



8 August 2014

## **VALE Analysis of High Mortality Voyage 46**

### ***MV Bader III Adelaide and Fremantle to Qatar and UAE, August-September 2013***

This analysis was undertaken using data now available in the public domain:

1. Documents obtained and published under Freedom of Information: *FOI 2013/14-51 An application seeking documents held by the department in relation to the voyage of MV Bader III to Qatar and the UAE in August and September 2013*. See <http://www.daff.gov.au/biosecurity/export/live-animals/livestock/regulatory-framework/information-released-under-foi>
2. *Australian Government Department of Agriculture High Mortality Investigation Report 46, Sheep exported to Qatar and the United Arab Emirates in September 2013 (published January 2014)* See <http://www.daff.gov.au/biosecurity/export/live-animals/livestock/regulatory-framework/compliance-investigations/investigations-mortalities>
3. *Australian Government Investigations into Mortalities*. See <http://www.daff.gov.au/biosecurity/export/live-animals/livestock/regulatory-framework/compliance-investigations/investigations-mortalities>
4. *Rogue trader claims put live export industry at risk*. See <http://www.abc.net.au/7.30/content/2014/s3985413.htm>

Detailed auditing documents can be provided on request to VALE.

#### **Overview**

The Australian Government investigation into Voyage 46, in which over 4000 sheep died, concluded that the high mortality was due to heat stress from an extreme weather incident on 6 September 2013, when the vessel was approximately 90 nautical miles from Doha. The incident was cited as the main cause of the voyage mortality rate of 7.28 and 3.00% in the Adelaide and Fremantle sheep consignments, respectively, with deaths due to the actual incident reported as 7.11 and 2.83%, respectively.

The majority of the deaths occurred on the enclosed decks B to E, that rely on forced mechanical ventilation, whereas extreme mortality incidents due to heat (“heat crashes”) typically occur on stationary vessels and predominantly affect the upper open decks that rely on ventilation from wind and ship movements. Voyage 46, therefore, was unusual in that the extreme mortality event occurred on a moving vessel and mortality was mainly on enclosed decks. In addition, the extreme weather incident did not result in any mortalities in the cattle or camel consignments, which

were carried on the open decks. The cattle were reported as *Bos indicus* type, which are heat tolerant, but an extreme weather event resulting in the loss of over 4000 sheep would be expected to cause some deaths or, at least, have resulted in heat stress neither of which were recorded. In fact, heat stress score was reportedly normal in the cattle throughout the voyage and the recorded daily respiratory rates would support that assessment.

An investigation by the Australian Maritime Safety Authority (AMSA) reportedly showed 'no clear evidence' of a ship-related problem. Physical inspection of the ship by AMSA can only occur when the ship returns to Australia.

At no stage did the Daily Voyage Reports, required by law, indicate that an incident involving the death of over 4000 sheep had occurred. Indeed, the Australian Department of Agriculture (DoA) was not advised of such a 'notifiable incident' within the statutory 12 hours (see ASEL S5.11), and sent an email to that effect (FOI 2013/14-51 Document 12). While there was a General Comment on the Daily Voyage Reports from 11 to 16 September 2013 that 'Overall Mortality Counting May Exceed 2%', these reports were not received by DoA until 16 September. There was no mention of 'a disablement of ventilation' (see ASEL 5.5) that would account for the deaths of stock from heat stress being predominantly on mechanically ventilated decks. The DoA report failed to discuss the apparent breaches of the ASEL reporting requirements for a 'notifiable incident' or the unusual location for the mortalities.

