateralisation of the loan) was over US$12m. At the time the market value of ATLANTIK CONFIDENCE was of the order of US$6.5m. It had been of the order of US$14.4m. when purchased. Kairos' profit and loss account as at December 2012 showed a loss of US$2.34m. It was estimated that the three months trading at the beginning of 2013 had produced a cash

loss of the order of US$1m. Mr. Thomas accepted in his closing submissions that the Owners were "in a poor financial position". As at March 2013 Kairos had committed several events of default under the Loan Agreement including failure to pay capital and interest, failure to maintain a loan to value ratio of 130%, failure to present audited accounts in accordance with the required practices and a failure to obtain written consent in respect of loans made by Kairos to Mr. Agaoglu. As a result CEB were entitled to declare the loan immediately due and payable and to enforce Mr. Agaoglu's personal guarantee.

The vessel's dry docking

84. The vessel was in dry dock in Istanbul before her last voyage undergoing, inter alia, a Class survey by Bureau Veritas. That survey took place from 14 January until 12 February 2013 and cost, according to Mr. Agaoglu, some US$437,000, which sum was borrowed from CEB. This survey is relevant to the cause of the fire because it was suggested by the Owners that the cause of the fire may have been an oil leak from no.2 generator. During the survey, the three diesel generators were examined internally and externally and were given a running test. The chief engineer accepted that the insulation or lagging would have been renewed or, if it was in very good condition, put back in place. He agreed that if there were any exposed hot surfaces he would have ensured that they were covered. He also accepted that after the Class survey the high pressure fuel pipes were in good condition. "There were no leaks or anything." He said that during the subsequent voyage, if there had been a leakage, an alarm would have sounded. Had there been any problem with generator no.2 (the generator which was operating on 30 March 2013) it would have been reported.

85. The survey is also relevant to the cause of water entering hold no.5 because it is suggested by the Owners that the cause of such water entry may have been a hole in a ballast or sounding pipe in hold no.5. All the cargo holds were examined internally. In hold no.5 there was a close-up survey of 50% of the shell frames, including upper and lower end attachments and adjacent shell plating. All piping in the cargo holds was examined (in a "close up" inspection) and found to be satisfactory as was the piping in the no.5 double bottom and topside tanks. It is however to be noted that corrosion was noted in holds 3, 4 and 5 (and in nos. 4 and 5 double bottom and top side tanks) but that repairs were also carried out in holds 3, 4 and 5 (and in nos. 4 and 5 double bottom and top side tanks). It was suggested by Mr. Colman that the report of what was done made no reference to the piping. This is true of one document but another document states specifically that the piping was found to be satisfactory.

The loading of the cargo

86. The circumstances in which the cargo was loaded are relevant because of the suggestion by the Owners that the ballast sounding pipe or the connecting pipe (between the double bottom and the topside tanks in hold no.5) might have been damaged causing water to enter that hold (after no.5 double bottom tank had been flooded). The cargo in hold no.5 was loaded at Oktyabrsk. On or shortly after arrival there on 17 February 2013 no.5 ballast tanks (double bottoms and top sides) were deballasted. The steel coils were slung on a spreader bar arrangement and lifted into the hold. The chief officer accepted in cross-examination that it was impossible for the spreader to contact the aft bulkhead because of the presence of the hatch coaming. The chief officer thought that it was not possible for the forklift truck (which was

used when stowing the coils) to touch the sides of the ship but then said that he could not remember. He accepted that if a forklift truck had made contact with the ship he would have issued a letter of protest.

87. After loading the cargo in Oktyabrsk clean bills of lading were signed by the master, notwithstanding that he had claused the mate's receipts. He said that the reason for not clausing the bills of lading was "a commercial thing". He did not accept that signing clean bills in such circumstances was or could be a fraud on the receivers or the vessel's P&I Club.

The voyage from Turkey

88. The vessel sailed from the third and last loadport, Gemlik, on 17 March 2013. Her drafts on sailing were 9.18m forward and 10.24m aft. The vessel was provided with two armed guards who were intended to protect the vessel in the event of a pirate attack. The master listed them as ABs because he did not wish to declare to the Suez Canal authorities that the vessel had armed guards on board. He accepted that he had probably been asked by his owners to describe the guards as ABs.

89. In his oral evidence the master said that once armed guards were on board he did not pay much attention to piracy warnings because he did not know of any reported piracy incident when a vessel had armed guards on board.

90. The master said that his passage plan to Muscat, later changed to Sohar, would have been marked on the vessel's chart. (The vessel's working chart was not taken off the vessel prior to the vessel sinking.) He said that, having regard to piracy issues, he had probably sent the route he was following to his owners' office. He accepted that his original course would have taken the vessel close to the Omani coast. When shown "Route 1" which had been marked on a chart by Cargo's counsel he accepted that his original passage plan was "something like" that.

91. On 22 March 2013 (before the vessel had reached the Gulf of Aden) United Kingdom Marine Trade Operations (UKMTO) informed the master of reported piracy incidents. The most recent of such incidents was a "possible" incident on 22 February 2013. UKMTO was investigating whether shots had been fired from suspicious vessels or only by the armed security team on board the merchant vessel in question. The co-ordinates of the position were given. The position was some 70 miles to the east of the vessel's planned route. Also that day the master received from Maritime Security Centre for the Horn of Africa ("MSCHOA") an email recommending that the vessel transit the Internationally Recommended Transit Corridor ("the ITRC") through the Gulf of Aden as part of a convoy. MSCHOA were under the impression (because the master had so informed them) that the vessel had no armed security on board. The master informed MSCHOA on 23 March that "we have no intention to join any group transit or national convoy for our passage of Gulf of Aden."

92. On 25 March 2013 the master received an email from his office (Mr. Ekinci) instructing him, after exiting the ITRC, to proceed to Sohar via certain way points. A track following those waypoints would take the vessel further away from the Omani coast into deeper water. The master accepted that to receive such an instruction was unusual. No reason was given in the email for the change of route. The master accepted that he had received no information in the past few days which would have

justified the change of route. He accepted that the new route would have been plotted on the vessel's working chart. The new route would take the vessel within 10 miles of the piracy incident of 22 February 2013 which had been reported by UKMTO on 22 March 2013 (and which the master accepted was the only recent piracy information he had received.) The master acknowledged receipt of the email; "received, understood". Shortly afterwards, at 1537, he received an email from the office asking him to call Captain Taner, the Owners' operations superintendent. The master said that he could not remember this instruction or whether he called him. However, the satellite records of the vessel's telephone show that on that day at 1538 there was a telephone call from the vessel to Captain Mahmut, the Owners' deck superintendent.

93. On 26 March 2013 the Owners' office (Mr. Ekinci) emailed the master. The email had as two attachments: an instruction to Turkish vessels in the Gulf of Aden to make contact with the Turkish naval ship GOKOVA and advice as to routing with regard to the risk of piracy. (Those two attachments had been sent to the office on 24 January 2013.) In the body of the message the master was asked to note the contact details of the naval ship GOKOVA. Shortly afterwards the master contacted the naval ship GOKOVA with details of his vessel and of his voyage.

94. On the same day the master emailed the charterers of the vessel with the vessel's ETA at Sohar, "31 March 2013 PM". Very shortly afterwards, in a further email, the master informed the charterers that he was "not able to advise any tentative time of arrival that we will call at Sohar". The master was unable to recall why he had apparently revoked the ETA which he had just given. Later that day he emailed the charterers saying "please note changed vessel's intended route as anti-piracy measure that will transit clear from coast of Oman". A little later he informed the charterers of the waypoints which gave rise to the change of route.

95. On 27 March 2013 the charterers pointed out that the original route was of 1353 miles with an ETA at Sohar on 30 March pm whilst the new route was of 1583 miles with an ETA of 31 March pm. They said: "As there are armed guards on board, vessel must proceed as per the attached ROUTE 1 resulting in 239 miles less distance than the one recommended by your side".

96. The office (Mr. Inci) instructed the master how to reply to the charterers' email. The master did so at 1519 on 27 March passing on the office's suggested reply in terms:

> "Please acknowledge that most of piracy attacks during GOA [Gulf of Aden] passage occurred close to coastwise. As recommended by master of M/V Atlantik Confidence the vessel will follow route 2 which is safer and sufficiently away from Coast wise. You can find attached the piracy map issued by Commercial Crime Services. Furthermore speed of vessel decreased due to adverse current and as you are fully aware passing GOA without convoy."

97. This reply from the master, on the instructions of the Owners, was odd. First, the master had not recommended the change of route. Second, he had not considered route 2 to be a safer route. On the contrary he stressed in his evidence that he was content with either route. Third, the piracy map attached was dated 2011.

98. On 28 March 2013 the master informed the office that the vessel had, at 0250 GMT, arrived at the eastern end of the ITRC. (She had entered the western end of the IRTC at 0940 on 26 March 2013.) Later that day he was instructed to call Captain Taner. The records show that there was one call from the vessel to Captain Taner on 28 March 2013. The master also received from the office and email which Captain Toran said he had relayed to the master advising him of a piracy attack on a fishing vessel in the Gulf of Aden (in fact off the Horn of Africa). On 29 March 2013 there was a further email requesting the master to call Captain Taner and the records indicate there were three calls from the vessel to Captain Taner on that day.

99. The practice on board the vessel was for "abandon ship" drills to take place about every two weeks (though others may take place in port). This was in accordance with a drill schedule issued by the Owners and is evidenced by the vessel's log. There was such a drill on 27 February 2013, on 12 March 2013 and on 23 March 2013. But on 26 March 2013 there was another such drill. The master could not remember why such a drill was carried out. It was suggested to him that he was preparing the crew for abandonment of the vessel. He denied the suggestion.

100. On 29 March 2013 an oil leak developed in the lube oil system of the no.1 generator turbocharger. An O-ring seal was replaced by the second and third engineers and the oiler. No.2 generator was put into service and no.1 generator was placed on standby. Thereafter the engine room was unmanned between 1700 and 0800. At 2100 the third engineer responded to a bilge alarm in the engine room. He went to the engine room and transferred water from the bilge into the bilge well tank and reset the alarm. He checked that the main engine and no.2 generator were running normally. At 2300 he conducted a routine tour of the engine room and found that all was well. At 0200 on 30 March 2013 an alarm sounded because of a low water alert on the operating oil separator/purifier. He topped it up with water and conducted a further inspection.

<u>The outbreak of fire and the abandonment of the vessel on 30 March 2013</u>

101. At about 0530 local time (or 0130 UTC) on 30 March 2013 a fire alarm sounded. The third engineer was the duty engineer and heard the duty engineer's fire alarm in his cabin. He got up and proceeded to the entrance to the engine room on the port side forward of the engineers' changing room. He opened the door and looked down the staircase. He saw black smoke and decided not to enter. He went to the officers' mess on the main or upper deck and called the bridge informing the chief officer of the fire. The chief officer was on watch on the bridge. There was an alarm on the fire detection panel on the bridge. He was advised by the third engineer that there was a fire in the engine room. The chief officer sounded the vessel's general fire alarm and announced on the PA system that there was a fire in the engine room. The master arrived on the bridge and the chief officer proceeded to the poop deck which was his muster station. Boundary cooling on the starboard side aft was commenced.

102. The chief engineer's account of his actions was that he was awoken by an alarm; his statements referred both to the general ship's alarm and to the engine room fire alarm. He said he entered the engine room and at the bottom of the ladder or staircase to the second deck he looked across the engine room and saw in the starboard quarter flames, "may be inside or outside the store room". There was thick black smoke across the engine room. He said it was difficult to see clearly and he could not see the

source of the fire. The chief engineer agreed that it could have taken about 2 minutes, perhaps more, perhaps less, to reach the engine room from his cabin.

103. The second engineer then arrived. The chief engineer asked him to go to the accommodation and inform the crew of the fire. The second engineer left to do so.

104. In his witness statement (he did not give oral evidence) the second engineer described what he saw when he looked across from the control room. He saw in the starboard corner in way of the store room dense dark smoke. He could not see no.1 generator due to the smoke but did see flames for a few seconds. He said it was not possible to determine if the flames were inside or outside the store room.

105. The chief engineer said he entered the control room. He has given differing accounts of what he did there. In his first statement he said that when he entered the control room the main engine had already started to slow down and that he slowed it to 50 rpm which was about slow ahead. In his second statement he said that he pressed the main engine emergency stop button and the engine started to slow down. He then said he slowed the main engine to 50 rpm which was about slow ahead. In his manuscript statement he simply said that he pressed the emergency stop button. In his third statement he said that it was incorrect to suggest that he had slowed the main engine down. He said he had stopped the main engine. His explanation, when cross-examined, was that he was in a state of panic. He said that he did not know why the main engine slowed down.

106. Since it is common ground that the vessel's main engine was stopped it is likely that the chief engineer stopped the main engine. The engines were under bridge control but he would have been able to stop them by pressing the emergency stop button. It is unlikely that he did anything else to the main engines. Having taken action to stop them there would have been no purpose in slowing them to 50 rpm.

107. In his first statement taken on 5 April 2013 the master said that the main engine stopped at approximately 0535 and that the emergency generator started automatically. In his second witness statement signed on 13 November 2014 he said that the main engine stopped at approximately 0535 but that main electrical power was not lost until about 20 minutes later. His first statement is more likely to be correct because, as he accepted, his recollection must have been better on 5 April 2013. Further, when cross-examined he was unable to explain why he changed his evidence.

108. The chief engineer said that he then picked up a portable CO2 extinguisher but could not proceed to the starboard side because of the thick smoke as a result of which he could not breathe. He returned to the control room and then went out on deck "to recover from the smoke inhalation." The second engineer, after his visit to the crew's accommodation, said that he returned after about 2-3 minutes and observed that the main engine and no.2 generator had stopped. He said that the chief engineer was coming out of the engine room and that they did not attempt to fight the fire with portable fire extinguishers. He went to the poop deck to assist with boundary cooling and noted that the emergency generator was working (as did the chief officer when he arrived on the poop deck). This is consistent with the master's evidence that at approximately 0535 the main engine had stopped and the emergency generator had started. There is no evidence as to why the no.2 generator stopped. Cargo suggested

that the chief engineer not only stopped the main engine but also stopped the no.2 generator. Mr. Chell said that if he had been the chief engineer he would have stopped the generator but only after having left the engine room. Having considered the evidence on this matter, in particular that of the master and second engineer, I think it is more likely than not that the chief engineer stopped the generator.

109. The chief engineer said that he went to the accommodation and after about 10 minutes returned to the engine room and activated the fuel cut off valves for the main engine and generator. He then went back to the poop deck.

110. The third engineer returned to the entrance to the engine room and saw the chief engineer coming out coughing. The third engineer then went to the poop deck which was his muster station and there assisted in boundary cooling.

111. The chief engineer said that when on the poop deck he told the chief officer that CO2 should be released into the engine room. The chief officer did not mention this in his statement but the master said that the chief officer reported to him that the chief engineer recommended the release of CO2.

112. The master said that CO2 was released shortly after 0600 local time (or 0200 UTC). The chief officer said that he and the chief engineer proceeded to the CO2 room which was opened with difficulty (the seal on the door had melted). The deck inside the CO2 room was too hot and so they commenced cooling it in order to enter. He said that the chief engineer released the CO2. The chief engineer said that after about 40 minutes the smoke from the funnel stopped so he assumed the CO2 had been effective. In his third statement he said that the smoke only stopped after the crew had abandoned the vessel. In his cross-examination he said that 40 minutes after the CO2 had been released the smoke had "considerably reduced". There is no mention of the time when the smoke from the funnel ceased in his manuscript statement. The master said that smoke was "still leaving the funnel" until shortly before he ordered abandon ship and there was "no reduction in smoke" when he gave that order. The second officer also said that before leaving on the lifeboat there was black smoke still leaving the after side of the funnel. He was not said to be involved in the conspiracy to scuttle the vessel and there is no reason to doubt his recollection in his statement which was taken on 4 April 2013 and signed on 24 April 2013. The photograph sent by the master on 30 March after the vessel had been abandoned showed black smoke coming from the funnel. It seems to me likely that the CO2 had the effect of reducing the smoke being emitted from the funnel but that some smoke was still being emitted when the vessel was abandoned.

113. The chief engineer said when being cross-examined that after he entered the doorway to the steering gear room from the poop deck (at some time after the CO2 had been deployed) he touched the bulkhead between with the engine room and the steering gear room. He said that there were was no heat.

114. The master said that he noted that the vessel was listing to port by about 5 degrees. He said he ordered two men to don fire suits and breathing apparatus so that they could enter the engine room and investigate the cause of the fire and the cause of the list. The two men in question were the third engineer and AB Gokce. The third engineer said in his statement dated 25 April 2013 that he and the AB proceeded to the engine room with the chief engineer. Upon opening the door there was dark smoke and very

poor visibility. The third engineer said that the chief engineer ordered them not to enter the engine room. The AB in his statement dated 23 April 2014 said that someone behind him shouted “this was suicide” and he and the third engineer backed out of the entrance. The chief engineer in his statement taken on 3 April 2013 but signed on 25 April 2013 said that the third engineer and AB tried to enter but because of the dark smoke they closed the door. When cross-examined he denied that he had told the third engineer and AB not to enter the engine room when they were wearing fire suits and breathing gear. He suggested that he had given that instruction before they had donned fire suits and breathing gear and that it would be "ludicrous" to override an instruction given by the master. I am unable to accept this evidence of the chief engineer even though he had also suggested in his second statement that before the CO2 was activated he had stopped two crew members entering the engine room. There does not appear to be any reason to doubt the evidence of the third engineer that the instruction was given when they were wearing the necessary protective gear. When cross-examined the third engineer said that others were also present and that the chief engineer may not have been solely responsible for the order not to enter, but that the chief engineer was his superior and so it would have been the chief engineer who would have given the instruction. The chief officer said in his evidence that the crew in fire suits and wearing breathing apparatus were instructed by the master not to enter the engine room. He said in his oral evidence that the chief engineer said that it was not possible to enter, that he (the chief officer) said to the master that there was too much smoke and that the master said they must come back. Thus the decision appears to have been a decision of both the master and the chief engineer.

115. The chief engineer said in his first statement that he then went to the bridge and explained to the master that the starboard diesel oil tank might explode if heated. In his third witness statement dated 7 April 2016 he said that he did not believe that he went up to the bridge but he accepted that he had told the master that the diesel oil tank might explode when recommending the release of CO2. The master, when cross-examined, denied that the chief engineer had come to the bridge and said that he did not remember the chief engineer telling him that the diesel oil tank might explode. The chief officer, the second officer, the AB and guard did not mention the chief engineer visiting the bridge but they were not on the bridge continuously. It seems to me more likely than not that the chief engineer did visit the bridge, because he said he did in his first statement. For the same reason it is more likely than not that he did so after the CO2 had been released. His evidence that he told the master that there was a risk of an explosion from the diesel oil before the CO2 had been released was inconsistent with his first statement. In his first statement he never claimed to have advised the master directly to activate the CO2 system. Rather, he said that he advised the chief officer of that and that it was the chief officer who spoke to the master, as the master confirmed in his statement. Mr. Thomas submitted that the chief engineer was dazed and confused when he made his first statement (the chief engineer had claimed to be “scared and shocked” having escaped from an “horrific experience, going between life and death”) but the statement was taken on 3 April 2013 after the crew had returned to Istanbul and was not signed until 25 April 2013. The fact that he went to the bridge and that he did so after the CO2 had been activated is so clearly stated in his first statement that I do not consider that it can be explained as mistaken and the result of being either dazed or confused. It is important to note that he did not expressly correct his evidence in his second statement. It was only in his third

statement dated April 2016 that he first said that he did not “believe” that he went to the bridge.

116. The second officer had prepared three messages, one to be sent to the Turkish naval vessel known to be in the area, a second to be sent to the Owner’s office and a third an abandon ship message. The master said that the abandon ship message had been prepared by the second officer when the CO2 had been deployed which was shortly after 0600. However, the first message broadcast was not until 0715 local time (or 0315 UTC) when a distress call indicating fire was sent which was picked up by the ALPINE MARIE. At 0716 the ALPINE MARIE asked what assistance was required and at 0718 ATLANTIK CONFIDENCE replied she was abandoning ship. No message was sent to his Owners at this time.