### **Sheep ex Adelaide to Doha, 18 August 2013 (Day 1) to 9 September 2013 (Day 23)**

Daily Voyage Reports by the AQIS Accredited Veterinarian (AAV) show that on Day 1, sheep were housed on Decks 1,4, and 5, but from Days 2 to 10 they were on Deck 1 (Main Deck)<sup>1</sup> only. From Days 11 to Day 23, sheep were housed on Decks 1 to 4, A, to E. Mortalities were recorded and tallied from Day 1 to Day 23. These were recorded as 15 by Day 10, when in fact the correct total was 17. All mortalities until Day 10, except for 1 sheep from Day 1, were from Days 2 to 10, when the sheep were listed as being on Deck 1. Table 1 of the AAV's End of Voyage Report (EOV), which details mortalities from this consignment from Days 1 to 20 shows no mortalities being listed for Deck 1.

The total sheep mortality recorded in the Daily Voyage Reports from Days 1 to Day 23 was 278, with a note that this was a Mortality Estimate only. VALE found numerous calculation errors and the cumulative total from the available data should be at least 286. The DoA report did not note these discrepancies, nor the fact that over 3000 sheep from this consignment were dead by the time the vessel left Doha. In fact, there is no reference to a high mortality incident or an extreme weather event in the AAV's Daily Voyage Reports.

---

<sup>1</sup> Main Deck is also termed Deck 1. VALE's description as Main or 1 in this analysis follows the relevant description in the cited voyage documents.

Causes of sheep deaths to Day 20 in Table 1 EOVR report show 44.1% diarrhoea, 2.9% pneumonia (1), 2.9% inanition (1), 17.6% heat stress, and 2.9% (1) trauma. Daily Voyage Reports for the respective days do not mention pneumonia (1 had pulmonary congestion) or inanition as causes. Septicaemia is reported 3 times in Daily Voyage Reports even though only 1 sheep is listed under 'Other', which is the only possible category for this diagnosis. Trauma is listed as a cause from Day 10 to Day 15 so at least 6 cases occurred.

In the DoA investigation report, it was noted that extreme sheep losses in this consignment were attributed by the AAV to their position on the vessel's enclosed decks B to E. However, the Wet Bulb Temperature (WBT) data in the Daily Voyage Reports do not show any significant difference between the decks that would explain this. Historical data from other high mortality voyages with heat stress incidents, and in some cases more extreme WBTs, have been provided (Appendix 1). In each case, mortality was far less than the mortality in this consignment.

The DoA report shows all sheep ex Adelaide were dead by, or discharged at, Doha. That is, of 44,713 sheep loaded in Adelaide, 3256 died (7.28%).

### **Sheep ex Adelaide to UAE**

There are no Daily Voyage Reports for a sheep consignment from Adelaide to UAE, and no reference to this consignment in the DoA investigation report. However, Table 6 of the AAV's EOVR lists such a consignment from Days 27 to 32 and provides accompanying mortality data.

### **Sheep ex Fremantle to Doha, 23 August 2013 (Day 1) to 6 September 2013 (Day 15)**

The AAV's Daily Voyage Reports show that on Days 1 and 2, sheep ex Fremantle in the Doha consignment were on Decks 3 and 4, but thereafter on Deck 5. The Daily Voyage Reports for sheep ex Fremantle to UAE show that from Day 1 to Day 15, sheep were on Decks 3 to 5 (though they had moved to Decks 2 to 4 by Day 16). At no stage from Day 1 to Day 15 is there a mention of Fremantle sheep of either consignment being housed on Deck 1 or Deck 2. Table 3 of the AAV's EOVR report, however, details sheep ex Fremantle as being on Deck 1 (young wethers) and Deck 2 Lower (rams and hoggets), which is consistent with the published load plan.

Daily Voyage Reports from Day 15 to discharge at Doha were either not provided by the AAV or not supplied by DoA in response to the FOI request. At Day 15, the total mortality of this consignment was listed as 3, but an error on Day 14, where 3+1 was calculated as 3, meant that the correct total should be 4. The DoA report did not note this discrepancy.

The total mortality from sheep ex-Fremantle at Day 15 is reported in Table 3 of the AAV's EOVR as 46, but Daily Voyage Reports show a cumulative total of 3 (true calculation 4) for Fremantle to Doha and 41 (true calculation possibly less) for Fremantle to UAE, making a maximum total of 44. Again, the DoA report did not note

this discrepancy. The actual day number on the Daily Voyage Report was incorrect for Day 11 on 2 September 2013, and the correct hand-written number was inserted by either the AAV or DoA. The AAV's EOVR report stated sheep were treated for diarrhoea and lameness but there was no mention in the Daily Voyage Reports of any sheep being in sick pens or receiving treatment.

### **Sheep ex Fremantle to UAE, 23 August 2013 (Day 1) to 18 September 2013 (Day 27) or 19 September 2013 (Day 28)**

Daily Voyage Reports are present for Days 1 to 4 and 6 to 27, although the Master's Report of Carriage lists date of completion of discharge as 19 September 2013 (Day 28). It is uncertain whether the report from Day 5 was not provided to DoA or not provided by DoA in response to the FOI request. It is also uncertain whether the AAV or the captain was correct about the date of completion of discharge at UAE.

The cumulative mortality tally at Day 27 is given as 324 sheep, when it was actually 323, and more importantly fails to record the loss of 870 sheep on 6 September 2013. There is no reference to a high mortality incident or an extreme weather event in the Daily Voyage Reports. It is not until 11 September 2013 (Day 20) that there is an entry to the effect that the acceptable mortality limit of 2% may have been exceeded in this consignment. This report was not received until 16 September 2013. The DoA report failed to address these issues.

From 2 September 2013 (Day 11) to 12 September 2013 (Day 21), the only cause of mortality recorded in this sheep consignment was 'enteritis'. This is despite the proposed extreme weather incident on 6 September 2013.

Sheep respiratory rates recorded on 28 August 2013 (Day 6) and 29 August 2013 (Day 7) are identically listed as 171, 156, and 147 for Decks 5, 4, and 3, respectively. Similarly, identical rates of 129, 136, 133, 137, 133 and 134 for Decks 4, 3, 2, A, B and Main (Deck 1) were recorded on 16 September (Day 25) to 18 September 2013 (Day 27). In all likelihood, these data are incorrect given the statistical probability of this repetition occurring.

The AAV's EOVR report stated that sheep were treated for diarrhoea and lameness, but there is no mention in the Daily Voyage Reports of any sheep being in sick pens or receiving treatment.

### **Cattle ex Fremantle to UAE, 23 August 2013 (Day 1) to 18 September 2013 (Day 27)**

In the Daily Voyage Reports, cattle are recorded throughout the voyage as being housed on Main Deck. There is no temperature or humidity data provided for this deck in any of the Daily Voyage Reports. However, in the Daily Voyage Reports for this cattle consignment, temperature and humidity data are provided for B and C Garages, which are believed to be on Main Deck and A deck, respectively. The cattle deck/s are scored as normal and not requiring cleaning for the entire voyage. However, on Days 13 to 15, B and C garages are reported as being washed.

Given their height, the camels on board could only be housed on the Main Deck or C Garage. Sheep were also listed as being on Deck 1 (Main Deck). If in fact, camels and sheep were on the Main Deck then the cattle may have been housed in B and C Garages solely or in addition to Main Deck. Thus, given that the cleaning for cattle was noted for B and C Garages and the only provided temperature and humidity data were for these 2 locations, it is not known whether the Daily Voyage Reports of housing on Main Deck for this cattle consignment are accurate. Cattle housed on two separate decks should have had separate records.

The Daily Voyage Reports indicate that cattle respiratory rates for the voyage range from 25 to 46 breaths per minute (bpm) except on 10 September 2013 (Day 19), where they were recorded as 54 bpm. The respiratory rates from 6 September 2013 (Day 15) to 9 September (Day 18), which span the reported extreme weather incident, were recorded as 46 bpm. This rate is only slightly higher than the normal upper accepted limit (40 bpm) for cattle at rest. If accurate, the respiratory rate data do not support DoA's conclusion that an extreme weather incident occurred on 6 to 7 September 2013.