117. The master gave evidence that he decided to abandon ship and issue mayday alerts because there was no reduction in the smoke and the list was increasing. Non-essential crew were ordered to collect any valuable belongings from their cabins. Although the second officer took with him the deck log book, GPS log and movement book he did not take the vessel’s working chart. The crew abandoned ship into two lifeboats. The master was the last to leave the vessel.

118. Mr. Jacobs submitted that the photographs show (when “zoomed in”) that three doors on the main deck port side were left open. I could see that certainly one was open and that a second was possibly open. Mr. Jacobs also submitted that the electrician’s photograph taken at 0901 local time (0501 UTC) shows that the door to the steering gear room on the poop deck was left open. I accept that that is shown.

119. The master accepts that he returned to the casualty to collect US$4,500 from the vessel’s safe. The chief officer said that he saw the lifeboat containing the master and chief engineer return twice to the vessel. The chief engineer also said that he and the master returned twice. The first occasion was said to be for the purpose of checking the engine room. The first occasion is said to have been at about 1000 local time (or 0600 UTC). The second occasion, about 40 minutes later, was said to be for the purpose of getting money from the safe. It is difficult to see why both the chief officer and the chief engineer should both say that the master returned twice to the vessel if he did not do so. I am satisfied that he did.

120. The chief engineer said that the purpose of the first visit was "to check the situation concerning the engine room". He accepted that one of the photographs showed the door to the engine room on A deck on the portside was open. He said that he did not go up to that deck but looked into the engine room from the poop deck.

121. The chief engineer accepted that on his second visit he went down into the steering gear room. He accepted that one of the photographs showed that the door to the steering gear room was open. The chief engineer said that it was likely that he left the door to the steering gear open but he denied that he did so intentionally.

122. The electrician was in the same lifeboat as the master and chief engineer. In his first witness statement taken in 2013 he referred to taking a photograph of the vessel but in his second witness statement taken in 2016 he said that he took the photograph because he saw the paint damage and "what looked to be a crack in the steel near the waterline." Although he did not mention this in his first statement I accept his

evidence that he saw something which looked to him like a crack and that he took a photograph of it. It was not suggested to him that he was lying about this or that he was mistaken. I did not consider that he was lying and whilst it is possible that after three years his recollection was mistaken this seems unlikely because he took the photograph and he is likely to have remembered why he took that photograph. (It is now common ground, following close inspection of the photograph by the metallurgists, that there is no crack to be seen in the photograph.)

123. At about 1110 local time the ALPINE MARIE arrived and the crew boarded her at about 1215. Once on board the ALPINE MARIE the master sent a short report to his owners, timed at 1247 informing them of the abandonment of the vessel. The crew later transferred into YM PLUTO at about 1300. YM PLUTO then left for Masirah at about 1520, arriving on 31 March 2013. A ferry took the crew to Muscat and they were repatriated to Istanbul on 1 April 2013.

HEATHER and the loss of the vessel

124. The Owners learnt of the casualty from MRCC Ankara at 0410 UTC (or 0810 local time at the casualty, or 0610 local time in Istanbul). The Emergency Response Team (the "ERT") of the Owners was convened on 30 March 2013 at 0715 local time (Istanbul), 0515 UTC, by Captain Ekinci, the Designated Person Ashore ("DPA") for dry cargo vessels. Captain Taner said in his statement that, in addition to himself and the DPA, Cagdas Saltas (the DPA for tanker vessels), Captain Toran and Captain Mahmut attended the meeting. In his oral evidence he said that he thought, possibly, there might have been someone from the technical department also. He said that Mr. Agaoglu joined later. Captain Mahmut in his statement referred only to himself, Captain Taner and Captain Toran. In his oral evidence he said that others attended. Mr. Fevzi Uzun, a director of the Owners' insurance broker, said there were 8-10 persons at the meeting.

125. The DPA prepared a "statement of fact" regarding the actions of the ERT on 30 March 2013. From that it is apparent that attempts were made to contact ATLANTIK CONFIDENCE but with no success. Information was obtained from Turkish and US warships that the crew had abandoned the vessel. Then, at 1002 local time (Istanbul) or 0802 UTC, the ERT learned that the crew had been taken on board ALPINE MARIE and were safe. Shortly after that, at 1047 local time (Istanbul), 1247 local time at the vessel or 0847 UTC the master of the casualty sent an email from ALPINE MARINE informing the office that there had been a fire in the engine room which had been fought by CO2 and cooling from outside. He said that because the engine room was taking water the vessel was listing to port and as there was no possibility of entering the engine room an order had been given to abandon the vessel. Two photographs of the casualty were attached.

126. During the morning the ERT learned that the crew were to be transferred to YM PLUTO. In the afternoon arrangements were made for the vessel EMEK-S to embark the crew from YM PLUTO and to proceed to ATLANTIK CONFIDENCE and "report with photos of vessel's condition". Shortly afterwards similar arrangements were made for HEATHER, a vessel in the same management as ATLANTIK CONFIDENCE and at anchor about 40 miles off the port of Dubai awaiting orders. She was employed on a 12 month charter to Rasgas and was due to be redelivered on or about 12 April 2013. On 30 March at 1852 local time, 1652 UTC, Cagdas Saltas

telephoned the master of HEATHER and instructed him to proceed to the last known position of ATLANTIK CONFIDENCE. Shortly afterwards the instructions were confirmed by email. HEATHER was to proceed to ATLANTIK CONFIDENCE and "to provide a report with pictures on the state of the vessel." It would appear that HEATHER was sent in place of EMEK-S when the latter's charterers objected to her going off-hire. HEATHER departed from Dubai at 2130 local time or 1730 UTC.

127. Arrangements were made to engage professional salvage assistance on LOF terms. An LOF was agreed with Solar Salvage (a local firm) and Smit Salvage, Rotterdam, as co-salvors, at 2240 local time (Istanbul) or 2040 UTC.

128. At some point that day Mr. Agaoglu had a conversation with an air craft company. Captain Toran confirmed in an email that the main scope of the job was "to locate and take photos." Late at night Captain Toran also informed Solar Salvage of the condition of the vessel and instructions as to how to down load copies of the vessel's plans.

129. On 31 March 2013 the arrangements for an overflight of the vessel were concluded and Smit Salvage sub-contracted the tug AL WAHSH to proceed to ATLANTIK CONFIDENCE from Dubai. Smit Salvage informed the Owners (through Captain Uzun) that their salvage team would arrive in Muscat from Holland early on 1 April 2013. They said that the estimated transit time of AL WAHSH to ATLANTIK CONFIDENCE was about 60 hours. They added that they were endeavouring to perform an overflight to verify the vessel's condition but "availability is scarce". On the same day Captain Taner and Captain Mahmut were instructed to proceed to Oman and join HEATHER. The master of HEATHER was instructed by Cagdas Saltas to deviate to Muscat to allow the two superintendents to board the vessel.

130. On 1 April 2013, shortly after midnight, the Smit salvage team arrived in Muscat. A little later the two superintendents boarded HEATHER in Muscat. Since they worked in the dry bulk department they were not known to the master of HEATHER. During the course of the voyage to the casualty the master turned off the AIS system as an anti-piracy measure. Captain Taner instructed the master to collect all smart phones and cameras from the crew. The master did so. He understood that the Owners did not want photographs uploaded onto web sites.

131. The master of HEATHER gave evidence that the two superintendents advised him that HEATHER was to stand by and protect the casualty from pirates who could ransom the vessel and cargo.

132. At 1748 on 1 April 2013 the Owners P and I Club requested an update from Smit Salvage. They advised Smit Salvage that the vessel was "still afloat earlier today following an aerial survey" but that they had also been informed that the vessel had sunk. Smit issued their third intermediate update on the salvage operation in which they said they had still not succeeded in sourcing an overflight. Later and, it appears, in response to the email from the P and I Club Smit Salvage said that they had been informed that the Owners had arranged an aerial survey and they requested the Owners "to share all data at hand" which "will avoid duplication of flight costs."

133. On 2 April HEATHER approached the last known position of the casualty. She was not found there but a stationary echo some 24 miles to the north east was observed.

HEATHER proceeded to the location of that echo and found the casualty at about 0535. An Omani naval patrol boat was present. A naval officer informed the master of HEATHER that the naval boat had been on station for two days and would now return to port. The master requested that the naval boat remain because he was concerned about pirates but the naval boat left about an hour later.

134. The master of HEATHER described the casualty as trimmed well by the stern and listing to port. He recalled that the sea covered the poop deck and extended to amidships on the port side. When cross-examined he said that the entire poop deck was covered with water when there was a wave or swell. The wave height was about 1.5 m. Captain Taner said that the vessel was listing heavily to port and that the aft deck to about no.5 hold was under water. He said a swell was running and the weather was about force 4-5. Captain Mahmut said that the vessel was "under water until the middle section".

135. In an email timed at 1130 on 2 April 2013 Captain Uzun replied to Smit's email of the day before and attached photographs taken during the aerial search the previous day. He also advised that HEATHER had arrived on site and had confirmed that ATLANTIK CONFIDENCE was afloat. He said HEATHER would continue to monitor the situation until the tug and salvage team arrived.

136. The master of HEATHER launched the rescue boat to enable the two superintendents to visit the casualty. This was at 1430 local time. He described a southwesterly wind force 4 and a moderate swell from the same direction. This was, according to the log of HEATHER, a slight worsening of the conditions which had prevailed in the morning. Captain Mahmut brought with him a bag of tools including spanners, a wrench and a hammer which had been provided by those on board HEATHER. Captain Taner said in his statement that the purpose of these tools was to close any openings to prevent any further water ingress. He said he did not carry a camera or smart phone and so did not take any photographs. In the event they were unable to board the casualty and they returned to HEATHER.

137. The salvage tug AL WAHSH arrived during the night of 2/3 April 2013 at about 0300.

138. On 3 April 2013, at about 1050 local time, 0650 UTC, the bow of ATLANTIK CONFIDENCE lifted and then she sank by the stern. HEATHER returned to Fujairah.

Discussion

139. I shall discuss the principal issues in as near to chronological order as is possible. I shall therefore deal, first, with the navigation of the vessel prior to the fire, second, the cause of the fire, third, the cause of the flooding of the engine room, fourth, the cause of the flooding of the nos. 4 and 5 double bottom tanks, fifth, the conduct of the master and chief engineer, sixth, the despatch of HEATHER and the two superintendents, and seventh, the cause of the flooding of hold no.5. I shall then consider the suggested motive for the alleged scuttling. Having considered those matters it will be necessary to consider, on the basis of all of the evidence, whether Cargo has established on the balance of probabilities that the vessel was scuttled.

140. After some 27 days of evidence Mr. Jacobs presented me with his closing submissions of over 400 pages. Mr. Thomas presented me with his closing submissions of some 275 pages. Although I have read and considered those submissions I have not referred to each and every point which counsel have made. I have however considered them and have sought to explain the reasons for the findings I have made. Had I referred to all the points made by counsel this judgment would have been unnecessarily long. It would be an error to conclude that because a particular point has not been mentioned I have not considered it.

The navigation of the vessel

141. Mr. Jacobs, in his closing submissions, submitted that the change of course directed by the Owners on 25 March 2013 and executed on 28 March 2013 when the vessel reached the end of the IRTC, from one which was close to the coast of Oman to one which was a much greater distance off the coast, was not justified by any navigational reason but was for the purpose of ensuring that when the vessel was scuttled she sank in deep water. Mr. Thomas, in his closing submissions at paragraphs 170-183, submitted that the change of course was justified by a Turkish Government advice to keep 150 miles off the coast of Oman so as to avoid the risk of piracy.

142. The evidence given by both the master and Captain Toran on this issue was most unsatisfactory. The master, in his first statement dated 5 April 2013, made no reference to the change of course. In his second statement dated 19 November 2014 he said that his company recommended that he should not navigate close to the coast of Oman and that he chose a route parallel to the coast but well clear of it. He implied that he chose the route because of piracy considerations and he made no reference to a change of route. In his third statement dated 24 March 2016 he said, having been reminded of the email dated 25 March 2013 from the Owners in which he was requested to follow a series of way points, that he instructed the second officer to plot "the new route" on the chart and that he decided to follow it because he could see no problem with it. He accepted that he had not recommended the change of route. I have already given reasons for treating the master's evidence with caution. I consider it most unlikely that the master had no recollection of the Owners' email to him of 25 March 2013 when making his first two statements for at least two reasons. First, his vessel had been lost whilst he had been following a route which he had been directed to follow by an email from his Owners. A master would remember that. Second, he had also been given an explanation for that change of course by a further email which he had passed on to the charterers. Since he accepted that that explanation was untrue in suggesting that he had recommended the new route he would also have remembered that email. I consider that in his first and second statements he chose not to mention the email of 25 March 2013. He did not wish to state that the Owners had required him to change his route. By implying in his second statement that he had been concerned with piracy he was not telling the truth. For he made it plain when cross-examined that he was not concerned with the risk of piracy because he had two armed guards on board.

143. Captain Toran, in his statement dated 25 November 2014, said that the Owners did not provide their masters with specific routing orders and left such matters to the discretion of the master. (When he gave oral evidence he said in chief in answer to supplementary questions that on occasion the Owners did provide route planning to their masters and he gave as an example an email dated 20 April 2011 to the vessel

Selin-M, which email he had found the week before giving evidence). He said that he relayed to the vessel on 28 March 2013 an email advising of a piracy attack on a fishing vessel in the Gulf of Aden (it was not in fact on the vessel's route but was off the Horn of Africa) and expressed the opinion that "the route taken by the master on the day of the casualty was not unusual". It is to be noted that the email which he said he had relayed to the vessel was recorded as having been sent by Mr. Ekinci, the Owners' DPA (Designated Person Ashore). No reference was made by Captain Toran in his statement to any change of route or to the Owners' email of 25 March 2013 which was also recorded as having been sent by Mr. Ekinci and which requested the vessel to follow the stated way points. I have already said that Captain Toran's evidence must be treated with caution. His failure to mention the Owners' instruction to the master requiring him to alter course is a reason for doing so. His evidence in cross-examination in which he sought to justify the Owners' email of 25 March 2013 was deeply improbable. When asked what justified the way points sent to the master on 25 March 2013, he replied that there was a "very simple explanation", namely, that his colleagues in the office took into account the piracy incidents between 2011 and 2013 and that the 2011 map (sent on to the master by way of explanation for the charterers) was "the worst case scenario". But, in circumstances where, as is common ground, the number of piracy incidents had fallen since 2011 and where there were maps available for 2012 and 2013 it makes no sense to send an out of date map, let alone only part of the map. When asked why his office had sent only that portion of the 2011 map which showed piracy attacks inshore and not those off-shore he initially said that the office had "zoomed" into that location but then said they could not make "a selection of the map". I concluded that he had no coherent explanation for his office sending only that portion of the 2011 map which related to on-shore piracy attacks when the vessel was being directed to navigate further off shore.

144. I accept that there were two piracy incidents close to Masirah Island in early 2013. They were identified by Captain Cleaver, the Owners' piracy expert. One was reported on 14 March 2013 by Opintel, the US Navy's information service, and the other was reported on 19 March 2013 by IMO. Thus, although it was accepted by Captain Cleaver that the number of piracy incidents had fallen since 2013, there was still a risk of piracy close to the coast of Oman in March 2013. However, Cargo has a cogent case for submitting that the routing change required by the Owners on 25 March 2013 was not justified by a risk of piracy for at least three reasons. First, the Owners' email of 25 March 2013 did not state that fear of a piracy attack was the reason for the instruction. Second, the new route took the vessel within 10 miles of the piracy incident of 22 February 2013 which had been reported by UKMTO on 22 March 2013 (and which the master accepted was the only recent piracy information he had received.) Third, the Owners' email of 27 March 2013 suggesting that the reason concerned the risk of piracy was supported by a partial copy of an out of date map of piracy incidents. That indicates that the Owners had no information regarding recent pirate attacks close to the coast of Oman.

145. The Owners' case, as it was presented in their closing submissions, was that there was a significant risk of piracy close to the coast of Oman in March 2013 because the company of Captain Meintanis, Cargo's piracy expert, operated a policy pursuant to which vessels did not go nearer to the coast of Oman than 40 miles on account, inter alia, of piracy. That was not however the Owners' policy and provides no support for a suggestion that the Owners' instruction was in fact motivated by a risk of piracy.

Reliance was also placed on the two incidents close to the coast to which I have referred but there was no evidence that the Owners or the master were in fact aware of them. If the Owners had been aware of them they would surely have referred to them in their email of 27 March 2013, rather than refer to an out of date and partial map of 2011 incidents. If the master had been aware of them he would surely have advised the charterers of them.

146. The main thrust of the Owners' case in their closing submissions was that the "obvious reason" for the Owners' change of route on 25 March 2013 was to comply with guidance from the Turkish Navy which the Owners sent to the master on 26 March 2013. This case was not supported by any evidence at all from either the master or Captain Toran (or indeed from any other person). It was first put forward in the Owners' closing submissions, though the guidance had been mentioned at the very end of the cross-examination of Captain Meintanis. The Owners did not seek to support the "very simple explanation" for the email of 25 March 2013 put forward in evidence by Captain Toran.

147. The guidance from the Turkish Navy had been provided to the Owners on 24 January 2013. This was apparent from an email disclosed shortly before the closing submissions. The guidance was to Turkish vessels and was for the purpose of avoiding attacks by pirates. Paragraph 2(b)(1) required Turkish vessels "to arrive around 2000 Northern latitude to cruise from a minimum distance of 150 miles from coasts of Oman following their exit from the U/A recommended Transit Corridor (IRTC), and then to cruise close to Indian coast as much as possible". When this guidance was put to Captain Meintanis at the very end of his cross-examination he expressed the opinion that it applied to vessels navigating to India. This is a possible construction of the text.

148. The way points which the Owners directed the master to follow take the vessel from the eastern end of the ITRC to a point approximately 150 miles off the coast and then north east, again keeping about keeping about 150 miles off the coast. (I was told that the distance varied between 124 and 163 nautical miles off shore.) It was submitted that it could not be "a coincidence that the revised route should have corresponded so precisely" with the Turkish Navy's guidance and that the "obvious conclusion" to be drawn was that the 25 March email was sent in order to comply with that guidance.

149. However, Captain Toran did not suggest that this was the reason for the email. Yet he made a disclosure statement dated 14 May 2015 in which he disclosed four emails concerned with fleet navigation orders including the email dated 26 March 2013 sent from the office to the master to which was attached the Turkish Navy's guidance. Thus he was aware of that guidance and nevertheless did not suggest in his evidence that that guidance was the reason why the Owners had given the revised way points to the master on 25 March 2013. By contrast he did refer in his statement to the email to the vessel on 28 March 2013 which notified the master of a fishing vessel under attack by pirates off the Horn of Africa. That email was also referred to in his disclosure statement. I infer that he did not consider the Turkish Navy's guidance had any connection with the change of route. The master's third witness statement referred to the email of 25 March 2013 but yet made no suggestion that the email was consistent with, or based on, the Turkish Navy's guidance which he received on 26 March 2013. He was aware of that email because the other attachment to the email required him to contact the Turkish naval vessel GOKOVA and the email gave him

the contact details of that vessel. He contacted her on 26 March 2013. When the Owners' office advised the master on 27 March 2013 how to explain the new route to the master no mention was made of the Turkish Navy's guidance. These three failures (by Captain Toran, the master and the office) to rely upon the Turkish Navy's guidance strongly suggest that the fact that the revised route corresponded with the Turkish Navy's guidance was nothing more than a coincidence. If it had been the "obvious reason" for the change of route surely one of them would have mentioned it.

150. The Owners suggested that Mr. Inci, who sent the email of 27 March and failed to mention the Turkish Navy's advice, cannot have known of the latter advice. But he would surely have investigated with his colleagues why the new course had been required before sending the email and if the reason had been the Turkish Navy's advice he would surely have mentioned it. Mr. Inci also exhibited to the email a partial copy of an out of date map of piracy incidents. The Owners have suggested that Mr. Inci "took it upon himself to produce an explanation and supporting materials which he hoped would satisfy charterers. He drafted a message which stated, incorrectly, that the master himself had recommended the change of course……he also produced a printout of an out of date piracy map …….from 2011, which showed more pirate activity close to the coast of Oman than was the case in 2012 and 2013, and he cropped it in such a way as to not show pirate activity taking place further offshore. This print out was deliberately selected and cropped in this way, in order to mislead the Charterers as to the level and location of piracy activity in the area." There is no evidence from Mr Inci confirming this to be the case and Captain Toran did not suggest that one of his colleagues in the office had "taken it upon himself" to do this.

151. As a result of this remarkable closing submission it is, it seems, common ground that the email of 27 March 2013 was deliberately misleading. I was told little of Mr. Inci. The Dramatis Personae states that he was in the chartering department. It is more probable than not that he was instructed by others in the office to send that email. No motive was suggested as to why he would take it upon himself to send a misleading email.

152. Cargo's reasons for submitting that the change of course was not justified by piracy considerations are cogent and the Owners' evidence and case on this topic are in disarray. I am unable to find that the change of course was in fact justified by piracy considerations. I find that the change of course was not justified by piracy considerations. If it had been it ought to have been easy for the Owners or the master to show that.

153. It is therefore possible that the email directing a change of course was to enable the vessel to be scuttled in deep water and was sent by Mr. Ekinci on the instructions of Captain Toran. Whereas the inshore route would have taken the vessel into shallow water once the vessel had crossed the 200 metre contour off Juzur al Hallaniyat the offshore route took her into depths of over 3000 metres. Whether Cargo has proved on the balance of probabilities that that was the purpose of the change of course can only be decided after consideration of all of the evidence in the case.

The Cause of the fire

(a) Cargo's case

154. Cargo's case is that the fire was started deliberately in the store room by igniting diesel oil, which fire led to the ignition of the other combustible contents of the store room. There are two principal supports for this case. The first is the evidence that the seat of the fire was in the store room and that usually the origin of the fire is where the seat of the fire is. The second is the difficulty of identifying an accidental cause for a fire in the store room. The inference the court is invited to draw is that the fire was started deliberately.

155. The seat of a fire (as the fire experts agreed) has been defined as the area where the main body of fire is located as determined by outward movement of heat, flames and smoke. With regard to the seat of the fire in this case there are several pieces of evidence which point to it being in the store room. First, there is evidence from the photograph taken by the electrician after abandonment of the vessel of the fire damage to the starboard side shell plating in way of the store room. Second, there is the evidence of the chief officer that the deck inside the CO2 room was hot. The CO2 room was immediately above the store room. Third, there is the evidence from the chief engineer and the second engineer of their observation of the fire. They each referred to seeing flames in the starboard quarter or corner of the engine room (where the store room is) and each referred to the store room (although neither could say whether the flames were inside or outside the store room). Collectively, this evidence points to the store room as being the seat of the fire.

156. Mr. Charlton, the fire expert instructed by the Owners, accepted when cross-examined that the evidence of the fire damage to the shell plating and of the deck of the CO2 room being hot was evidence that the seat of the fire was in the store room.

157. Usually the origin of a fire will be where the seat is. Mr. Charlton accepted that this was a "fair proposition". Thus the seat of the fire being in the store room is some evidence, albeit not conclusive, that the origin of the fire was in the store room.

158. Dr. Kelman was of the view that the seat and origin of the fire were in the store room. He relied upon the above factors. He further considered that the evidence of the fire damaged shell plating in way of the store room, in particular, the damage right down to the waterline, suggested a fuel source at deck level, such as liquid fuel, though he accepted that material on the shelves in the store room could burn and drop onto the deck.

159. If the origin of the fire was in the store room there is no realistic suggestion that the fire could have been started accidentally. In his first report dated 9 May 2013 Mr. Charlton thought that a lighting fault was most unlikely and that a discarded cigarette end could be excluded for all practical purposes. When cross-examined he accepted that an electrical fault in a light fitting was "very unlikely indeed" and "effectively" ruled it out. He agreed that there was no obvious mechanism for an accidental fire originating in the store room. He further agreed that if the fire originated in the store room and if an electrical fault or a discarded cigarette could be ruled out then the only realistic candidate would be a deliberate fire in the store room.

160. Mr. Charlton accepted that the evidence was consistent with the fire having been started deliberately and Dr. Kelman considered a deliberate fire to be a realistic possibility.

161. Mr. Thomas submitted that the evidence of the second engineer was inconsistent with Cargo's case that the origin of the fire was in the store room; see paragraphs 61-90 of his closing submissions. In essence the point made was that the evidence of the second engineer that the no. 1 generator could not be seen due to smoke was inconsistent with Dr. Kelman's evidence that smoke would rise with little or no propensity to spread laterally until it reached the deckhead. Mr. Thomas pointed out that the store room had a solid bulkhead up to a height of 1.2m. which was about two-thirds of the height of the generators and so would stop smoke emerging below that level. The genesis of this point was an agreement between the fire experts in their joint memorandum in relation to an accidental fire that smoke obscuring the no.1 generator was "not entirely consistent with fire only in the store room as smoke likely to be emitted at a relatively high level." Dr. Kelman did not agree that that observation applied also to a deliberate fire. He explained, when cross-examined, that a deliberate fire using oil will develop rapidly and generate much more smoke than an accidental fire but he accepted that low level smoke obscuring the no.1 generator was "extremely unlikely" to have been the result of a fire started in the store room. Mr. Charlton agreed with this in re-examination, though in cross-examination he had expressed the opinion that the observation of smoke across the engine room was probably consistent with both theories as to the cause of the fire. However, Dr. Kelman pointed out that the store room had a door and explained that in the early stages of a deliberately ignited diesel oil fire at the store room door large volumes of smoke would be generated at a low level which could have spread out of the store room through the door into the engine room and so obscure the generator "just around the corner". Thus, he said, it was not "inconceivable" that no.1 generator could be obscured by smoke. At a later stage, as the fire in the store room burned at a higher level within the store room, air would tend to be drawn in through the door but at the early stages the smoke would tend to go out through the door. Mr. Thomas said (in his closing submissions) that smoke exiting through the store room door in the manner suggested by Dr. Kelman could not mask the no. 1 generator because the smoke would have to turn left and back on itself. However, Dr. Kelman had said when cross-examined that as the smoke progressed out of the door the flow up the funnel casing "will begin to draw that smoke around". That explains, it seems to me, how the smoke might obscure the no.1 generator. I have borne in mind that this opinion was expressed for the first time in the witness box. But it was expressed in answer to the suggestion, put in cross-examination, that the fire experts' agreement in their joint memorandum in relation to an accidental fire, that smoke obscuring the no.1 generator was not entirely consistent with a fire only in the store room, applied also to a deliberate fire. This was a point which, as Dr. Kelman said, had not been raised before. Mr. Thomas submitted that it was "the stuff of fancy" to suggest that smoke from a fire started deliberately in the store room could have led, in the early stages of the fire, to smoke exiting the store room through the store room door and obscuring the no.1 generator. However, I found Dr. Kelman's opinion credible. He described an accidental fire in the store room and a deliberate fire at the store room door as "different mechanisms" which they appear to be. Dr. Kelman's suggestion that the scuttler might spread oil in the doorway also appears to me to be plausible, notwithstanding Mr. Thomas' arguments to the contrary. A scuttler might well wish to start the fire at the door to ensure that he gets away safely. Thus it seems to me conceivable, as it did to Dr. Kelman and for the reasons he gave, that the smoke from such a deliberate fire could, at least initially, obscure the no.1 generator.

162. Mr. Thomas also relied upon the evidence of the third engineer that he saw black smoke at the bottom of the ladder to the engine room and suggested that this was inconsistent with Cargo's case. One would not expect the bulk of the black smoke to be at the bottom of the ladder on the portside of the engine room. Dr. Kelman accepted that most of the smoke would go upwards, but said that some could be dispersed laterally. It is difficult, it seems to me, to see why black smoke, whether generated deliberately by the spilling of oil at the entrance to the store room (as suggested by Cargo) or accidentally by the ignition of a pool of oil (from a failed pipe) in the save all beneath nos.1 and 2 generators (as suggested by the Owners) would reach the portside of the engine room, at any rate at the early stages of the fire before the smoke had reached the deckhead. Even when it did reach the deckhead it would tend to be drawn up the funnel. So the third engineer's evidence poses a difficulty for either case. But it seems to me that too much reliance should not be placed on this evidence. He did not descend into the engine room and he could not see from the top of the ladder due to an internal bulkhead. Whilst I do not doubt that the third engineer saw some smoke that is as far as his evidence goes. Neither the chief engineer nor the second engineer referred to black smoke at the bottom of the ladder in such quantities that it deterred them from descending.

163. That the fire was started deliberately in the store room is therefore, in my judgment, a real and substantial possibility, supported by (i) the seat of the fire being in the store room, (ii) the circumstance that the origin of a fire is usually where the seat is, (iii) the evidence of the chief engineer and second engineer who saw smoke and flames in the vicinity of the store room, (iv) the lack of an "accidental" cause of a fire in the store room and (v) a possible deliberate mechanism, namely, spilling diesel oil at the entrance to the store room and igniting it. The evidence of the second engineer that no.1 generator could not be seen for smoke was not necessarily inconsistent with that deliberate mechanism. Whether Cargo can prove that the fire was in fact so started to the required standard depends upon whether, after a review of all of the evidence, such an inference can safely be drawn.

(b) The owners' case

164. The Owners say that it is feasible to suggest that the fire accidentally started in the engine room with a leak of diesel oil from the no.2 generator. The leak was initially in the form of a spray to starboard towards the no.1 generator which caused diesel oil to run down the generator into the save-all below the generator. As the crack which gave rise to the spray developed the direction of the spray changed to port and it ignited on an exposed hot surface of the turbo charger of the no.2 generator. Thereafter the oil in the save-all ignited and the fire spread to the store room. The spray may again have turned to starboard such that oil reached the bulkhead between the engine room and the store room (part of which was in the form of mesh). In this manner the combustible material in the store room was ignited. Mr. Charlton considered that this suggestion is plausible. Dr. Kelman, the fire expert instructed by Cargo, considered that it is not. A number of matters have to be considered, in particular: (i) is a leak of fuel oil a possibility; (ii) is it possible that the spray would cause a pool of oil to form in the save-all between generators nos.1 and 2; (iii) is it possible that the direction of the spray changed to port towards the no.2 turbocharger; (iv) is ignition on a hot surface of the turbo charger a possibility; (v) is ignition of such a leak consistent with

the description of the fire given by the chief engineer and the second engineer; and (vi) is it possible that the fire spread to the store room ?

The suggested leak

165. This area of the case has been discussed by counsel in some detail; see paragraphs 351-388 of Mr. Jacobs' submissions and paragraphs 447-465, 481-505 and 506-520 of Mr. Thomas' submissions. My discussion and conclusions are as follows.

166. The suggestion is that a diesel oil pipe, either a low pressure or high pressure pipe, failed or cracked causing diesel to spray from the crack. It was common ground that oil leaks can occur. Although it was agreed that oil leaks can occur on both high and low pressure pipes the debate focused on high pressure pipes. In 2002 SOLAS regulations were implemented to reduce the risk of high pressure fuel leaks impinging on hot exhaust components and so causing fires. Thus all hot surfaces were to be fitted with insulation. In addition high pressure fuel lines were to be protected by a "jacketed piping system capable of containing fuel from a high-pressure line failure." High pressure fuel pipes therefore contain an inner and an outer sheath. Any leak from the inner sheath is designed to be captured within the outer sheath and to drain into an alarm tank. The vessel was required to comply with SOLAS requirements and so Cargo say that a leak is most unlikely to have occurred in this case. Before considering that contention it is necessary to note what a leak from a high pressure oil pipe entails, given its design.

167. The effect of the design is that if the inner pipe fails oil will not leak out of the pipe because it will be contained within the outer pipe. The oil will leak into an alarm tank and cause an alarm to sound. Thus, in order for a leak to produce a spray of diesel oil such as is contemplated by the Owners' case (and without an alarm sounding) there must be a crack in both the inner and the outer pipe in the same place. Either the cracks in both inner and outer pipes in the same place must occur at the same time or, if the crack on the outer pipe develops first, a crack on the inner pipe must occur later in the same place. These propositions were accepted by Mr. Chell, the Owners' marine engineering expert.

168. Mr. Chell explained that although oil at high pressure can lead to a fatigue fracture the outer pipe does not have oil at high pressure flowing through it. "It does not see the same amount of stress." Mr. Hughes said that compared with the inner pipe, which had a small bore and a thick wall, the outer pipe was more ductile, though, as Mr. Chell thought, they were made of the same material. Thus a fracture caused by high pressure fuel oil flowing through the inner pipe is unlikely to have been the cause of the assumed failure because, although the flow of high pressure oil might cause a failure of the inner pipe, it is unlikely to cause a failure of the outer pipe. In order for a fatigue fracture to occur in both pipes there has to be some event which raises the stress levels in the inner and outer pipes. Mr. Chell suggested that an engineer, when refitting a fuel pipe following an overhaul, might refit the pipe in a defective manner. (There was a photograph from a sister ship which suggested that this had happened with a fuel oil pipe on that ship.) That could raise the stress levels in both the inner and the outer pipe though, if the outer pipe is more ductile than the inner pipe, it is unlikely that they would both fail at the same time. Mr. Chell suggested another mechanism which could result in a crack in the outer pipe followed by a crack in the inner pipe in the same place. If the outer pipe rested on a part of the generator which

was subject to vibration such "chafing" might lead to the failure of the outer pipe. Mr. Hughes accepted that vibration was a cause of fatigue cracks. Such a failure would cause no leakage but would or might expose the inner pipe to the same chafing and vibration and so could cause a failure of the inner pipe in the same position as the failure on the outer pipe.

169. Cargo say that either mechanism is most unlikely because the vessel appeared to be well-maintained (as accepted by Mr. Chell) and the Owners had very recently overhauled the generators in February 2013. The generators had been inspected by Class. It is said that it is improbable that they had been left with defective connections or that any part of a fuel pipe had been left in such a way that it rested on part of the generator and so was exposed to chafing and vibration. Of course, the intention of a Class survey is that the generators should be left in optimum condition and in one which complies with Class requirements but the photographs of the generators on the sister ship revealed, as the fire experts agreed, "unorthodox repairs …..on the outer sheath of at least one of the high pressure fuel oil pipes and on one engine it appeared that one of the high pressure fuel pipes was of a non-standard configuration." In the course of the evidence it was agreed that the photographs revealed the sort of defective connections and exposure to chafing and vibration postulated by the Owners' expert. Yet the sister ship must have been inspected by Class. Indeed I was told that the sister ship had been inspected by Class in September 2015 before the photographs were taken. This suggests that Class surveyors do not always spot matters which fail to meet Class requirements. Indeed, experience of shipping casualties suggests that some defects are not spotted by Class. This point was made by Hobhouse J. (who had considerable experience of unseaworthiness cases) in *The Torenia* [1983] 2 Lloyd's Reports 210 at p. 225 lhc when dealing with the probability of corrosion:

> "Those other cases were all of cases of Classed ships. So that they also serve to dispose of the naïve suggestion at an early stage of the trial that such serious corrosion could not get past the system of Class surveys."

170. The expert marine engineers disagreed about this. Mr. Parsons, whist accepting that the photographs of the sister ship revealed defects which ought not to have passed Class, said that that was another ship. I agree that the condition of the sister ship does not prove that ATLANTIK CONFIDENCE must have been in the same condition but the fact that the sister ship was in the condition revealed by the photographs suggests that it is possible (or plausible) to suggest that the generators on ATLANTIK CONFIDENCE might have been in the same condition, notwithstanding a recent Class inspection.

171. It seems to me possible that those responsible for the fitting of the fuel pipes may, at some stage, have fitted a fuel pipe in such a way that stress was created in the pipe or that the pipe was subjected to chafing and vibration, without the same being spotted, or remarked upon adversely, by the Class surveyor in February 2013. Mistakes of this sort can occur, as the photographs of the sister ship suggest. However, since the defects are visible (unlike some locations for corrosion) one would expect Class surveyors to observe irregular fittings. So, although possible, the suggested defects are unlikely. Mr. Jacobs went further and submitted that the possibility of chafing was inconsistent with the vessel's maintenance history and with the evidence from the

witnesses. I am unable to accept that submission. Such defects could have been missed by a Class (or any other) surveyor. Although the chief engineer said that the pipework complied with SOLAS his view was probably based upon the fact that the vessel had passed the appropriate survey.

172. Mr. Jacobs relied upon the fact that the Owners had not adduced evidence from their own superintendents who would have attended the survey of the vessel in January and February 2013. Captain Toran thought that there would have been photographs. Initially he thought it probable that there would have been reports but then said such reports would have been by telephone. It seems to me that there probably were photographs and written reports from the attending superintendents (although I accept that no electronic documents were found by Mr. Aral when he applied search terms of "ATLANTIK CONFIDENCE" and "dry dock" in June 2016). It is therefore unsatisfactory that there was no evidence from the Owners' superintendents regarding the dry docking in January and February 2013. I have considered following the approach of Roskill J. in *The Medina Princess* [1965] 1 Lloyd's Rep. 361 at p. 399 to the effect that the court will not draw an inference of a fact where direct proof of the fact must have been readily available from a witness who is not called. But I suspect that had there been such evidence it would not have been any more detailed than the Class survey reports.

173. A third mechanism for raising stress levels was suggested; physical damage caused by engineers repairing the no.1 generator. During the voyage, on 29 March 2013, two engineers and an oiler worked on the no.1 generator. It was suggested by Mr. Chell that one of them might have damaged a fuel pipe on the no.2 generator at that time. This seems improbable given that the third engineer accepted when cross-examined that their backs were towards the no 2 generator as they worked on the no.1 generator. Further, the piping on the no.2 generator was unlikely to have extended beyond the footprint of the starboard side of the generator. None of the persons working on the no.1 generator suggested in their evidence that anything like this either did or may have happened. The third engineer said when cross-examined that as far as he could remember neither he nor the others working on the no.1 generator caused damage to the no.2 generator. In those circumstances the possibility of such damage must, I think, be regarded as remote. At the end of his evidence Mr. Chell said that over-stressing caused by the way in which a pipe has been fixed on to the fuel pump and chafing and vibration were the only two likely causes.

174. Although the expert marine engineers agreed in their meeting that there was no high exhaust temperature alarm for each individual cylinder they each appeared to accept when being cross-examined that if the average temperature of the cylinders exceeded 500 degrees an alarm would sound. Mr. Chell thought this would only occur in an extreme case but Mr. Parsons thought that that was something which he had seen. I was not persuaded by Mr. Parsons that this was something which must occur in the event of a fuel leak and so I accept that it is possible that there could have been a leak without a high temperature alarm sounding. Reference was also made by Mr. Parsons to a frequency or deviation alarm. However, Mr. Parsons had agreed with Mr. Chell that there was no deviation alarm and, when cross-examined, accepted that he had overlooked that and that there was no such alarm. Thus it appears that the suggested leak of oil could occur without an alarm going off.

175. My conclusion is that it is possible, but unlikely, that a high pressure oil pipe might have been left in such a condition that a fracture in both inner and outer pipes could have occurred in the same place thereby causing an oil leak to occur. Any such leak, if it occurred, must have occurred after 0230 local time on 30 March 2013, because that was when the engine room was last inspected by the third engineer.

176. A leak from a low pressure pipe was also a possibility because that is what the marine engineers agreed. However, such a leak was less likely than a leak from a high pressure pipe as Mr. Chell agreed. The protection of an inner and outer pipe is not required by Class for the low pressure pipes, doubtless in recognition of the fact that leaks in such pipes are less likely to occur.

The suggested pool of oil

177. This question is addressed by Mr. Jacobs at paragraphs 389-397 of his closing submissions and by Mr. Thomas at paragraphs 521-528 (and in some later paragraphs) of his closing submissions. The Owners suggest that a pool of oil might have accumulated between generators nos. 1 and 2 which would, after ignition of oil on the turbocharger of no.2, ignite thereby facilitating the spread of the fire towards the store room. Cargo say that any oil which was sprayed to starboard from the no.2 generator would tend to run aft (because of the vessel's stern trim) and into an oil bilge tank from drains in the save-all so that there would be no pool. However, the stern trim was slight and would be even less when the vessel was underway. Mention was also made by Mr. Chell of the curvature of the deck plating which might cause oil to flow towards the starboard side. The drain was at the aft end of the save-all and so some oil might not drain away. Further, it is possible that a drain might be blocked (because blocked drains were seen on the sister ship) but this is unlikely given the evidence of the third engineer that they were generally open and regularly cleaned by the oilers. Moreover, the drip trays on the second deck were painted in 29 March 2013 and the area around no.1 generator was cleaned on the same day (following the repair to the O ring).