The AAV's EOV details 1 cattle death, with an animal being euthanased due to behavioural difficulties on discharge. The Daily Voyage Reports do not record this death and the cumulative total is listed as 0.

The day numbers on the Daily Voyage Reports are incorrect for Days 13 and 19, with the correct hand-written numbers being inserted by either the AAV or DoA.

### **Camels ex Adelaide to Doha, 17 August 2013 to 8 September 2013**

The AAV's EOV report notes that one camel died out of a consignment of 215 camels due to "accidental asphyxiation during the night." The camel number at discharge, 215, on the Masters Report Carriage of Livestock is discrepant.

### **Exporter Details**

The LSS Export Manager for Livestock Shipping Services at the time of the voyage was Mr Garry Robinson. Mr Robinson, in the employ of another exporter, has been accused previously of doing "magic" on export documents. See (<http://www.abc.net.au/7.30/content/2014/s3985413.htm>; and Appendix 2).

### **Conclusion**

With careful auditing, it is evident that much of the data provided by the AAV to DoA appears to have inaccuracies, discrepancies and, most importantly omissions. There is also a mistake on the Masters Report. The DoA has either not noticed or not reported these issues in its investigation report.

Critically, neither the AAV nor LSS appear to have advised DoA within the latest allowed time frame of 12hrs that a 'notifiable incident' had occurred. It appears from the Daily Voyage Reports that the deaths of over 4000 sheep from heat stress were

not recorded by the AAV at all. It may be that Qatar and the UAE, were also unaware of the extreme mortality that occurred on this voyage.

From the available data, it is not possible to state what caused the heat stress on this voyage, or when the 4000-plus sheep died. However, the available records suggest that a problem occurred on 6 September 2013 (Day 15), when the vessel was close to arrival in Doha.

Given the decks and animals affected, it is highly unlikely that the very high sheep mortalities were due to an 'external to ship' event such as an extreme weather incident. The most likely explanation would be a failure in mechanical ventilation on the relevant enclosed decks in combination with the high wet bulb temperatures routinely experienced in this region at this time of year.

## APPENDIX 1

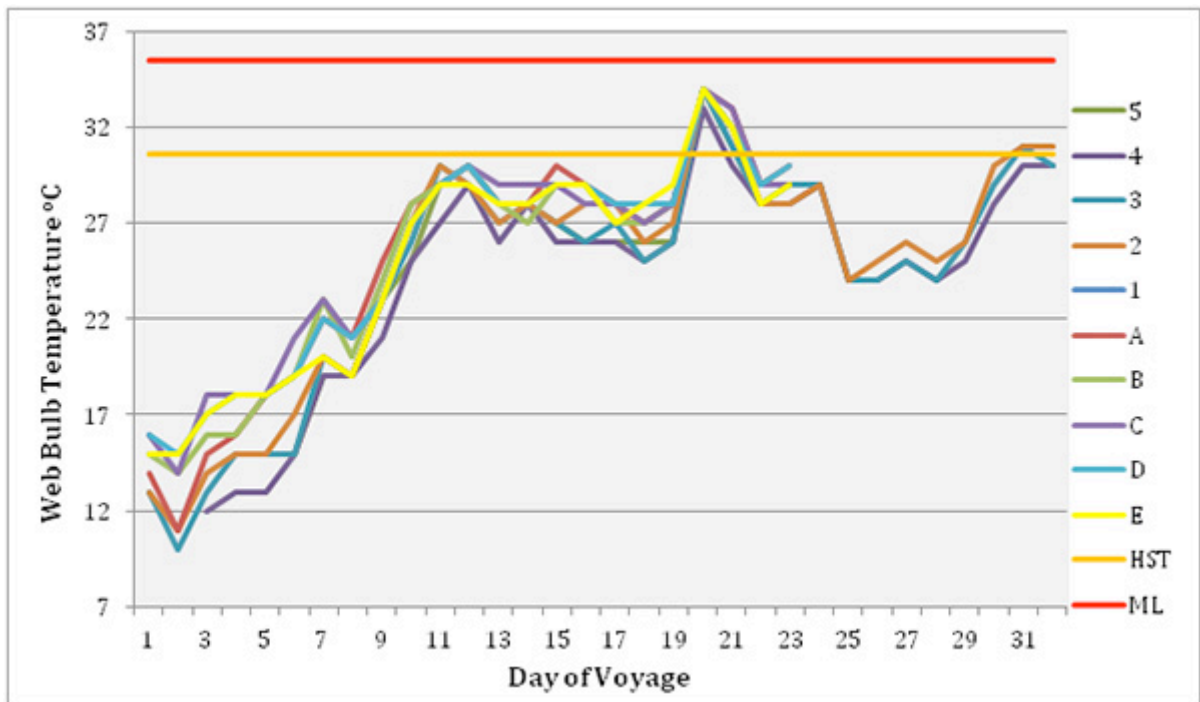
Information is provided from earlier high mortality reports for Gulf voyages.<sup>2</sup> These voyages to the same region show very similar temperature profiles to those from Voyage 46. In some cases the WBTs on some decks were more extreme than those reported for Voyage 46. In none of these earlier voyages did the mortality rate approach that of the Adelaide sheep consignment or the total sheep consignment in Voyage 46.