178. It seems to me, having considered these matters, that it is difficult to exclude the possibility that had there been a spray of oil from the no.2 generator towards the starboard side some oil could have pooled in the save-all and not flowed aft to the drain.

The suggested change of direction of spray

179. The Owners suggest that the crack in the oil pipe could have opened up or developed thereby causing the direction of the spray of oil to change from starboard to port towards the turbocharger of the no.2 generator.

180. Mr. Jacobs submitted that for this to happen the cracks in the inner and outer pipes must widen or develop in such a way that they maintained their alignment to each other and so permitted a change in the direction of the spray. This he said was improbable or implausible. Although Mr. Chell did not agree that this was implausible there seems to me to be force in this submission. Mr. Thomas submitted that it was likely if not inevitable that if the crack widened or developed it would do so in both pipes since each pipe would be influenced by the same forces. I agree that they might well be subject to the same forces but it does not follow that they would

react in precisely the same way. My view is that whilst it is possible that the crack in the inner and outer pipe might widen or develop to the same extent such that they maintained their alignment to each other, it seems to me an unlikely possibility. It seems to me to be a matter of chance whether the cracks in the inner and outer pipes both widened together and to the same extent thereby causing the spray to change direction.

181. Mr. Thomas also suggested, based upon certain answers of Mr. Charlton in cross-examination, that the spray could be deflected to port by splashing off an obstruction. Mr. Charlton mentioned this in the context of a change of direction of the spray and suggested, it seemed to me, that if the spray went upwards towards the deck head it might be deflected to port by hitting an obstruction. I suppose it might but it would first require a change in the direction of spray from starboard to upwards towards the deck head. The change of direction would, for the reasons I have given, be a matter of chance.

The suggested ignition on exposed hot surfaces of the turbo charger

182. The next question is, if there was a spray of diesel oil from a failed pipe and the direction of the spray changed to port, is it plausible that the diesel oil was sprayed onto hot surfaces of the turbo generator of the no.2 generator. This could happen if there were a gap in the lagging or insulation around the turbo charger. Such gaps can occur. Photographs of such a gap were taken on board a sister ship. However, the generators on ATLANTIK CONFIDENCE had been inspected by Class in February 2013 and one would have expected there to be no gaps in the insulation. But the sister ship was also inspected by Class so a survey is no guarantee that the lagging will cover all the area it should. The chief engineer was cross-examined about this and said that when a generator is overhauled the insulation would be taken off and changed if it is not in very good condition. He considered that the vessel complied with SOLAS after the survey in January and February 2013. If he had seen any exposed hot surfaces he said he would have ensured they were properly covered.

183. Whilst I consider that exposed hot surfaces were most unlikely in March 2013, following a Class survey in February and March 2013, I am unable to exclude the possibility that there might have been an exposed hot surface. The next question is whether there is evidence that oil on such a surface ignited.

184. In his first statement taken shortly after the events in question the chief engineer described seeing ("across the engine room" from the bottom of the staircase on the portside of the engine room) "flames in the starboard quarter may be inside or outside the store room". He also described thick black smoke and said that it was difficult to see clearly and that he could not see the source of the fire. The second engineer described seeing (as he looked "across" from the entrance to the control room) dense dark smoke in the starboard corner in way of the store room. He also referred to flames but said it was not possible to determine if they were inside or outside the store room. The second engineer said that he could not see no.1 generator. The impression given by each witness is of smoke and flames in the vicinity of the store room in the starboard corner of the engine room. When the chief engineer referred to thick black smoke "across the engine room" I understood him to be saying that as he looked across the engine room he saw thick black smoke in the starboard quarter, not that there was thick black smoke throughout the engine room.

185. In his undated manuscript statement, which was disclosed in 2016, the chief engineer described the main engine as being "barely visible" and that he "could pretty much not see the D/Gs." This suggests that the smoke was more widespread than he had suggested in his first statement taken on 3 April 2013 and that none of the generators was clearly visible. However, he repeated that "there was dense, black smoke and flames by the store room" and neither in his second nor in his third statement did he seek to correct his account in his first statement of what he saw. I prefer his first statement to his (undoubtedly later) manuscript statement.

186. Neither the chief engineer nor the second engineer describe in their statements taken on 3 April 2013 a fire in way of generator no.2 (which was just to starboard of the centre line of the vessel). This poses a difficulty for the Owners' case that the fire may have been caused by a leak of oil from the fuel pipes on the no.2 generator. Indeed, Mr. Charlton very fairly accepted when cross-examined that if there was fuel burning at the turbo charger when the chief engineer and second engineer went into the engine room he would reasonably expect there to be some sign of flame. It seems likely that the chief engineer and the second engineer reached the engine room within about 2 minutes of the fire alarm sounding. That sort of interval was accepted by the chief engineer to be possible and it was not challenged during the trial. Mr. Charlton thought it very unlikely (though there was no "guarantee") that when the engineers came down there was no sign of fire at the turbo charger.

187. Dr. Kelman was also of the opinion that if there had been an oil leak from no.2 generator which had ignited on the hot surface of the turbocharger he would have expected there to have been a fire in way of the turbocharger when the chief engineer and second engineer arrived in the engine room about two minutes after the alarm. In his opinion such a fire would have been visible to the chief engineer and second engineer. His reasoning was that a fire on a generator creates a "very bright fire". It was suggested to him in cross-examination that if there had been a fire low down on the no.2 generator, on the starboard side of the generator, the engineers who were on the portside of the engine room would not have seen such a fire. He disagreed. He explained that if there was a fire low down as suggested the flames would not have been so small that they would not rise above the turbocharger. They would not be "nestled" in an invisible location.

188. Mr. Charlton said in re-examination that he had found in his long experience of investigating fires that witnesses do not initially mention all that they saw and that a fuller account has to be "teased out" of them by further questioning. But since 2013 there has been every opportunity for the Owners to tease out further evidence from them and they have not suggested that they saw a fire in way of the turbo charger on the no.2 generator. Dr. Kelman's opinion was that observations concerning the location of flames were usually "pretty accurate". I accept that the observations of the chief engineer and second engineer were made rapidly and in an emergency. However, both engineers described flames in the starboard quarter or corner of the engine room. It is unlikely that they are in error in this observation. Although the no.2 generator is just to starboard of the centre line of the vessel and so technically within the starboard quarter of the engine room the language they use is not suggestive of a fire in way of the no.2 generator. Each made reference to flames in the vicinity of the store room. Neither made reference to flames in way of the no.2 generator.

189. Having studied the photographs (of the sister ship) of the view across the engine room from the portside of the engine room and having borne in mind the evidence of both fire experts I consider that, if there was a fire in way of the turbo charger on the no.2 generator when the chief engineer and second engineer arrived in the engine room, it is very likely that the engineers would have seen it. Neither mentions such a fire at no.2 generator. That appears to me to be a cogent indication that there was no such fire.

190. Mr. Thomas has submitted that the evidence of the engineers should not be understood in this way; see paragraphs 466-480 of his Closing Submissions. I have considered this submission but nevertheless consider, having reviewed the photographs and the expert evidence, that if there were flames on the turbo charger of the no.2 generator, it is likely that they would have been seen by the chief engineer and the second engineer.

191. The only explanation for a fire on the no.2 turbo charger which is consistent with the evidence of the chief engineer and the second engineer is that by the time the engineers arrived in the engine room the spray of oil was no longer directed to port towards the turbo charger on the no.2 generator but was now directed back to starboard towards the no.1 generator and the store room so that there was no fuel on the turbocharger to burn. However, given that the engineers arrived within about 2 minutes of the fire alarm this seems unlikely, though the possibility cannot be excluded. Moreover, a second change in the direction of the spray would seem a remote possibility because it would mean that the crack had developed twice so as to enable the direction of the spray to alter, once when it changed from starboard to port, and again when it changed from port to starboard. This would require the cracks in the inner and outer pipe to alter in the same location twice and retain their alignment twice. (This would not be required were the leak from a low pressure pipe because such a pipe is not double walled. But the risk of leakage from a low pressure pipe is much less likely in any event).

192. Thus the evidence of the engineers provides, in my judgment, no support for the suggested fire at the turbo charger of the no.2 generator. Indeed, it is only the remote possibility that the direction of the spray had changed back to starboard, thus removing fuel for the fire in that location, that saves the evidence of the engineers from being inconsistent with the suggested fire.

193. Dr. Kelman also relied upon the absence of heat damage to the bulkhead between the engine room and the steering gear room as an indication that there had been no fire in the save-all. Mr. Charlton said that although it was difficult to predict he would expect the bulkhead to have been warm or hot and that there was a greater potential for heat to have affected the bulkhead if there had been a fire on the no.2 generator. The chief engineer gave evidence that as he walked to the steering gear room (before the vessel was abandoned) he checked the bulkhead by touching with his hands and the bulkhead was not hot. This evidence therefore also suggests that there was no fire on the no. 2 generator.

<u>The suggested spread of fire to the store room</u>

194. This was the subject of evidence from both the expert marine engineers and the fire experts. I am able to deal it with more shortly than it is dealt with in counsel's detailed

submissions. The marine engineers disagreed as to whether a significant quantity of spray could have reached the store room. But the fire experts agreed that the fuel from a low pressure leak could project as far as the store room and through the mesh sections of the bulkhead between the store room and the engine room. Mr. Charlton accepted that the spray from a high pressure pipe was unlikely to have done so (because the droplets would be lighter). But Mr. Charlton also thought that the fire could spread to the store room via a "pool fire" in the save all which was contiguous with the store room bulkhead (which consisted in part of wire mesh).

195. Dr. Kelman thought that a fire at the no.2 generator could not reach the store room via a pool fire, or, at any rate, if it could, not so quickly that the fire had established itself in way of the store room by the time the engineers observed it from the base of the staircase. I did not find this part of Dr. Kelman's evidence compelling. He had originally agreed with Mr. Charlton's rates of spread which meant, he accepted in cross-examination, that the fire could reach the store room within two to three minutes. When he sought to revise those figures he misunderstood the scientific literature. In any event much would depend upon how much oil remained in the save all.

196. Mr. Jacobs put various figures to Mr. Charlton concerning the likely volume of oil in the pool, the volume of fuel which was required to be sprayed, the distances which might be covered by droplets of oil and the permeability of the store room and made corresponding submissions. However, I was not persuaded that these figures had any particular level of reliability (notwithstanding that Mr. Charlton was not disposed to challenge some of them). For instance, there seemed to me to be force in Mr. Charlton's point (and Mr. Thomas' submission) that without knowing the rate and duration of the leakage it was not possible to determine the range of the spray. In any event Mr. Kelman's figures on some of these matters varied somewhat during the case.

197. In the result I concluded that, if there was a fire in the save all, it was possible for the fire to have spread to the store room and to have been seen by the engineers. A spray from a low pressure pipe could also have reached the store room, assuming that the direction of the leak had changed from port to starboard. But these were no more than mere possibilities.

<u>Overall conclusion as to the cause of the fire</u>

198. My conclusion as to the origin of the fire based upon the evidence of the engineers as to what they saw and the expert technical evidence is as follows. The origin of a fire is usually where the seat of the fire is. Mr. Charlton accepted that this was a "fair proposition". There is cogent evidence, when taken collectively, that the seat of the fire was in the storeroom. That suggests that the origin of the fire was in the storeroom. The evidence from the engineers who looked across the engine room is of flames in the starboard quarter or corner of the engine room. That is an apt description of the location of the store room. Indeed, the storeroom is mentioned by both the chief engineer and the second engineer. Each said that he could not say whether the flames were inside or outside the storeroom. That is a clear indication that the fire was located in the vicinity of the storeroom. Neither mentioned seeing a fire in way of the no.2 generator. Both fire experts were of the opinion that if there had been a fire in way of the no.2 generator it would have still have been burning when the engineers

went down to the engine room. In my judgment, and having considered the evidence of the fire experts, it is likely that had there been such a fire when the engineers came down to the engine room they would have seen it and recalled it. Thus the Owners' case is not supported by any evidence that a fire was seen on the no.2 generator. Although a leak from an oil pipe on the no.2 generator is a possibility, although oil could have been sprayed onto a hot surface of the turbocharger, although that could have led to the ignition of a pool of oil in the save all beneath the no.1 generator and although that fire together with a further spray of oil could have led to a fire in the store room each of those possibilities is at least unlikely for the reasons I have given. The aggregation of such unlikelihoods, coupled with the lack of support for a fire on the no.2 generator from the observations of the engineers, suggests that the possibility that the cause of the fire in the store room was a fire at the no.2 generator caused by an oil leak is no more than a remote possibility. It is, in my judgment, more likely than not that the origin of the fire in the vicinity of the store room was in the store room. Since an accidental cause of the fire in the store room cannot be identified there is a real and substantial possibility that the fire in the store room was started deliberately. Whether Cargo has established a deliberate fire on the balance of probabilities depends upon an assessment of the evidence as a whole.

The flooding of the engine room

199. Cargo's case is that the chief engineer loosened the sea water chest to flood the engine room deliberately. The chief engineer denied that he did, though he accepted that it was possible to disable the bilge alarm. The Owners' case is that a crack could have developed in the starboard side shell plating as a result of thermal stresses caused by the fire in the store room. There is no direct evidence in support of Cargo's case. It can only been an inference drawn from the evidence as a whole. The Owners adduced expert evidence from Dr. King, a metallurgist, and from Mr. Colman, a naval architect. Dr. King identified two possible mechanisms which could have produced such a crack. Mr. Colman said that the evidence from the photographs of the vessel suggested that the rate of entry of water into the engine room increased, which was consistent with an opening at second deck level and not consistent with an entry of water from the sea chest. I shall consider the metallurgical evidence first.

200. Dr. King's opinion was expressed in less than positive terms. He said in his first report, having referred in general terms to how thermal stresses might cause a crack to develop, that "there is insufficient information available to say whether cracking is possible or not……I do not therefore believe that it is possible to exclude the possibility that a crack formed in the shell plating as a result of the fire." In his second report he described two particular mechanisms which could, in theory, cause a crack in the shell plating. The first was entitled in his report "Cracking in the vicinity of deck 2" and involved expansion of the main deck as a result of the fire giving rise to forces of unknown magnitude with the potential to introduce longitudinal cracks in the shell plating. He accepted that it was no more than a theoretical possibility. The second was entitled "Buckling in way of the store room" and involved local panel buckling. This was also no more than a theoretical possibility. Each depended upon the thermal stresses caused by the fire which could not be quantified. Mr. Hughes, the metallurgist called by Cargo, accepted both mechanisms as a matter of theory but expressed a firm view that if either mechanism had operated so as to cause a crack in the shell plating below the water line there would have been evidence of the required

thermal stresses in the photographs of the starboard side aft of the vessel after abandonment. With regard to the first possibility he said he would have expected to see evidence of deformation at the deck edge and he saw none. With regard to the second possibility he said he would have expected to see evidence of severe buckling above the waterline and there was none, only minimal buckling. Dr. King did not think that such conclusions could be drawn from the photographs. With regard to the first possibility he thought that the required thermal stresses could have caused deformation at the deck edge but as the structure cooled the structure could have reverted to its original shape. With regard to the second possibility he tended to agree with the language used by Mr. Hughes to describe the extent of the buckling but disagreed as to the significance of that buckling.

201. The complexity of the metallurgical evidence (illustrated by both Mr. Jacobs' closing submissions at paragraphs 469-536 and by Mr. Thomas' closing submissions at paragraphs 730-831) was in part due to the circumstance that the two suggested possibilities proposed by Dr. King are purely theoretical. Other topics introduced when Mr. Hughes was cross-examined included corrosion in the shell plating, defects in welds and pre-existing mechanical damage to shell plating though there was no evidence of such matters (apart from some peeling paint which Mr. Hughes thought might indicate corrosion). By contrast Mr. Hughes was of the firm view that if either of Dr. King's two possibilities had occurred one would have expected to find support for them in the photographs of the fire damaged starboard side shell plating. In his view that support could not be seen.

202. Notwithstanding the complexity and detail of many of the submissions on both sides I am able to express my conclusion relatively shortly, because Mr. Hughes accepted both of Dr. King's possibilities as a matter of theory and because Dr. King did not attempt to quantify the degree of possibility (because there was no data for a finite element analysis). Thus it can be said that there was a theoretical possibility that a crack could have been caused below the waterline by one or other of Dr. King's theories. There was however no evidence that such a crack had developed. Nor was there any evidence to suggest that either of Dr. King's possible mechanisms had in fact occurred. Indeed, Dr. King accepted that he could not say whether either was a realistic possibility or not. Mr. Hughes' opinion was that he would have expected to have seen evidence of deformation or buckling in the photographs consistent with the level of stresses required to bring about the assumed crack. I found that opinion persuasive and logical. He is an experienced metallurgist. I was not dissuaded from that view by Mr. Thomas' point (and Dr. King's point) that the suggested location of the crack was below the waterline and therefore not visible on the photographs. However, Dr. King is also an experienced metallurgist and, although he derived no support for his theories from the photographic evidence, he did not accept that the photographs excluded either of the two theoretical possibilities. In that state of the evidence, and notwithstanding that I found Mr. Hughes to be a more persuasive metallurgist than Dr. King, I accept that neither possibility can be discounted. But I am persuaded by Mr. Hughes' evidence that each possibility is no more than a remote possibility. The physical evidence, as revealed by the photographs, did not support either possibility.

203. There was one part of the naval architectural evidence which was particularly relevant to the possibility that a crack developed as a result of the fire. Mr. Colman was of the

opinion that since his model indicated that the rate of flooding into the engine room increased that suggested that the source of entry was high in the engine room rather than low. There is no dispute that if there were a crack in way of the second deck the flooding rate would gradually increase whereas if there were ingress through the sea chest the flooding rate, though initially higher, would gradually decrease as the net head of water decreased. The naval architects illustrated the two different flooding rates by curves which were fitted to data points, namely, draft readings taken from some of the photographs. An S shape curve (known as a cubic curve) illustrated a rate of flooding which increased. A C shape curve (known as a quadratic curve) illustrated a rate of flooding which gradually decreased.

204. The debate between the naval architects centred upon whether it was appropriate to use in this context a particular photograph, that taken by the electrician at 0843 UTC on 30 March 2013 from a point some distance away from ATLANTIK CONFIDENCE. Other photographs used in the exercise were from a closer distance and therefore clearer. Mr. Colman had used the photograph timed at 0843 UTC on 30 March 2013. Use of this photograph dictated an S rather than a C curve.

205. Although Mr. Burnay got a draft reading from this photograph which was similar to Mr. Colman's draft reading he did not think that the measurements taken from the 0843 photograph were reliable. The photograph was taken from a long distance and even when zoomed in the quality was poor such that the transom deck line and water line were not accurately distinguishable. By contrast Mr. Colman considered that the waterline was clear and flat and that the location of the transom was also clear in the photograph. He used a computer measuring device, Rhino, to measure the draft. The Rhino model was created using the vessel's GA plan (and, I was told, measurements scaled off from it) and data on the photograph to define and position the model. On the photograph in question, by zooming in, he was able to identify a particular fairlead on the portside aft of the vessel. The outline of the vessel could then be placed on the photograph by reference to that fairlead and by interrogation of the software the distance from the main deck at the centre line on the transom down to the waterline was ascertained. That is then subtracted from the distance between the keel of the ship up to the main deck at the centre of the transom. The difference is the draft. Mr. Colman considered that when his Rhino model was overlaid on the photograph it was "smack on" thereby indicating its reliability.

206. Mr. Jacobs has made submissions about the reliability of the 0843 photograph at paragraphs 22-28 of his submissions on naval architecture and Mr. Thomas has made submissions on the same topic at paragraph 116(c) – (d) and at paragraphs 137-147 of his submissions on naval architecture. Mr. Colman's method is undoubtedly an ingenious way of deducing a draft from what looks like a distinctly unpromising photograph. However, I was troubled by two matters. First, it seemed to me that the reliability of the result of the exercise depended upon the clear delineation of the relevant features of the photograph, in particular the transom and the waterline. The delineation of such features was, it seemed to me, poor and zooming in did not really help because the resulting picture suffered from "pixellation". Second, although Mr. Colman thought that the Rhino model was "smack on" the photograph it did not on close inspection appear to be. There were slight differences both at the bow and at the transom, which Mr. Colman accepted during the course of cross-examination. (It is possible that this resulted from errors in the scaling off of measurements from the GA

plan.) Having considered all that has been said on this topic I prefer the evidence of Mr. Burnay and consider that the 0843 photograph was taken at too great a distance away from the vessel to give reliable results. It seemed to me that Mr. Burnay's opinion as to the reliability of the 0843 photograph was realistic whilst Mr. Colman's opinion was unrealistically optimistic.

207. However, Mr. Burnay eventually accepted that even without the use of the 0843 photograph the draft figures deduced from the photographs were consistent with both an S curve and a C curve, that is, consistent with either an entry of water at the second deck or an entry of water at the sea chest. Mr. Thomas submitted, based upon the evidence of Mr. Colman, that the "high" measurements used by Mr. Burnay to obtain his average draft reading for the early morning photographs of 0457 and 0501 were inaccurate and if excluded would result, and result only, in an S curve. However, I consider that Mr. Burnay's method of taking an average of his low and high readings was a fair approach. His methods of scaling off the draft had produced a range of readings which had not been challenged by Mr. Colman at their meeting in February 2016 "allowing for a reasonable tolerance on the measurements." Taking an average would therefore seem reasonable. There was considerable debate as to the respective merits of each expert's reference points. Mr. Colman relied upon the width of the transom and Mr. Burnay relied upon the length of the pilot ladder and guard rail. In particular the debate as to the reliability of Mr. Colman's measurement of the width of the transom continued after the end of the hearing, with Mr. Colman and Mr. Thomas insisting that his measurement from the GA plan was supported by measurements from the Shell Expansion plan and with Mr. Jacobs and Mr. Burnay insisting that much depended upon which copy of the GA plan was used and that reliable measurements could not be taken from the Shell Expansion plan, a proposition with which Mr. Colman firmly disagreed. In addition it was said by Mr. Jacobs and Mr. Burnay that the transom edge was not clear in the photographs. This debate appeared to me to confirm the desirability of taking an average of the readings, especially in circumstances where the experts had agreed at their meeting that each other's measurements were within a "reasonable tolerance". (The late disclosure of plans also produced a debate about the height of the lettering of the ship's name on the stern of the vessel. Mr. Jacobs said that Mr. Colman had used an incorrect figure which cast further doubt on Mr. Colman's draft readings. However. Mr. Thomas said, whilst not denying that an incorrect height had been used, that the height of the lettering had not been used to "measure" the draft but had only been used as "a useful and simple tool for estimating the draft". In any event, he said, the corrected figure would lead to no materially different conclusion. In the light of the experts' agreement before the hearing I do not think that this debate about the height of the lettering can materially advance matters.) I therefore consider that the naval architectural evidence, based upon reading off drafts from the photographs and taking an average, is consistent with both an entry of water into the engine room at a high point and at a low point. It does not point clearly to one rather than to the other.

208. It follows that the naval architectural evidence is consistent with the theoretical possibility of a crack to which Dr. King referred. However, in my judgment the possibility remains either remote or at any rate unlikely bearing in mind Mr. Hughes' opinion based upon the photographs of the damaged shell plating.

<u>The flooding of the nos.4 and 5 double and top side tanks</u>

209. Cargo's case is that this was done deliberately by operating the ballast system. There is no direct evidence that had happened. The court is invited to infer that that happened from all the evidence in the case. The Owners' case (which is set out at paragraphs 589-718 of Mr. Thomas' submissions) is that as a result of a "flashover" from the fire in the store room, that is, the projection forward of burning and/or hot flammable gas along the underside of the deckhead in the engine room to a point above the cabinet containing the solenoid valves which control the ballast valves, the electrical cables which ran down the pillar from the deckhead to the solenoid valve cabinet could have been attacked by the fire with the result that the ballast valves to the nos. 4 and 5 ballast tanks could have been opened, as a result of an electrical fault, namely, a live short circuit of the solenoid valves, thereby causing the tanks to flood. Mr. Jacobs described this mechanism as "hot wiring" which I find to be a convenient shorthand description of a very complex event. Mr. Thomas objected to that shorthand description but he has not suggested another. It assists to have one and I hope that it will not cause offence if I use it, simply as a shorthand description of the mechanism which I have summarised above from Mr. Thomas' closing submissions. At the end of the evidence it was common ground that hot wiring was a theoretical possibility but Mr. Kelman thought it most unlikely to have occurred. Mr. Jacobs's submitted that hot wiring was implausible for reasons set out at paragraphs 537-572 of his closing submissions.

210. In order for hot wiring to occur certain events or conditions must occur or exist. They are:

i) The fire had to have spread (in a flashover) some 5-6 meters forward of the store room so as to reach the cables to the solenoid cabinet.

ii) The ballast console in the cargo office had to be switched on.

iii) The hydraulic power pack, that is, the device which generated and stored the hydraulic pressure which was required to make the hydraulic fluid flow to the actuators which operated the ballast valves, had to be switched on.

iv) There had to have been an existing earth fault, "earth fault 1".

v) Four open command wires on solenoids BA03, BA05, BA12 and BA014 had to be energised by a separate earth fault, "earth fault 2".

<u>Flashover</u>

211. So long as there was an appropriate amount of combustible material in the store room the configuration of the store room, contrary to Dr. Kelman's original view, was such as to allow the possibility of flashover. Although photographs of the sister ship's store room were considered I do not think they can be regarded as casting much, if any, light on the amount of combustible material in the store room on ATLANTIK CONFIDENCE. However, Mr. Thomas submitted (based upon a large number of invoices which were in evidence) that a substantial stock of spare parts and stores had been taken on during the recent dry docking. It must therefore be possible that there was sufficient combustible material in the store room.

212. The chief officer's evidence that the draft gauges did not work was relied upon as evidence that the fire had indeed spread further forward than the solenoid cabinet because the air supply for the draft gauges was forward of the solenoid cabinet and must have been damaged by fire. The instruction book to the draft gauges was produced during the cross-examination of Mr. Parsons. It had not previously been disclosed. Following its production Mr. Parsons analysed it and concluded that the air purge unit and/or its piping was inside the storeroom. He further considered that the fire in the store room could have damaged the unit and/or piping so rendering the draft gauging system inoperable. These matters were put to Mr. Chell. He did not accept that the unit would be in the store room but thought it would be below the upper or main deck. He suggested that it could have been on the portside of the vessel not on the starboard side. Mr. Parsons obviously thought it would have been on the starboard side and that seems likely given that other pipework was on the starboard side going to the ballast control room on the starboard side. Mr. Chell agreed that if the unit had been in the storeroom it would have been destroyed by the fire but doubted that this would affect all the draft gauges. In his closing submissions Mr. Thomas said that his instructions were that the unit was in the steering gear room. After the full set of drawings had been disclosed (after the end of the hearing) Mr. Jacobs submitted in writing that plan HJAW-E-14 shows the air purge unit for the aft draft gauge in the engine room and notes specifically that the pipework for the draft gauge system runs down the "ballast console side" (i.e. the starboard side). This, he submitted, was direct evidence that the pipework for the draft gauges passed from the purge head down the starboard side of the engine room and therefore almost certainly through the store room. He submitted that this provides the most plausible reason for the loss of air to the draft gauges rather than the spread of fire forward to the solenoid cabinet and its environs. I accept that it looks as if the pipework was on the starboard side but I do not follow why it "almost certainly" went through the store room. Mr. Thomas has informed me that Mr. Chell disagrees that the airlines pass though the store room. Having considered the various submissions made I do not consider that I can reach any clear findings on this issue. It would not appear safe to conclude that the fact that the draft gauges did not work was "irrefutable evidence" (Mr. Thomas' phrase) that the fire must have extended forward to and beyond the solenoid cabinet. The position therefore appears to be, as Mr. Charlton accepted, that all that can be said is that the flashover could have extended to the cables to the solenoid cabinet.

The ballast console

213. It was common ground that if the ballast console were switched off the "open" command conductors could not be energised. The chief officer of the sister ship, when interviewed by six experts in November 2015, said that after ballasting operations were complete the control system was shut down with all valves closed. Mr. Chell when cross-examined could not provide any reason for keeping it on at sea when ballast operations were not imminent. This evidence therefore suggests that it is likely that the ballast console was switched off. However, Mr. Thomas, in his closing submissions, relied upon the evidence of the chief officer of ATLANTIK CONFIDENCE that he checked the lights of the ballast console during a voyage as being consistent with the console being switched on. If that is so it is odd that Mr. Chell did not say that a reason for keeping the ballast console on during a voyage was in order to check the status of the ballast valves. On the other hand it is one Cargo's criticisms of the master that he did not order the chief officer to check the ballast

console before deciding to abandon ship which criticism assumes that the ballast console would be on. In this state of the evidence I am unable to make a firm finding one way or the other but I accept, based upon the chief officer's evidence, that it is possible that the ballast console was switched on.

The hydraulic power pack

214. I have already said that the evidence of the chief officer and third engineer to the effect that the hydraulic power pack was left on stand by was not reliable. Whilst the chief engineer said that it was kept on Mr. Chell said that there was no reason to keep it on, though he thought there was nothing wrong in leaving it on. Mr. Parsons disagreed. He said that all means of flooding should be closed off. That was also the practice of the chief officer of the sister ship and seems to me a sensible policy. I therefore find that it is more likely than not that the hydraulic power pack was off but in deference to Mr. Chell's evidence I also accept that it is possible that it was left on.

215. Mr. Thomas said that even on Cargo's case it had to be on; otherwise the scuttler could not have deliberately flooded the ballast tanks. A scuttler could of course have switched it on. Mr. Thomas said that would have sounded an alarm. The evidence for that was Mr. Chell's visit to the sister ship in 2014. He reported that when the power supply to the pumps is switched on an alarm sounds in the engine room. It is not, however, suggested that the alarm would sound throughout the ship. A scuttler could therefore switch the power pack on and, I assume, switch off the alarm.

216. There is a further matter which Mr. Chell reported from his visit in 2014, namely, that when power was switched off and four valves were being opened only one valve fully opened and the other valves only partially opened before pressure had dropped to zero. This was of significance because the master said in his first statement that all power had been lost at 0535 when the emergency generator started. The hydraulic power pack was not powered by the emergency generator and Mr. Charlton considered that the fire would have taken 10-15 minutes to spread to the cabling to the solenoid cabinet, that is, by about 0540-0545. Thus, on the master's evidence that the emergency generator was on at 0535 (which he later changed, but for no reason which he could identify, to about 0550) it would be difficult for hot wiring to account for ballasting of double bottoms 4 and 5. However, it may be that the unit on the sister ship was defective and that the unit on ATLANTIK CONFIDENCE could have stored pressure for longer.

Earth fault 1

217. There was no evidence of an earth fault in existence before the fire and if there had been one an alarm would usually sound. However, possible faults caused by the fire were put to Dr. Kelman and Mr. Parsons though none had been suggested in Mr. Chell's report. They accepted that they could occur. Although the suggested earth faults caused by heat from the fire or water damage resulting from boundary cooling may have led to a hard short (and therefore not relevant for the purposes of hot wiring) there must, in the light of Dr. Kelman's and Mr. Parsons' answers, be a possibility that there could have been a relevant earth fault caused by the fire or the effect of boundary cooling. (The further submissions made by Mr. Jacobs after the hearing, even if correct and admissible (which Mr. Thomas says they are not) do not enable this possibility to be excluded.)

Earth fault 2

218. Assuming, as I have indicated, that the necessary conditions and events were possible, the final matter to discuss in this context is whether earth fault 2 could have occurred. My understanding of Cargo's position, at the end of the evidence, was that whilst it is possible that the fire could have caused earth fault 2 it was submitted that in order to do so the fire would have had to have operated both selectively and rapidly, which was implausible.

219. Mr. Jacobs submitted that the fire would have to operate selectively because of the many conductors in a steel cable or sheath (about 31) only two open conductors were required to be affected by the fire. That is true but others might have been affected by the fire but with no consequence. It was said that the fire was also selective because the starboard side ballast tanks were not flooded. It is true that they did not flood but there might still have been damage to conductors relevant to the starboard side but not so as to cause the valves on the starboard side to open. It was also pointed out that if a "closed" conductor were affected by fire then the relevant valve would not open. Since the open and closed conductors were but millimetres apart the possibility that a closed conductor was not affected was remote. Similarly, if a return conductor were affected before the open conductor was affected there would be a hard short and the valve in question would not open. The relevant conductors would have to be affected quickly because the whole cable would be rapidly affected by the fire, causing a freeze in the cabinet.

220. Mr. Jacobs said that the assumed selective and rapid fire attack was so improbable and coincidental that earth fault 2 could properly be described as implausible. Having considered this matter I have concluded that earth fault 2 was possible but that it was only a remote possibility.

221. My overall conclusion as to hot wiring is that it was possible but, as Dr. Kelman said, most unlikely. I would describe the possibility as remote. A number of conditions had to be satisfied and a number of events had to occur. It is possible that the conditions were satisfied and that the events occurred but there was no supporting evidence that hot wiring in fact occurred. In those circumstances, and having regard to the matters to which I have referred above, I consider that the possibility of hot wiring is possible but remote.

The conduct of the chief engineer and master after the fire alarm sounded

222. Although there were fire-fighting efforts following the fire alarm there are three particular aspects of the chief engineer's conduct which call for an explanation and which were said to give rise to a suspicion that the sinking was deliberate.

223. The first is his instruction to the second engineer, after the latter had reached the engine room after the fire alarm sounded, to return to the accommodation and inform the crew of the fire. Mr. Jacobs submitted that the second engineer would have been of assistance in investigating and fighting the fire and yet the chief engineer ordered him to leave the engine room. That instruction calls for an explanation. The chief engineer said that in circumstances where he had tried and failed to ring the bridge he wanted the second engineer to warn the crew of the fire. Mr. Jacobs said the

explanation was that the chief engineer wished to get on with the work of scuttling the vessel.

224. The chief engineer said in his first statement that the fire alarm in the engine room activates the main ship's alarm and in his third statement he said that both alarms sound throughout the vessel. However, the chief officer (who was the officer of the watch on the bridge) said that he activated the general alarm, having heard the fire alarm and seen that it indicated a fire on the second deck of the engine room. The third engineer also said that after he had telephoned the chief officer the general alarm then sounded. The chief officer then made an announcement on the public address system. I accept the evidence of the chief officer and third engineer in this regard.

225. Most of the crew were awoken by the general alarm and the chief officer's announcement. The second and third officers, the bosun, the electrician, two of the oilers, the two fitters, two of the ABs and the steward heard the general alarm and announcement. One of the ABs heard just the alarm and one of the oilers was awoken by the second engineer knocking on his cabin door. The latter said the general alarm sounded at about the same time.

226. There was therefore no need for the chief engineer to send the second engineer away from the engine room to alert the crew. His explanation for so doing is that he called the bridge but there was no immediate answer. There is no corroboration of this failed call. But even if he made the attempted call his own understanding was that the fire alarm activated the general alarm and so he would have understood that the general alarm would also be sounding throughout the vessel. Indeed, in his second statement he said that he heard the general alarm; but in his third statement he said this was a mistake and that he heard the fire alarm. (In his first statement he had referred to both). In his oral evidence he maintained that he had heard the fire alarm. He accepted that the general alarm might have been on but he said he did not hear it.

227. It was suggested to the chief engineer that he instructed the second engineer to go to the accommodation because he wanted him out of the engine room. Since the second engineer would have been of assistance to the chief engineer in investigating and possibly fighting the fire I would have expected the chief engineer to have wished to have the benefit of the services of the second engineer in the engine room. Mr. Chell accepted that the second engineer could have helped to fight the fire. The failed call to the bridge (assuming it took place) does not appear to me to be a good reason for sending the second engineer from the engine room. The chief engineer had only let the call ring two or three times. He does not appear to have been concerned that the bridge would be unaware of the alarm because he did not send the second engineer to the bridge but to the crew's accommodation. (Although he referred in his oral evidence to wanting "the bridge" to be aware, he referred in his first statement to "the crew" and the second engineer also referred to being instructed to go to the "crew's cabins".) The chief engineer must have appreciated that the general alarm would be sounding, either because he thought it was activated by the fire alarm or because he would know that the officer of the watch would sound the general alarm. There does therefore appear to me to be force in the suggestion put to the chief engineer that he sent the second engineer out of the engine room because he wished to get on with the work of scuttling the vessel.

228. The second matter which calls for an explanation is the decision of the chief engineer (supported by the master) to order the third engineer and the AB when they were wearing protective suits and breathing gear not to enter the engine room. I have already discussed the evidence on this issue. It was suggested that the order was given because the chief engineer did not wish any investigation of the fire or of the list to be made. This suggestion is to an extent supported by the chief engineer's own (untrue) explanation that he gave the instruction when the third engineer and AB were not wearing protective suits and breathing gear and his view, expressed in evidence, that it would be "complete nonsense" for anyone to describe their attempt to enter the engine room wearing such gear as suicide. That suggests that he appreciated that the giving of such instruction when the third engineer and AB were wearing protective suits and breathing gear would be regarded as suspicious. Mr. Thomas submitted that the suggestion was wrong because the master himself ordered the inspection of the engine room and then ordered the abandonment of the inspection after the third engineer and AB had taken a few steps into the engine room. I accept that the master ordered the inspection and was involved in the order to abandon the inspection but I am unable to accept (because of the third engineer's evidence) that the chief engineer was not also involved. The fact that the master gave the initial instruction to enter the engine room is not suggestive of a scuttler anxious to ensure that the engine room is not inspected and for that reason this episode is not the strongest of Cargo's points. However, the episode is consistent with Cargo's case in that it shows the chief engineer, who on Cargo's case had been taking steps to scuttle the vessel in the engine room, ordering the third engineer and AB, when wearing protective clothing and breathing apparatus, not to proceed with an inspection of the engine room.

229. The third matter arising from the chief engineer's evidence which calls for an explanation is his advice to the master that there was a risk of explosion from the starboard diesel oil tank. I have already discussed the evidence as to this. I have found, based on the chief engineer's first statement, that the chief engineer went to the bridge after the CO2 had been injected into the engine room and that he told the master that there was a risk of explosion in the diesel oil tank on the starboard side. The diesel tank was between frames 27 and 34, that is, well forward of the store room and would have been cooled by seawater. Dr. Kelman expressed the opinion that it was highly unlikely that the tank would have sustained any significant heating. Further, by this time CO2 had been injected into the engine room and, as the chief engineer said in his first statement, he assumed the CO2 "was being effective" and, as he said in his second statement, "we did not think to activate more CO2 bottles". That decision, not to activate more CO2, sits uneasily with the suggested risk of explosion in the starboard diesel tank. Mr. Jacobs described the chief officer's observation to the master as "somewhat bizarre". I consider it possible that the chief engineer did not actually believe that there was such a risk. His attempt to place his advice to the master on this topic before the CO2 was injected strongly suggests that he appreciated that such a risk was unlikely once CO2 had been injected into the engine room. Mr. Jacobs further suggested that the fear was expressed by the chief engineer to the master to prevent further investigation into the fire and to create panic so as to encourage abandonment. Mr. Thomas said that this makes no sense because the master is alleged to have been one of the scuttlers and there was no evidence that this fear was spread amongst the crew. That is true. But there may have been discussion about explosions because before abandonment a sound had been heard which was referred by more than one member of the crew as an "explosion" and after

abandonment several of the crew referred to hearing an "explosion". It is also to be noted that the second engineer (who is not said to have been a scuttler) expressed his concern as to the risk of an explosion from the diesel oil tanks at the very end of end of his statement. He did not give oral evidence and so the basis of his concern could not be explored. If it is possible that the chief engineer did not believe that there was no risk of an explosion it is also possible, it seems to me, that the chief engineer's advice to the master was for the purpose indicated by Mr. Jacobs. The chief engineer said that after he had given the advice the master ordered the preparation of the lifeboats. In his statement the master did not mention the advice but justified his decision to abandon by reference to the list and to the smoke. Yet the smoke must have reduced as a result of the injection of CO2. The chief engineer, when cross-examined, accepted that the smoke had, as a result of the injection of CO2, considerably reduced.