### Voyage 46

Adelaide and Fremantle to Qatar and UAE, September 2013;

4,179 deaths (5.53%) out of 75,508 due mainly to heat stress; 7.28% in the Adelaide consignment.

<http://www.daff.gov.au/biosecurity/export/live-animals/livestock/regulatory-framework/compliance-investigations/investigations-mortalities/report-46>



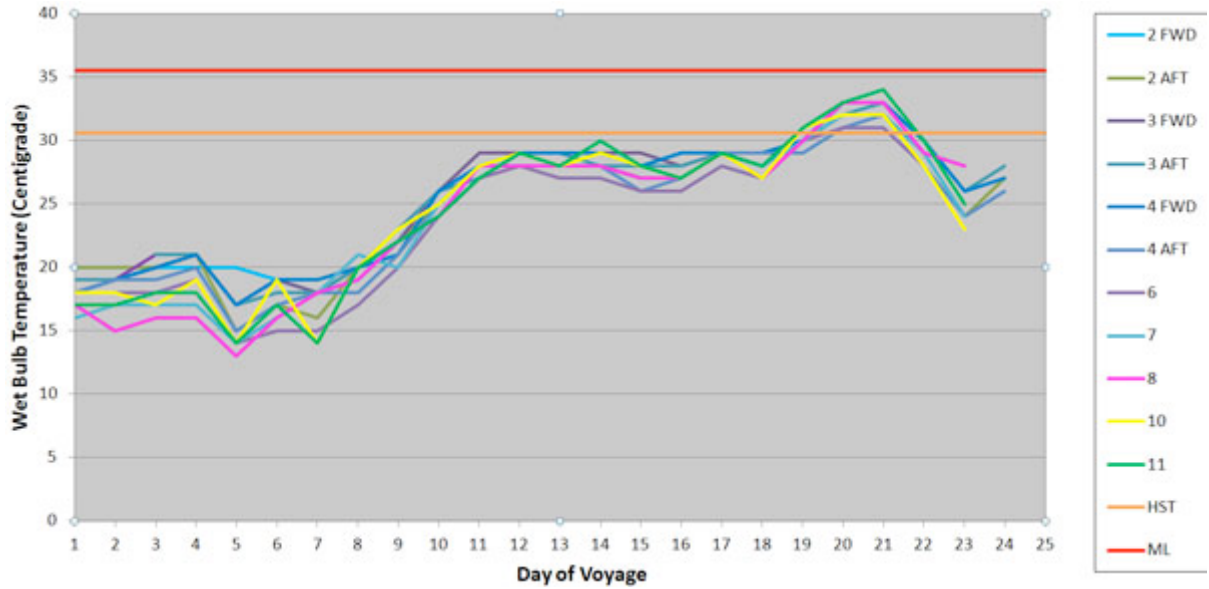
Note: At the time of the incident, WBTs on all decks appear to have exceeded the heat stress threshold and been similar. WBT data by deck would not explain the severe mortality due to heat stress on Decks C, D and E compared to the other decks.