230. There are also three aspects of the master's conduct prior to abandoning the vessel which call for an explanation and give rise to a suspicion that the sinking was deliberate.

231. First, he failed to advise his office of the emergency before be abandoned the vessel. There is no dispute that the vessel's SMS (Safety Management System or standing orders) required him to inform the Fleet Manager, Captain Toran, in the event of a contingency. The master did not do so. Mr. Thomas has sought to explain this failure (at paragraph 257 of his closing submissions) but the master accepted when cross-examined that he could have sent a message to his office by Inmarsat. Captain Malhotra, a master mariner (though one who had never sailed as a master) gave expert evidence for the Owners to the effect that the master would have considered dealing with the emergency a higher priority. But the master had instructed the second officer to prepare a message to be sent to the office as the CO2 system was activated which was about 30 minutes after the fire alarm. I consider that there must have been time to instruct the second officer to send the message to the office. The vessel was abandoned one hour and three quarters after the fire alarm. Further, the first distress message was not sent until just before the decision to abandon. It was suggested to the master that the reason for this delay in sending such messages was that the master did not wish any assistance from other vessels because he wished to ensure that his vessel was a total loss. That appears to me to be possible, though it is also possible (as suggested by Mr. Thomas at paragraph 261 of his closing submissions) that the master delayed until he knew he had to abandon his ship.

232. Second, the master noticed the vessel was listing to port "slightly, about 5 degrees". He instructed two of the crew to don fire suits and breathing apparatus to enter the engine room to investigate the cause of the fire and of the list. In the event that order was countermanded by the master and chief engineer in circumstances which I have described. No other steps were taken to investigate the cause of the list, either by taking soundings on the portside or by instructing the chief officer to examine the inclinometer (to get an accurate measurement of the list) or the ballast console (to see if any ballast valves were open) in the cargo control room. Captain Malhotra accepted that soundings could have been taken but that that was in "an ideal world". He also accepted that it would have been sensible to instruct the chief officer to look at the ballast console at the same time as he asked him to look at the draft gauges. It was suggested to the master that he did not take these steps because he did not wish

anyone to find out that the ballast tanks had been deliberately filled. That appears to me to be possible, notwithstanding the master's explanation and Mr. Thomas's comment that there was also a fire and that criticism of this nature is based on hindsight; see paragraphs 258-259 of his closing submissions.

233. Third, although the master instructed the second officer to collect "the brief case holding the deck log, GPS log, movement book and crew passports" the vessel's working chart was left on board. The explanation for the documents being in a brief case may be, as the second officer said in his statement, that one of his tasks was to stow such documents into a brief case. The deck log must have been on the bridge and so it is likely that the second officer went to the bridge where the master must have given him an instruction with regard to the collection of the ship's documents. In his oral evidence the master said that he did give instructions to the second officer ("take what you can, especially the log book"). I think it is likely that he did give instructions but it is unlikely that in April 2016 he had a reliable recollection of precisely what those instructions were. The chart ought to have been taken as the SMS indicates and it must have been apparent to the master before he left the bridge that the chart was still there. It is possible, notwithstanding Mr. Thomas' submissions at paragraphs 273-5 of his closing submissions, that the master left the chart because he did not wish those investigating the loss of the vessel to see the alteration of course consequential upon receipt of the Owners' way points on 25 March 2013. It is correct that the deck log and GPS log which were removed evidenced the course in fact navigated. But I was not referred to any entry in the logs which would evidence, as the working chart would, the difference between the original route and the amended route. It is also correct that the revised route would be apparent from the Owner's email of 25 March 2013 and from the email exchanges with the charterers but these communications were not mentioned by either the master in his first or second witness statements or by Captain Toran in his witness statement.

234. After the vessel had been abandoned the master and the chief engineer returned to the vessel twice. Since a decision to abandon is made because it is unsafe to remain on board, a decision to return to an abandoned vessel is odd. Captain Malhotra accepted that it was "wrong" for the master and chief engineer to go back on board. It seems that they first went back on board at about 1000 local time, more than two hours after they had abandoned their vessel. The master (who only acknowledged returning to the vessel once) gave the impression that it remained dangerous to be on board. "I remembered I had left money in the vessel's safe approximately US$4,500 so I returned on board, collect the money and left *very quickly*" (emphasis added). The chief engineer said that the smoke had stopped and so he and the master decided to return to inspect the engine room.

235. It was suggested to the master that he and the chief engineer returned to the vessel to see what further they could do to assist the sinking. They denied that suggestion. The master also denied that he in fact returned to the vessel twice. He must have known when he made his statement on 5 April 2013 that he had returned to his abandoned vessel twice. No master would forget that. His statement sought to mislead the reader by suggesting that he only returned once, and then only for the purpose of recovering US$4500. It is possible that he gave that misleading impression in order to hide the fact that he and the chief engineer made two visits to the vessel to see what they could do to assist the sinking.

236. It was suggested to the chief engineer that on the first visit he had opened the door on the portside of A deck to the engine room in order to rekindle the fire. This seems unlikely since it would do nothing to assist the sinking of the vessel. It was also suggested to the chief engineer that he left the door to the steering gear room on the poop deck so that if the poop deck flooded water would gain access to the steering gear room. This seems possible (notwithstanding that it had also been left open on abandonment).

237. The conduct of the master and chief engineer mentioned above gives rise to a suspicion that the sinking was deliberate. Whether or not it was can only be determined after all the evidence has been assessed.

The despatch of HEATHER and the superintendents

238. Mr. Jacobs submitted that Captains Taner and Mahmut were sent to the casualty because the Owners were concerned that the casualty had not sunk and they wished the superintendents to get to the casualty before the salvors to see if there was something they could to assist with the sinking (see paragraph 315 of his closing submissions). Mr. Thomas submitted that this would have been a "demonstrably stupid" decision given that what they did would have been in the full view of the crew of HEATHER (see paragraph 205 of his closing submissions).

239. The contemporaneous email sent to the master of HEATHER on 30 March 2013 stated that he was to provide a report with photographs of the condition of the vessel. This was consistent with the instructions which had been given to the owners of EMEK-S before her charterers refused to allow her to go off-hire. When, as later instructed, the master of HEATHER embarked the two superintendents at Muscat he regarded responsibility for the report as having passed to them. He said that they communicated with the office on their own and worked with management on a one to one basis.

240. Before arriving at ATLANTIK CONFIDENCE the superintendents advised the master that the Owners wanted HEATHER to stand by and protect the vessel from pirates. There was no mention of this in any email to the master of HEATHER. HEATHER would have been an odd choice to protect ATLANTIK CONFIDENCE from pirates. She had a low freeboard and modest speed and carried no guards. She herself was vulnerable to pirates. When she arrived on site her master asked the Omani patrol boat to remain because he was concerned about pirates. Moreover, an abandoned, disabled vessel whose situation was known to the authorities was an unlikely target for pirates. Captain Taner was unable to comment as to whether the vessel held any value for pirates. Captain Mahmut said that he envisaged pirates conducting a transhipment operation 150 miles out to sea off loading cargo from ATLANTIK CONFIDENCE. He cannot seriously have entertained this opinion. In the result I am unable to accept that the superintendents genuinely believed that HEATHER's role was to protect ATLANTIK CONFIDENCE from pirates.

241. When they arrived in the vicinity of ATLANTIK CONFIDENCE they proceeded to the casualty in a rescue boat (with the chief officer and first engineer of HEATHER). Although Captain Taner said that he wished to board the casualty to assess the situation neither he nor Captain Mahmut took a camera with them in the rescue boat. Having regard to the importance attached to photographs in the emailed instructions

to the master of HEATHER this is surprising. Instead, the two superintendents asked the crew of HEATHER for some tools and the pumpman supplied them with spanners, wrenches and a hammer. They were carried in a small case. What were these tools for ? Captain Taner referred in his statement to closing any openings to prevent further water ingress and Captain Mahmut referred in his statement to stabilising the flooding. But neither was able, when cross-examined, to identify what precisely they intended to do. Captain Taner said they did not have a "clear plan". He suggested that any open doors might have been closed but accepted that he was "throwing options here as a possibility". He said that "what could have been done would have become clear had we went on board." Captain Mahmut said that he had "an opinion that the integrity of the ship had been compromised structurally. Under those circumstances, I felt that there may be a need to apply extra force in terms of trying to open certain places on the ship, with the bodywork and all that… to be honest with you, I certainly did not know what I was going to see when I got there. But I wanted to have with me some basic tools that I may quite possibly need."

242. Captain Taner and Captain Mahmut were deck, not engineering superintendents. They had no salvage experience. They were therefore ill-equipped to contemplate closing openings or stabilising the flooding. Moreover, having attended the ERT, they must have been aware that professional salvors were being engaged and they must have been informed that AL WAHSH was en route to the casualty. I found it surprising that the superintendents did not communicate with the salvors before setting out to board the casualty with a small case of tools and no clear plan of what they hoped to do.

243. The documentary evidence suggests that the salvors were poorly informed of the action the Owners had taken with regard to the casualty. It was plain from the first report of Smit Salvage on 31 March 2013 that they had been seeking to engage an aerial survey but were having difficulty in doing so. Yet the Owners had made contact with an appropriate company on 30 March 2013. Smit were not told of the Owners' aerial survey until late on 1 April 2013 and then only by the P and I Club. Shortly after receipt of that email Smit Salvage requested the Owners to share all their data. With regard to HEATHER the first written reference to Smit Salvage being made aware of HEATHER is on 2 April 2013 at 0930 when Mr. Uzun supplied photographs from the aerial survey as requested and informed Smit that "M/T HEATHER of the same group as managers" had arrived on site that morning.

244. Mr. Uzun gave oral evidence (which Mr. Thomas submitted at paragraphs 284-291 of his closing submissions I should accept) that he had kept Murat Dalyan, the head of Solar Salvage, aware both of the aerial survey and of the despatch of HEATHER. He suggested that Mr. Dalyan may not have kept Smit Salvage informed. However, he did not mention in his statement that he had kept Mr. Dalyan aware either of the aerial survey or of the despatch of HEATHER. Moreover, his statement does not appear to have been taken with the assistance of all of the relevant emails which he had sent. (Many of those documents were not disclosed by the Owners' solicitors until after Mr. Uzun had given evidence.) His recollection is certainly inaccurate in some respects. For example, he said that the decision to send HEATHER was taken on 31 March 2013 when it is clear from the contemporaneous documents that it was taken the day before. Also, he was mistaken in saying that when HEATHER arrived on site the Turkish naval vessel GOKOVA was on site and in saying that the salvage tug arrived just 10 minutes before ATLANTIK CONFIDENCE sank.

245. Where there are two co-salvors it is in their interests to work together and keep each other informed of all relevant information. It is therefore unlikely that if Solar Salvage had been informed of the aerial survey contracted by the Owners they did not pass that information on to Smit Salvage. Smit Salvage's first report sent on 31 March 2013 referred to the scarce availability of aircraft to perform an overflight. That email was sent to both Mr. Uzun and Mr. Dalyan. It was forwarded by Mr. Uzun to Captain Toran. The second and third reports which made the same point and were sent, respectively, late on 31 March and on 1 April were also sent to Captain Uzun and Mr. Dalyan. Yet neither of them, nor Captain Toran to whom they were copied, replied saying that the Owners had already found a suitable aircraft. If Mr. Uzun had informed Mr. Dalyan of the flight the Owners had sourced surely he would have told Smit Salvage that he had done so. Smit Salvage and, I consider, Solar Salvage only learnt of the Owners' aerial survey when told of it by the P and I Club on 2 April 2013. Smit Salvage's reply stating that they had been informed that day of the aerial survey was also sent to Mr. Uzun and Mr. Dalyan. Again, Mr. Uzun did not in his reply say that Solar Salvage had been informed of it much earlier. I consider that Mr. Uzun was mistaken in thinking that he had informed Solar Salvage of the aerial flight or of the despatch of HEATHER before 2 April 2013.

246. Shipowners who have engaged professional salvage assistance normally cooperate with the salvors because it is in their interest to do so. In this case it is remarkable that although Smit Salvage informed the Owners through Mr. Uzun that the salvage team would arrive in Muscat in the early hours of 1 April 2013 the Owners did not inform Smit Salvage that HEATHER would be picking up two superintendents in Muscat later that day so that at least some of the salvage team could reach the casualty on board HEATHER earlier than they would otherwise have done.

247. It seems to me that the failure of the Owners to inform the salvors that HEATHER would be departing from Muscat early on 1 April 2013 and the failure of Captains Taner and Mahmut to liaise with the salvors before seeking to board the casualty with a small case of tools suggest that it is possible that the Owners wanted the superintendents to reach the casualty before the salvors and to do what they could to speed up the sinking of the vessel, notwithstanding that if they did board the casualty they would have been seen doing so by those on board HEATHER. However, before any finding can be made as to this it is necessary to consider the evidence in the case as a whole.

<u>The flooding of no.5 cargo hold</u>

248. Both the Owners and Cargo accepted that hold 5 had to flood in order to sink the vessel. Cargo suggested that hold no.5 flooded by down flooding through the hatch cover, inspection hatch and air vent as a result of the port list and worsening weather. This process was assisted by other spaces having down flooded beforehand so that the vessel was deeper in the water. The Owners did not accept that this was feasible and said that there was a realistic possibility that hold no.5 had flooded by reason of a damaged or corroded ballast pipe in hold no.5

249. Cargo's case was based upon the photographs. First, the photographs in the early morning of 1 April 2013 taken from a plane showed that water would be getting into the steering gear room via the mushroom vent and through the door of the steering gear room which had been left open. Portside air vents to various tanks were also

submerged. Second, the photographs taken by Captain Taner on the morning of 2 April 2013 (when he arrived on board HEATHER) showed most of the poop deck submerged or awash, the portside of the vessel submerged in way of the hatch coaming to hold no.5, the door to the steering gear room awash and a wave running off the mezzanine deck (above the poop deck). The master of HEATHER reported in an email that there was a swell of 1.5 m. and wind force 4/5. Captain Mahmut described the vessel as "under water until the middle section". Third, photographs on 3 April 2013 appear to suggest that the portside hatch coaming of no.5 hold was submerged and possibly also the port aft corner of the hatch top. The master of HEATHER said the weather got worse over the night of 2/3 April 2013 but his log suggests the contrary. These photographs formed the basis of Cargo's submission and Mr. Burnay's evidence that by 0600 local time on 1 April 2013 there had been down flooding into the steering gear room, that between 1 and 3 April 2013 there had been further ingress into the steering gear room and accommodation and that on the morning of 3 April 2013 there was down flooding into the hold no.5.

250. Cargo had two principal difficulties with its case. The first difficulty was that no calculations had been carried out by Mr. Burnay to illustrate the possible rate of flooding suggested by the photographs as having taken place before and after 0600 on 1 April 2013 or the possible effect of such flooding on the draft of the vessel. Mr. Burnay based his opinion on the photographs and his experience as to "how such things would occur." However, in the absence of calculations to show what was feasible or possible I found myself left in doubt as to what the consequence of the suggested down flooding would have been. Obviously it would cause the vessel to lie deeper in the water and increase her list but no attempt was made to suggest by how much. The second difficulty was a similar absence of calculations of the possible rate of flooding through the hatch cover, inspection hatch and air vent. I accept that little could be concluded from the photographs as to the draft of the vessel at this time (as the experts had agreed in the March 2016 meeting). But there were no calculations as to the amount of water which could in theory down flood through the suggested routes or at what rate.

251. Mr. Jacobs relied upon Mr. Burnay's evidence that down flooding into hold no.5 would have been inevitable at some stage that morning. But Mr. Colman was of the view that the extent of flooding required was unrealistic in the suggested timescale. He remarked that "if that could happen bulk carriers would be taking water in enormous quantities all over the world." Mr. Colman was asked to consider the port list and the wind, waves and swell from the south west and to agree that in those circumstances with the vessel rolling to port the waves would sweep up from the portside and down flood into the hold. Mr. Colman replied that that was "fantasy. The ship won't roll. Even though some water may run up the deck, all it will do is hit the hatch coaming and bounce back again. It won't go in because there's a weathertight seal around it. Imagine what this would be like in heavy weather when the ship is out in force 8/9 conditions. There will be big waves sweeping the decks ……. No water gets in because the weathertight seals work." He said the access hatch was also sealed and that although the vent would be open for a steel cargo an incoming wave was likely to break before it got to the vent opening. Flooding would only take place when the hatch coaming was submerged. Even allowing for the enthusiasm and vigour with which Mr. Colman expressed these views it seemed to me that in this context it was

Mr. Colman's view that was realistic and Mr. Burnay's view that was unrealistically optimistic.

252. For these reasons I am unable to find that hold no.5 flooded solely as the result of down flooding. Mr. Colman accepted that there would have been down flooding when the hatch coaming was submerged but he said that would not have been sufficient on its own to flood the hold to the required extent.

253. The Owner's case, that hold no. 5 had been flooding since 30 March 2013, required a hole in a ballast pipe in hold no.5 (so as to permit the entry of water into that hold once double bottom tank no.5 had been flooded). It was said that such a hole could have been caused by corrosion or by a fork lift truck during the loading of steel coils in the hold. I consider that a corrosion hole was unlikely because the vessel had passed a Class inspection in January and February 2013 which included checks on the piping. Mr. Chell accepted that the surveyor would have been within 0.5m. of the connecting pipe. I also consider that damage by a fork lift truck was unlikely because no such damage had been reported by the chief officer who would have supervised the loading. The master accepted that such damage would have been reported either by his crew or by the P and I surveyor. However, corrosion can be missed by Class and damage by stevedores can be missed by chief officers and P and I surveyors. So a hole, though unlikely, is possible. Moreover, entry of water into hold no.5 is consistent with the drafts extracted from the photographs for 30 March 2013 as was shown by Mr. Colman's model.

254. My conclusion on this part of this case is that whilst it is likely that there was down flooding of the steering gear room and other spaces aft from a time before 0600 on 1 April 2013 it is unlikely that hold no.5 flooded solely as a result of down flooding. There is likely to have been some down flooding into hold no.5 when the coaming was submerged but I have no particular reason to believe that the amount of water that would flood into the hold at that time would be sufficient to sink the vessel. Whilst a hole in the ballast piping in hold no.5 is unlikely it seems to me that because the photographs of 30 March 2013 are consistent with the Owners' case (as indicated by Mr. Colman's model) there is a real possibility that water entered hold no.5 via a hole in the ballast piping in that hold once double bottom no.5 port had flooded, followed by down flooding on 3 April 2013 once the hatch seal was submerged.

Motive

255. Although Mr. Agaoglu gave evidence in his third witness statement that "the Atlantik group of companies …..was doing well in April 2013" it was accepted by Mr. Thomas at paragraph 300 of his closing submissions that "the First Claimant and associated companies were in a poor financial position." It is therefore unnecessary to examine the matters relied upon by Mr. Agaoglu in support of his evidence (one of which, surprisingly, was the insured values of the vessels in the fleet). A summary of the position of the various companies within the group, as established by Mr. King of Moore Stephens, will suffice. All the companies were "balance sheet insolvent" when account was taken, as the expert accountancy evidence said it should be, of the market value of the vessels. Thus Kairos' liabilities exceeded its assets by over US$9m. Capella's liabilities exceeded its assets by over US$14m. Amikos' liabilities exceeded its assets by over US$9m. and White Funnel's liabilities exceeded its assets by over US$6m. The two managers, Atlantik and Zigana, were also balance sheet insolvent.

Each of the shipowning companies also had a deficit on its profit and loss account. Consistently with that position the Owners had to borrow from CEB in order to pay for the dry docking of ATLANTIK CONDENCE in January and February 2013. Only the two managers had a surplus on their profit and loss account. It is difficult to accept that Mr. Agaoglu had a genuine belief that the Atlantik group of companies was doing well in 2013.

256. I have already summarised the position of Kairos and Capella with regard to the loan agreement to which those two companies were party.

257. What was in dispute was whether CEB was exerting or might exert in the near future financial pressure on the Owners, in particular Kairos and Capella, either by requiring capital injections or the provision of additional security, or by foreclosing and taking action against Mr. Agaoglu under his personal guarantee. There was no evidence of such threat. But Mr. Jacobs submitted that this could be inferred from the extent of the Owners' financial difficulties, Mr. Agaoglu's untruthful evidence and the Owners' approach to the disclosure of financial documents. Mr. Thomas submitted that no such inference could be drawn and that in any event the evidence contradicted the suggested inference; see paragraphs 301-330 of his closing submissions.

258. I shall first summarise the matters relied upon by Mr. Jacobs. In addition to Mr. King's assessment of the financial position of Kairos and the other companies within the Atlantik group and the amounts outstanding under the loan agreement and due to be repaid Mr. King sought to assess the prospect of Kairos and Capella trading themselves out of their financial difficulties. For this purpose he assumed that CEB would have been willing to restructure the loan to Kairos in the same way as they did after the loss of the vessel. This is a favourable assumption for the Owners because the restructuring took place after the greater part of the insurance proceeds had been used to pay off part of the indebtedness. Pursuant to that restructuring there was a capital repayment moratorium from October 2013 until 2015. 3% of the loan was to be repaid in 2015, 5% in each of 2016-2019 with the final balloon payment of 78% in 2020. Using Mr. Agaoglu's own operating figures in his third witness statement (but adjusted to take account of known actual costs) and using the Baltic Freight Forward Rates there was predicted to be a loss in each year save 2019 with a shortfall for CEB in 2020 of approximately US$11m. A similar exercise was done for Capella resulting in a shortfall of some US$28m. in 2020. These exercises are based on many assumptions which can be questioned but no competing exercises by another accountant were relied upon by the Owners. Even if one allows for the few criticisms of Mr. King's analysis advanced in the limited cross-examination of him, they serve to illustrate the seriousness of Kairos' and Capella's position. They suggest that the Owners were unlikely to be able to trade themselves out of their poor financial position. However, any projections carried as far ahead as 2020 must be viewed with considerable caution.

259. Mr. Agaoglu's evidence as to financial matters was said by Mr. Jacobs to be untruthful. I have already summarised the reasons for treating his evidence with caution. One reason was that I found it very difficult to accept that Mr. Agaoglu did not know that part of the insurance proceeds had been used for the benefit of other owning companies within the Atlantik group when he made his statement. The unchallenged evidence of the accountant Mr. King was that some US$4.56m. of the insurance proceeds had been paid for the benefit of other companies in the group.

260. After Mr. Agaoglu had given his evidence the Owners gave some further disclosure on (I think) 19 May 2016 (though Mr. Jacobs' submissions refer to 24 May 2016). In any event, it was very late, after some 5 weeks of the trial. The disclosed documents (which took up an entire lever arch file, F5 Volume 9) included two emails which evidenced or proposed an agreement between CEB and the Owners as to the application of the insurance proceeds. This late disclosure was remarkable. As I have already noted Mr. King of Moore Stephens LLP had expressed the view that not all of the insurance proceeds had been paid to the Owners. Mr. Agaoglu's statement had been to the contrary effect. The two emails were from Mr. Tayfun of CEB (from whom the Owners had put in evidence a statement) to Mr. Agaoglu and were dated 8 and 9 April 2013.

261. The first email dated 8 April 2013 says:

> "Taking into account the Bank's current position, let's use 18m of the 22m insurance proceeds to be collected towards closing the credits with us.
>
> The 4m lets present to you for you to use as you wish. I planned it so that the 1m to be used today can come out of the 4m.
>
> If you agree to this, please send confirmation – I don't want to leave you in a difficult position but it is very difficult to contact people. "

262. This suggests that there had been a discussion as to how to deal with the insurance proceeds and that Mr. Tayfun had been concerned, unsurprisingly, as to the Bank's current position. It would also appear that Mr. Agaoglu had been requesting use of a significant portion of the insurance proceeds. Mr. Tayfun proposed that he received US$4m. and hoped that that would not leave Mr. Agaoglu in a difficult position. That suggests that Mr. Agaoglu had been requesting use of a significant portion of the proceeds to assist him out of a difficult position.

263. The second email dated 9 April 2013 says:

> "…….I am making payments today on the basis that these will be deducted from the remainder of the proceeds after the Kairos debts (together with the equity finance) + all delay payments (including GLORY) are closed. What amount is left, god willing, we will speak on the day the proceeds are collected. (if I take 300/500 or something from this please do not get angry/swear at me).
>
> Ahmet brother, one thing though, until the proceeds are collected from the insurance please do not ask me for additional use. We are with you on good days and bad days but my only request is that we leave things be for now, we will find a way out somehow. Also, as Yavuz Tayfun, my only and private request is that you do not ask us to make GBI payments."

264. This email suggests a number of matters. First, it suggests that CEB was making certain payments (presumably for the benefit of the Owners) on the basis that they will be deducted from what is left of the insurance proceeds after the sum requested by CEB (presumably the US$18m. referred to the day before) had been paid. Second, it suggests that during the course of the discussions Mr. Agaoglu may have got angry with Mr. Tayfun or had sworn at him. Third, the reference to "please do not ask me for additional use" suggests that Mr. Agaoglu had been asking CEB to make certain payments but that until the proceeds came through no further payments could be made. Fourth, the reference to "we are with you on good days and bad days but my only request is that we leave things be for now" suggests that although Mr. Agaoglu and CEB had supported the Owners in good and bad times CEB was not willing to give any further assistance until the proceeds were collected. Fifth, the reference to "we will find a way out somehow" again suggests that the Owners had been in a difficult situation.

265. I accept that none of this was explored with Mr. Agaoglu but that was because the April emails were only disclosed long after he had given evidence and neither Mr. Jacobs nor Mr. Thomas requested that he be recalled. Mr. Tayfun did not give oral evidence. Mr. Thomas has submitted that the April emails do not disclose any cooling of relations between Mr. Agaoglu and CEB. I disagree.

266. Before the email of 8 April 2016 had been disclosed I had found it very difficult to accept that Mr. Agaoglu did not know that part of the insurance proceeds had been used for the benefit of other owning companies within the Atlantik group when he made his statement. Indeed, even without that email I would probably have accepted that Mr. Agaoglu had told an untruth knowing it to be untrue. Having seen that email I regret to say that there can be no doubt that Mr. Agaoglu lied in his evidence when he said that "Neither I nor Kairos received any of the insurance proceeds …….Certainly, there is no benefit for the remainder of the Atlantik or Zigana fleets." Mr. Agaoglu had received an email from CEB on the very subject of the uses to which the insurance proceeds would be put and that email contemplated that some US$4m. would be for him to use as he wished. He must have discussed this with CEB. Consistently with that email some US$4.56m was in fact used for the benefit of other companies within the group. As the sole shareholder of the companies in the Atlantik group he must have known that. In his witness statement he claimed to have demonstrated "absolute transparency" throughout these proceedings. I regret to say that he did not do so.

267. Related to the question of Mr. Agaoglu's dishonest evidence is the question whether documentation regarding the use to which the insurance proceeds was, as Mr. Jacobs submitted, suppressed.

268. It is necessary to summarise the history of requests for documentation of this nature. On 2 February 2016 Cargo's solicitors had sought disclosure of documentation specifically relating to (inter alia) "the application of the insurance proceeds from the loss of ATLANTIK CONFIDENCE". The Owners' solicitors responded on 17 February 2016 that there was "no correspondence documents between our clients and CEB". This statement was repeated on 1 March 2016. On 1 April 2016 the Owners disclosed four bundles of correspondence with CEB but they did not contain documentation in relation to the insurance proceeds. On 16 April 2016 Cargo's solicitors sought (inter alia) disclosure of "a full set of correspondence as between the

Bank and Kairos/Atlantik for the time period 1 January 2013 to 30 June 2013." It was not until the disclosure provided on 19 (or 24) May 2016 that the Owners disclosed any documentation in relation to the distribution of the insurance proceeds.

269. Although CEB asked for "confirmation" of their proposal and none has been disclosed, in circumstances where it is clear that the proposal, or something very like it, was accepted it is possible that the proposal was accepted orally given the evidence that much business between the Owners and CEB was discussed orally. Nevertheless there appears to be force in the submission made by Mr. Jacobs that the two emails disclosed are unlikely to be the only documentation in relation to the agreement between the Owners and CEB as to the distribution of the insurance proceeds. First, as Mr. Beriker stated when cross-examined any significant amendment to the Loan Agreement would be recorded in writing. This would apply to any variation of the agreed terms concerning CEB's security both in the 2010 Loan Agreement and in the Deed of Assignment and Loss Payable Clause dated 11 February 2013 pursuant to which the insurance proceeds were payable to CEB. The agreement proposed in the email dated 8 April 2013 must have become an agreement (otherwise the US$4.56m. would not have been paid to other companies) and such agreement is likely to have been a variation of the existing security arrangements. No such variation has been disclosed. Second, US$1.55m. of the US$4.56m. consisted of unidentified transfers. There must be documents which identify who received such transfers. Yet none has been disclosed.

270. I consider it more likely than not the Owners suppressed the April 2013 emails until they were unable to do so any longer. In circumstances where Mr. Agaoglu had decided to say untruthfully that none of the insurance proceeds went to companies within the Atlantik group he and Captain Toran are likely to have decided to suppress those emails and their associated documents.

271. There is another aspect of the Owners' financial disclosure upon which I must comment.

272. Cargo maintain that the Owners have failed to give full disclosure of documents relevant to the question of motive. In particular, it is said that full disclosure of the correspondence between the Owners and CEB relating to, for example, the second and third supplemental agreements has not been given. Until shortly before the trial the Owners had disclosed very little correspondence with CEB. There was some in Bundle F4 Vol.5 tab 57.

273. The Owners were asked on 19 January 2015 to disclose "Correspondence between Kairos Shipping Limited (First Claimant)/ their managers and Credit Europe Bank in relation to the Loan Agreement and other security agreements (ie the Framework Credit Agreement and the Supplemental Agreements)". The owners said there was no correspondence. On 2 March 2015 HFW stated that the requested documents were relevant to the financial position of the First Claimant and to any concerns expressed by the First Claimant and their Bankers in relation to the First Claimants' financial position. On 14 May 2015 Captain Toran produced his disclosure statement in which he stated that the Owners did not have any other correspondence or documents with CEB in relation to the Loan Agreement and other security arrangements.

274. Captain Toran, when cross-examined about the Owners' failure to provide any such correspondence, said that he had interpreted the request as meaning correspondence relating to the terms of the loan agreement and supplementary agreements. It would not, for example, extend to correspondence between the Owners and CEB concerning the Owners' ability to pay the instalments due under the loan agreement and supplementary agreements. His evidence in this regard was improbable. He was advised throughout by Clyde and Co. who would have advised him of his disclosure obligations. Moreover, on 2 March 2015 HFW stated that the requested documents were relevant to the financial position of the First Claimant and to any concerns expressed by the First Claimant and their Bankers in relation to the First Claimants' financial position. There could not therefore be any doubt as to the scope of the request. Captain Toran said he could not remember if he had seen that letter. But it is improbable that it was not drawn to his attention by Clyde and Co. who replied on 13 March 2015 saying there was no such correspondence. Mr. Thomas, in his closing submissions at paragraphs 382-385, has submitted that Captain Toran's evidence as to his interpretation of the request should be accepted. I am unable to accept that that was his interpretation. When Captain Toran produced his disclosure statement on 14 May 2015 in which he stated that the Owners did not have any other correspondence or documents with CEB in relation to the Loan Agreement and other security arrangements he must have had his attention drawn by Clyde and Co. to the ambit of that request as made clear by HFW.

275. The absence of correspondence is said to be explained by the fact that discussions between the Owners and the Bank were conducted orally. I do not doubt that they were. Mr. Agaoglu was the sole shareholder and is likely to have discussed matters himself with CEB. Mr. Beriker confirmed that that happened. But I do not have sufficient credulity to accept that there was no such correspondence with regard to, for example, the second and third supplemental agreements in 2012 and 2013 (or the deed of assignment and loss payable clause agreed pursuant to the third supplemental agreement).

276. It is improbable that there is no correspondence between the Owners and CEB in relation to the Owners' ability to repay the loan at the time of the supplementary agreements. Shortly before the trial the Owners disclosed four lever arch files (the K bundles) which included some correspondence. Mr. Thomas, in his closing submissions at paragraph 321(a), submitted that this correspondence reflected a close and flexible relationship between the Owners and CEB. However, no particular documents in those four files were referred to by Mr. Thomas and I do not recall, though I may be mistaken, that Mr. Thomas referred to any during the trial. Instead he said the files contained nothing relevant to the issues in the case. I can only say that the disclosure of correspondence between the Owners and CEB which contains nothing about the second and third supplementary agreements does not persuade me to accept that there was in truth not a single document exchanged between the Owners and CEB concerning those agreements. If there was an exchange of information with regard to the employment of vessels, as one document from the K bundles put to Mr. Beriker suggests and he accepted, one would expect there to be an exchange of information about the performance of the loan at the time when the supplemental agreements were made. Indeed Mr. Beriker accepted that there would be a regular exchange of information about fleet earnings and fleet projections. It is also most improbable that cashflow projections or forecasts were not provided by the Owners at

the time of the supplementary agreements notwithstanding that Mr. Beriker described the Owners as "not very financially literate" and suggested that CEB would have done its own cash flows. It is improbable that the Owners did not prepare their own cash flow forecasts because it is difficult to see how a shipping business could be run without such forecasts and Mr. Agaoglu appended an analysis of running costs for the year to 31 December 2013 to his third statement. Indeed, later in his evidence Mr. Beriker accepted that when Kairos wished to restructure a loan they must have prepared revised cash flow forecasts or projections so as to make sure that the repayment schedule could be afforded. In addition there was no disclosure of any document relating to the additional loan in 2013 for payment of the dry docking expenses. There must have been such documents.

277. Towards the end of the trial Clyde and Co. made further efforts to search for relevant documents. Their efforts resulted in bundles F5 Vol.9 (which contained the April emails) and F5 Vol.10 (which contained an email exchange on 4 February 2013 in which a meeting between Mr. Agaoglu and Mr. Tayfun was set up and an email dated 13 February 2013 in which Mr. Tayfun sent Mr. Agaoglu an article suggesting that the dry bulk market was recovering). Mr. Thomas has submitted in paragraphs 362-380 and 386-395 of his closing submissions that the Owners have, belatedly, fully complied with their disclosure obligations. Whilst I do not doubt Clyde and Co.'s efforts in this regard I remain doubtful that the Owners have fully complied with their disclosure obligations.

278. Mr. Agaoglu and Captain Toran denied the suggestion put to them by Mr. Jacobs that they had deliberately withheld documents from Cargo. I regret to conclude that it is more likely than not that they did so. Not only is the suggestion that there are no documents whatever concerning the second and third supplemental agreements improbable but Mr. Agaoglu has lied about the destination of the insurance proceeds and suppressed the April emails. Further, Captain Toran gave an improbable explanation for the absence of documentation (namely, his suggested interpretation of the disclosure request) and sought to hide the involvement of the Owners' office in instructing the master to change his route.

279. When one has regard to (1) the financial position of Kairos and the other Atlantik companies in 2013, (2) the untruthful evidence given by Mr. Agaoglu, (3) the late disclosure of the April emails and (4) the probable failure of the Owners to comply with their disclosure obligations there is a powerful case for inferring that the Owners acted as they did because they knew that revealing the true position would tend to suggest that Mr. Agaoglu had a motive for scuttling ATLANTIK CONFIDENCE and thereby enabling the recovery by CEB of US$22m. (for the loss of a vessel whose market value was US$6.5m.) which would greatly ease his companies' financial difficulties.

280. Mr. Thomas submitted that almost every dry bulk owner in 2013 would have been in a comparable position to Mr. Agaoglu and that such position cannot be regarded as a motive for scuttling. Further, banks such as CEB would consider carefully whether it was truly in their best interests to seek a further capital injection or foreclose especially when such action has downsides such as the loss of a longstanding and fruitful relationship and reputational damage amongst potential customers of the bank. There is of course some force in those observations but not all owners would have lied and withheld relevant documentation as Mr. Agaoglu did.

281. Mr. Thomas further submitted that the evidence in the case contradicts the suggested motive. It is necessary to consider the evidence upon which Mr. Thomas relies.

282. First, he relies upon a letter from CEB dated 11 September 2015 from Mr. Urer, a "unit manager" and Mr. Erguler, a "country manager". Neither individual was mentioned by Mr. Agaoglu as someone with whom he dealt. Mr. Thomas said that they were senior executives in the Malta branch and that Mr. Urer was involved in the correspondence to be found in the K bundles. Mr. Jacobs accepts in footnote 222 to his closing submissions that Mr. Urer was also involved in the limited correspondence disclosed in bundle F4. The letter states that throughout the relationship CEB maintained its support for the Owners and at no stage exerted pressure on the Owners to settle the loan or made threats to terminate the relationship. However, the letter also said:

> "Mr. Agaoglu is an important client and if he had sought to renegotiate the financing of the ATLANTIK CONFIDENCE and the ATLANTIK GLORY due to the poor market conditions in early 2013 , CEB may have been open to discuss this."

283. This suggests that the authors were unaware that in early 2013 Mr. Agaoglu did in fact renegotiate the financing and conclude the third supplementary agreement. Mr. Thomas suggests that such an understanding of the letter is unjustifiable but I disagree. This part of the letter suggests that the authors were not familiar with the course of the relationship between the Owners and CEB in early 2013. Further, it is not apparent that they had any involvement in discussions which took place between Mr. Agaoglu and CEB concerning the loan agreement. For these reasons I am unable to place much weight on this letter.

284. Second, Mr. Thomas relies upon a statement dated 4 April 2016 from Mr. Tayfun, who *was* one of the individuals at CEB with whom Mr. Agaoglu discussed the loan agreement. In his short statement he said that negotiations were done verbally and once an agreement was reached on the terms of a restructuring it was confirmed in writing. He further said that CEB never considered the commencement of foreclosure proceedings in connection with the loan agreement. Neither statement is particularly cogent in the present context. The first does not say in terms that there was no correspondence or other documentation between the Owners and the Bank relating to the restructuring which in fact took place. The second says nothing about how CEB viewed the loan in early 2013 or whether the Bank had considered asking for further capital injections or security. No account is given of CEB's response to Mr. Agaoglu's request to renegotiate the loan in February 2013 or of the reasons why CEB wished to have a new assignment and loss payable clause in February 2013. Further, and importantly, the letter says nothing about the two emails which Mr. Tayfun sent to Mr. Agaoglu in April 2013. I have already commented on what those emails suggest.

285. In the light of these matters and, in particular, the fact that Mr. Tayfun does not deal with the April 2013 emails I am unable to place much weight on Mr. Tayfun's statement.

286. Third, Mr. Thomas relies upon the evidence of Mr. Beriker. He was the chief executive officer of CEB from 2001 until 2011 and dealt with Mr. Agaoglu. He described a good business relationship with him and said he had real credibility with the bank. In his oral evidence he described the relationship as exceptional. He referred to the financial crash of 2008 and said that whilst loans had to be restructured "we always sorted things out". When cross-examined about the possibility of foreclosure he described such a prospect as "way beyond reach…something we would never consider".

287. This is impressive evidence of the warm and trusted relationship between CEB and Mr. Agaoglu up to 2011. However, Mr. Beriker was unable to give evidence of the relationship after 2011. The April 2013 emails from Mr. Tayfun suggest that the relationship was not as warm then. Whilst the evidence of Mr. Beriker is relevant and cannot be ignored there is a limit to the extent to which it assists in judging the relationship between the parties in 2013. Evidence from Mr. Tayfun would have been of much greater relevance and assistance but he did not give oral evidence and made a very limited statement.

288. Fourth, Mr. Thomas relies upon the correspondence which the Owners have disclosed as reflecting the close and flexible relationship between CEB and Mr. Agaoglu. However, for the reasons I have given I am unable to accept that full disclosure has been given.

289. Fifth, Mr. Thomas relies upon the evidence of Mr. Agaoglu which he submits is truthful and accurate. However, his evidence that the Atlantik group of companies was doing well in April 2013 was certainly not accurate (Mr. Thomas accepted that they were in a poor financial position) and his evidence that all US$22m. of the insurance proceeds went to CEB with neither Kairos nor any other company in the group receiving any benefit from the proceeds was untrue and, I regret to say, a lie. Whilst there may be parts of Mr. Agaoglu's evidence which are true (for example the good relationship with CEB until 2011) I am unable to accept that his account of his relationship with CEB in 2013 is truthful and accurate.

290. There is one aspect of Mr. Agaoglu's evidence which has a particular bearing on the question of motive and that is his evidence that he had a "collective agreement or understanding [with CEB] to extend the loan period whenever the time for a balloon payment was approaching". No trace of such agreement can be found in any of the loan documents. However, at one point in his evidence Mr. Beriker gave evidence which possibly supported the idea that Mr. Agaoglu might have had such an understanding or, perhaps more accurately, an expectation that the loan period would be extended.

> "So we would give a one-year or two-year loan, and we would – no doubt we would be refinancing it …….Sometimes we would issue loans with a shorter maturity on purpose, with a refinancing …….And within the confines of the general banking practice we would know that we would have a good chance of refinancing this vessel two years down the line ……..Otherwise, no other borrower, with a fixed asset of like a seagoing vessel, would borrow a two year loan, term loan, for a

fixed asset of which would sort of have a payback period of 18/20 years…."

291. On the other hand, Mr. Beriker also confirmed (twice in the course of his cross-examination) that CEB expected a loan to be repaid within the contractual time frame.

292. It seems to me that there had indeed been a history of restructuring loans which extended right up until February 2013. However, whether CEB would have been willing to restructure again very much depends upon the state of the relationship between Mr. Agaoglu and CEB in early 2013. The April emails suggest that the relationship may well have been difficult in early 2013.

293. Sixth, Mr. Thomas relied upon the evidence of Captain Toran which he said supported Mr. Agaoglu's evidence. However, for the reasons I have given I am unable to accept that Captain Toran was a truthful witness.

294. Having considered the matters relied upon by Mr. Jacobs as justifying the inference that Mr. Agaoglu had a motive to scuttle ATLANTIK CONFIDENCE and the matters relied upon by Mr. Thomas to dispel that suggestion I have concluded that it is more likely than not that Mr. Agaoglu felt under financial pressure from CEB in early 2013. It is impossible to say what form that pressure took because full disclosure has probably not been given and there has been very limited evidence in writing from Mr. Tayfun and no oral evidence from him. But it is, it seems to me, a reasonable inference to draw from the matters to which I have referred that the Owners were under some form of financial pressure from CEB in early 2013. I have asked myself what other reason could there be for their reluctance and probable failure to give full disclosure and for Mr. Agaoglu to lie about the disposal of the insurance proceeds other than that Mr. Agaoglu feared that the truth would support the suggestion that he was under pressure from CEB and so had a motive to scuttle ATLANTIK CONFIDENCE. I can think of no other credible explanation. The April emails are some evidence that the relationship had its difficulties at that time. Of course, it does not follow that he did scuttle the vessel. That can only be determined after considering all of the evidence in the case.

Decision

295. Having considered the individual elements of the case it is necessary to stand back and have regard to the totality of the evidence.

296. ATLANTIK CONFIDENCE was lost at sea after suffering a fire in the store room on the second deck of the engine room. It is more likely than not that the origin of the fire was in the store room and there is a real and substantial possibility that that fire was started deliberately in the doorway of the store room by spilling oil and igniting it. There is no more than a remote possibility that it was caused accidentally by reason of a fire originating from a leak of fuel oil at the no.2 generator. The engine room flooded. That flooding could have been caused deliberately and there is no more than a remote or unlikely possibility that it was caused by a crack in the shell plating resulting from thermal stresses caused by the fire. At about the same time the ballast double bottom tanks nos. 4 and 5 on the portside were flooded. That flooding could have been caused deliberately and there is no more than a remote possibility that it could have been caused by a flashover from the fire affecting the cabling to the ballast

valve solenoid cabinet forward of the store room. Whilst the improbable can happen it is difficult to accept that three improbable events (an accidental fire, an accidental flooding of the engine room caused by the fire and an accidental flooding of two double bottom tanks on the portside caused by the fire) may have occurred in rapid succession to each other. This reasoning is frequently used in alleged scuttling cases. Thus in *The Ioanna* (1922) 12 Lloyd's List Reports 54 at p.58 Greer J. said:

> "Now an improbability does not prove that the thing did not happen, but one improbability throws possibly some doubt upon it, and one requires stricter proof where the event is improbable than where it is a probable or likely event. Still one improbability would not be sufficient to justify me in coming to the conclusion that the event did not happen. But when there are two improbabilities the likelihood of it happening is still more remote, and when there are three it is more remote still."

297. Similarly, in *The Ikarian Reefer* Stuart Smith LJ said at p.484 rhc:

> "Where the owners' explanation requires a series of steps to happen in sequence, each of which is improbable or highly improbable, the explanations may become incredible, especially if some or all of the steps have to take place within a tight time-scale and involve one or more remarkable coincidences."

298. In addition to there being three improbable events there is in this case the circumstance that those three improbable events were preceded by a change of route into deep water. The Owners of the vessel had instructed the master to change the route of the vessel so that she sailed into deep water. The master and Captain Toran sought to hide that change of route. After it could no longer be hidden they said it was justified by a risk or piracy when it was not. These matters strongly suggest that the loss of the vessel was deliberate. There was also, consistently with a deliberate loss, an unscheduled abandon ship drill the day after the change of route had been directed. Mr. Thomas suggested a number of explanations for this (see paragraph 223 of his closing submissions) but, in the context of the evidence as a whole, it is more likely than not that, in circumstances where there had been a scheduled drill on 23 March 2013, the master was ensuring that the crew was well prepared for an abandon ship order.

299. Further, there were several events which, individually, might not justify a finding of a deliberate loss but, when looked at collectively, suggest a deliberate loss. This is, again, a form of reasoning long used in alleged scuttling cases. In *The Olympia* 1924 19 Lloyd's List Reports 255 at p.257 the Earl of Birkenhead said:

> "As I conceive it, the duty of a Court of Law, investigating such matters, is that it must examine the story taken as a whole. It may be that the result of such an examination will make it plain that there exist six or seven or eight circumstances of cumulative suspicion , any one of which, taken alone, would not justify the Court in fixing so grave and criminal a stigma upon plaintiffs as that of fraudulently stranding a vessel. We

> have therefore to inquire in this, as in other cases of the same kind: Do circumstances exist, individually, perhaps, not of decisive consequence, but in the cumulative effect establishing beyond reasonable doubt that the vessel was dishonestly stranded ?"

300. The further matters of "cumulative suspicion" in this case are these. The chief engineer showed himself as unwilling on two occasions to have others in the engine room. He sent the second engineer away from the engine room at a time when one would expect that he would have welcomed his assistance and he ordered the third engineer and the AB, when wearing fire fighting suits and breathing apparatus, to abandon the inspection of the engine room which had been ordered by the master. He also told the master on the bridge after the CO2 had been injected and shortly before the vessel was abandoned that there was a risk of explosion from diesel oil tanks when it is unlikely that he held that opinion. It is possible that he was attempting to provide support for the master's decision to abandon the vessel. Further, the master delayed in sending a distress message and failed to alert his Owners to the casualty's predicament before he abandoned ship. He failed to investigate the list to port by taking soundings or by asking the chief officer to inspect the ballast console and he failed to remove the chart from the bridge. After the vessel had been abandoned the master and chief engineer returned twice to the vessel. It is possible that the purpose of the visits was to see what could be done to further the sinking. Individually, these matters are not perhaps of great weight but, collectively, they are suggestive of a deliberate casualty.

301. Finally, there is the master's untruthful evidence that the chief engineer did not visit him on the bridge prior to abandonment, that he did not return twice to the vessel with the chief engineer after the vessel had been abandoned and (in his first and second statements) when he failed to mention that the Owners had instructed him to change the vessel's route. I have asked myself, as juries are directed to do (see *R v Lucas* 1981 1 QB 720 at p.724) and as Colman J. did in *The Grecia Express* at p.119 whether this untruthful evidence was told to "mask guilt or fortify innocence." Having considered the whole of the evidence I consider that the master gave untruthful evidence because he feared the truth would suggest that the sinking was deliberate and because he feared that the Owners' instruction would show that the Owners had been involved in the deliberate sinking of the vessel in deep water. He was not seeking to bolster a true defence to the charge of scuttling.

302. All of these matters, when considered together, are very powerful indications that the loss of ATLANTIK CONFIDENCE was deliberate and that the fire was set to hide the deliberate entry of water and to provide a further reason for abandoning the vessel. Mr. Thomas has submitted that this is improbable for several reasons.

303. First, he submitted that no engineer would seek to sink the vessel by flooding one compartment and two double bottom tanks (see paragraphs 91-98 of Mr. Thomas' closing submissions). An engineer would have sought to have flooded as many compartments as possible. In support of this submission Mr. Thomas relied upon the statement by Mr. Chell that in his view a competent chief engineer would not reasonably anticipate that he would sink the vessel by simply flooding two of the ballast tanks on the port side (in addition to the engine room).

304. It is common ground that without hold no.5 being flooded the vessel would not have sunk and Cargo does not suggest that that was done deliberately. Moreover, Cargo's case that hold no.5 flooded as a result of down flooding has not been established as a probability and there is a plausible (albeit unlikely) possibility that, as submitted by the Owners, it was caused by a corroded or damaged pipe in that hold which allowed ballast water to enter the hold. If that is what happened it shows that an improbable event may sometimes happen.

305. Two questions arise. The first question is whether the notion of an incompetent scuttler makes it unlikely that this was indeed a case of scuttling. He achieved his aim, but not by the route he planned. He achieved it on Cargo's case as to the cause of no.5 hold flooding by the down flooding of hold no.5 in worsening weather and on the Owners' case as to the cause of no.5 flooding by the fortuitous presence of damage to or corrosion of a ballast pipe in hold no.5. The second question is whether Cargo's failure to establish down flooding as the cause of no.5 hold flooding is fatal to their allegation of scuttling.

306. It is difficult to speculate as to the thought processes of a scuttler since scuttling is a rare activity. Whilst some engineers might appreciate that a bulk carrier will not sink if her engine room and ballast tanks 4 and 5 on the portside are flooded it does not follow that all will. There is no primer or guide to scuttling. Although Mr. Chell expressed the opinion that a competent chief engineer would not anticipate that such actions would sink the vessel Mr. Colman said that it "would be difficult even for a technically competent scuttler to predict whether the flooding of the E[ngine] R[oom] together with any other space or spaces would sink the ship, because the ship's stability books and computer do not provide the necessary data or input facilities". However, neither Mr. Chell nor Mr. Colman is an expert on scuttling. I accept that incompetence in scuttling can be a factor weighing against a finding of scuttling but any such finding will of course depend upon the particular circumstances of the case. In the present case, the matters which I have summarised above so strongly indicate scuttling as the probable cause of the loss of the vessel that I am not dissuaded from finding scuttling because the chief engineer displayed an ignorance of the need to flood, in addition to the engine room, a further large space in order to sink the vessel or because he chose a method which only flooded the engine room slowly (see paragraphs 120-123 of Mr. Thomas' closing submissions).

307. For very much the same reason I do not consider that the circumstance that Cargo has failed to establish that hold no.5 flooded as a result of down flooding in bad weather is fatal to its case. Cargo did not suggest that the flooding of hold no.5 (without which the vessel would not have sunk) was deliberate. It is plausible to suggest, as the Owners have done, that it came about, albeit improbably, as a result of a damaged or corroded ballast pipe (together with down flooding once the hatch cover was submerged). If that is what happened then the scuttler was fortunate to achieve his aim. But the circumstances of the case which I have summarised nevertheless cogently suggest that this was a case of scuttling. The flooding of the engine room and of the no. 4 and 5 port double bottom tanks was deliberate and such deliberate flooding was an effective cause of the sinking of the vessel. If hold no.5 flooded because of a damaged or corroded ballast pipe (and later down flooding) the deliberate actions of the scuttler nevertheless brought about the sinking of the vessel.

308. Second, Mr. Thomas (at paragraphs 99-114 of his closing submissions) made a similar point with regard to the circumstance that only a limited a number of ballast tanks on the portside were flooded . Why would a scuttler activate so few rather than all ballast valves, or at any rate all on the portside? A number of answers have been canvassed. Mr. Thomas objects that not all have been pleaded but I do not consider that this is the sort of matter that has to be pleaded. I consider it unlikely that the scuttler deliberately intended only to flood two double bottom tanks in order to avoid causing suspicions as to the deliberate nature of the casualty (described by Mr. Thomas the "cunning scuttler"). It is possible that the scuttler thought that flooding the engine room, two double bottom tanks on the portside and, on Cargo's case, the aft peak would cause the vessel to sink (described by Mr. Thomas as the "incompetent scuttler"). Another, and more likely, possibility is that he intended to flood more tanks on the portside but in circumstances where he was also involved in setting a fire and flooding the engine room he failed to activate all the valves he intended to activate. Mr. Thomas submitted that it is far-fetched to think that such a simple task could have been bungled. I do not consider that possibility to be far-fetched. In any event so strong are the circumstances suggesting a deliberate sinking that doubts as to whether the scuttler was cunning or incompetent are not sufficient to overcome the evidential weight of those circumstances.

309. Third, it was said (particularly in Mr. Thomas' oral closing submissions) that flooding the engine room by opening the lower sea chest was a danger to the scuttler. No doubt it was, though the danger could be reduced, as Mr. Colman suggested in his first report, either by loosening the cover rather than removing it or by closing the inlet valve first and then opening a valve to produce a relatively slow flow. In his oral evidence Mr. Colman said that if the flow was at the assumed rate of 400 tons per hour the scuttler would be in danger of being knocked over and being in deep water very quickly. (The chief engineer himself, when cross-examined, did not suggest there would be such a danger, but thought that there would be a danger of electric shocks from gushing water.) No doubt there was a danger but, as the Earl of Birkenhead remarked in *The Olympia,* when a similar submission was made in that case (at p.525) that one would not choose to sink a ship by running her aground at full speed with every possibility of the bottom being ripped out of her causing her to sink immediately, "in these matters I suppose you must take some risks" (see p. 528). Although there was a risk to the scuttler, not only in flooding the engine room but also in setting a fire using oil as an accelerant, so strong are the circumstances pointing to a deliberate sinking that they are not outweighed by consideration of the danger involved.

310. For the same reason I am not impressed by the lack of evidence that the chief engineer was reported to be wet or smelling of oil (see paragraphs 128-129 of Mr. Thomas' closing submissions). It was also said (at paragraphs 124-127 of Mr. Thomas' closing submissions) that if the chief engineer had really been a scuttler he would not have put the no.2 generator on line on 29 March 2013 but would have continued to operate the no.1 generator and used the problem with no.1 as a "cover story" for the fire. Perhaps some scuttlers would have been clever enough to do so but I do not consider that all would.

311. Having considered the totality of the evidence in this case and the opposing arguments I have concluded that the chief engineer, with the knowledge and

agreement of the master, deliberately set a fire in the store room and deliberately caused ATLANTIK CONFIDENCE to sink. They denied that they did so but I cannot accept their evidence. When their evidence is placed in the context of the case as a whole it cannot be true.

312. The next question is whether they did so at the request Mr. Agaoglu.

313. There was no evidence which suggested that the master and chief engineer had a motive to choose to sink the vessel themselves. Moreover, there are matters which suggest the involvement of senior employees in the Owners' office in the deliberate loss of the vessel. First, there is the email of 25 March 2013 from the office instructing the master to follow a route which would take the vessel into deep water. Second, there is the telephone call between the master and Captain Mahmut on 25 March 2013 shortly after the master had been requested to change route and to ring the office. It is likely that the master's instructions to scuttle were then confirmed. There were further telephone calls with Captain Taner on 28 and 29 March 2013. Third, Captain Toran in his statement said nothing about the instruction from the office to the master to change the vessel's route. It is likely that he did so deliberately in an attempt to avoid suspicion falling on the Owners. Fourth, Captain Taner and Captain Mahmut were sent to the casualty on board HEATHER. Although the purpose of sending HEATHER had been to provide a report and photographs neither superintendent provided a report and instead suggested that the purpose of sending HEATHER was to protect the casualty from piracy, which was most unlikely. The failure of the Owners to inform the salvors of HEATHER's presence in Muscat at the same time as the salvage team is consistent with a desire that the superintendents reached the casualty before the salvors. When they approached the casualty in a small boat they did not take a camera with them but instead took with them some tools. This was an odd expedition to a vessel in distress. They had, they said, no particular plan. They did not tell the professional salvors who had been engaged to assist the vessel (and who were yet to arrive) that they were at the casualty and intended to board it. They did not seek advice from them as to what they might do if they boarded it. Having considered the likely purpose of their visit in the context of the case as a whole I consider it likely that they went to the casualty to do what they could to hasten the sinking of the vessel. Mr. Thomas said this is unlikely given that they would have been seen by the officers and crew of HEATHER. That they would have been seen boarding is clear but it is doubtful that it would have been possible for onlookers to see what they did. As Mr. Jacobs said, they could have said on their return that there was nothing they could do. I am unable to accept the evidence of Captains Toran, Taner and Mahmut that they were not involved in the deliberate loss of the vessel.

314. The involvement of senior personnel in the ways I have summarised strongly suggests the involvement of Mr. Agaoglu. Moreover, he lied about the destination of the insurance proceeds. I consider that he did so in an attempt to mask the benefit he received from the loss of the vessel and to avoid suspicion falling on him. Those matters are sufficient to establish the involvement of Mr. Agaoglu. But in addition Mr. Agaoglu had a motive to arrange the sinking of the vessel. His companies were in real financial difficulty and it is likely that he was under pressure from his bank. He would alleviate both by his bank recovering the insurance proceeds of US$22m. There was no evidence as to when Mr. Agaoglu or those acting on his behalf asked

the master and chief engineer to sink the vessel or why they agreed to do so but Mr. Agaoglu must have had the opportunity to make, or more likely arrange, such a request. The vessel had been in dry dock in Istanbul in January and February 2013 and her final loadport was close to Istanbul.

315. For these reasons I have concluded that Mr. Agaoglu requested the deliberate sinking of the vessel. I am unable to accept his evidence that he did not do so.

316. Before reaching these conclusions I have asked myself whether there is a real or substantial, as opposed to a remote or fanciful, possibility that the sinking of the vessel was accidental, which Cargo have been unable to exclude. I do not consider that there is. The expert technical evidence has suggested possible mechanisms by which the fire could have started accidentally and by which the vessel could have been lost accidentally but an accidental fire and loss are, in my judgment, remote and can be excluded by the weight of the considerations which suggest a deliberate fire and a deliberate loss. This is a case where, in the language of Stuart-Smith LJ in *The Ikarian Reefer,* "the balance tilts heavily and sufficiently far in favour of" a finding that the loss was deliberate. There may have been, albeit that it is unlikely, a hole in the ballast piping in hold no.5 which permitted ballast water to enter that hold from double bottom no.5 but if that is what happened the loss of the vessel was still caused by the deliberate actions of the master and chief engineer in flooding the engine room and the nos.4 and 5 double bottom tanks. Such actions were an effective cause of the loss of the vessel. I have asked myself whether, to use Colman J.s' phrases in *The Grecia Express,* it is "highly improbable" that the vessel was lost accidentally such that I have "a high level of confidence" that the vessel was deliberately sunk and that the allegation made against Mr. Agaoglu is true. It is and I do. I have also asked myself whether, to use Aikens J.'s phrase in *The Milasan* the facts proved against Mr. Agaoglu are "sufficiently unambiguous" to establish that he was complicit in the casting away of his vessel. They are. Finally, I have asked myself, as *The Popi M* requires the court to do, whether this is a case where the court is left in doubt as to the cause of the loss of the vessel with the result that the court is unable to make a finding as to the cause. I am not left in doubt as to the cause of the loss.

Conclusion

317. The vessel was deliberately sunk by the master and chief engineer at the request of Mr. Agaoglu, the alter ego of the Owners. In those circumstances the loss of the cargo resulted from his personal act committed with the intent to cause such loss. The loss of the cargo was the natural consequence of his act as he must have appreciated. There can be no doubt that he intended the cargo to be lost just as much as he intended the vessel to be lost. It follows that the Owners' claim for a limitation decree must be dismissed.

318. I am very grateful to leading and junior counsel for their careful presentation of the evidence, their unfailing assistance and the patience they demonstrated in explaining the technical issues in the case to me.