<sup>2</sup> See <http://www.daff.gov.au/biosecurity/export/live-animals/livestock/regulatory-framework/compliance-investigations/investigations-mortalities>

### Voyage 40

Portland to Qatar, Kuwait, Bahrain, June 2011;

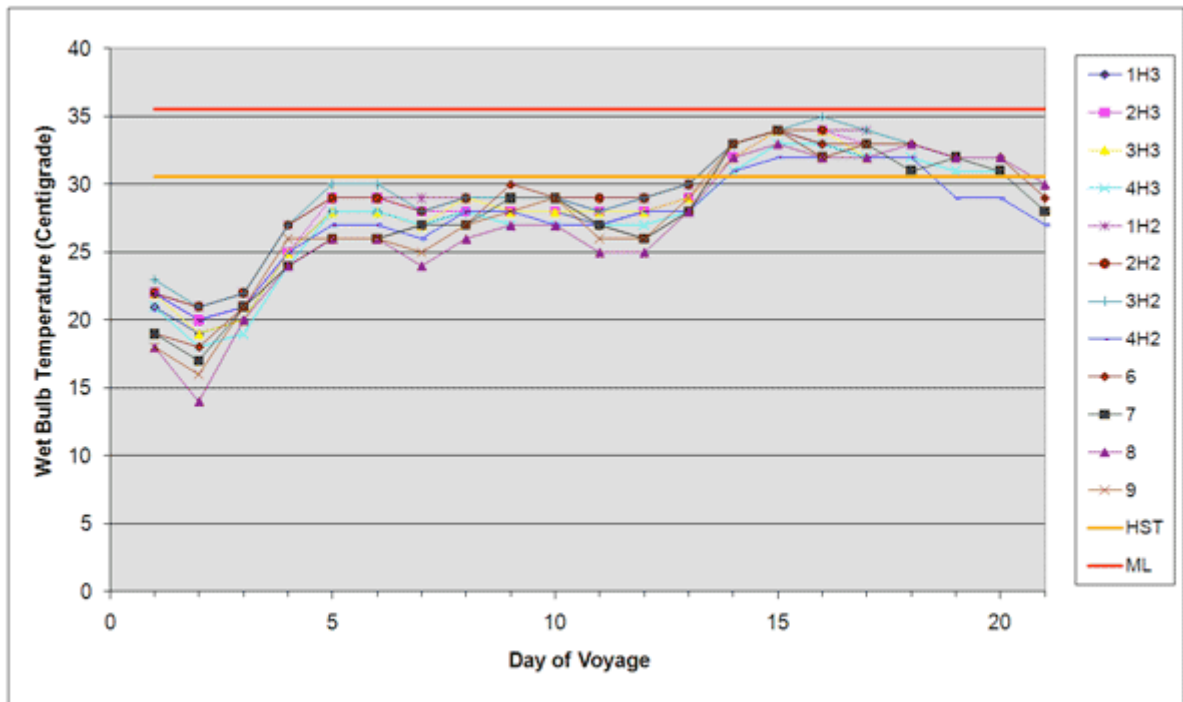
703 deaths (2.46%) out of 28,607, with only some due to heat stress.



### Voyage 38

Fremantle to Bahrain, Kuwait and UAE, August 2010;

1407 deaths (2.04%) out of 69024, with heat stress the main cause of death.

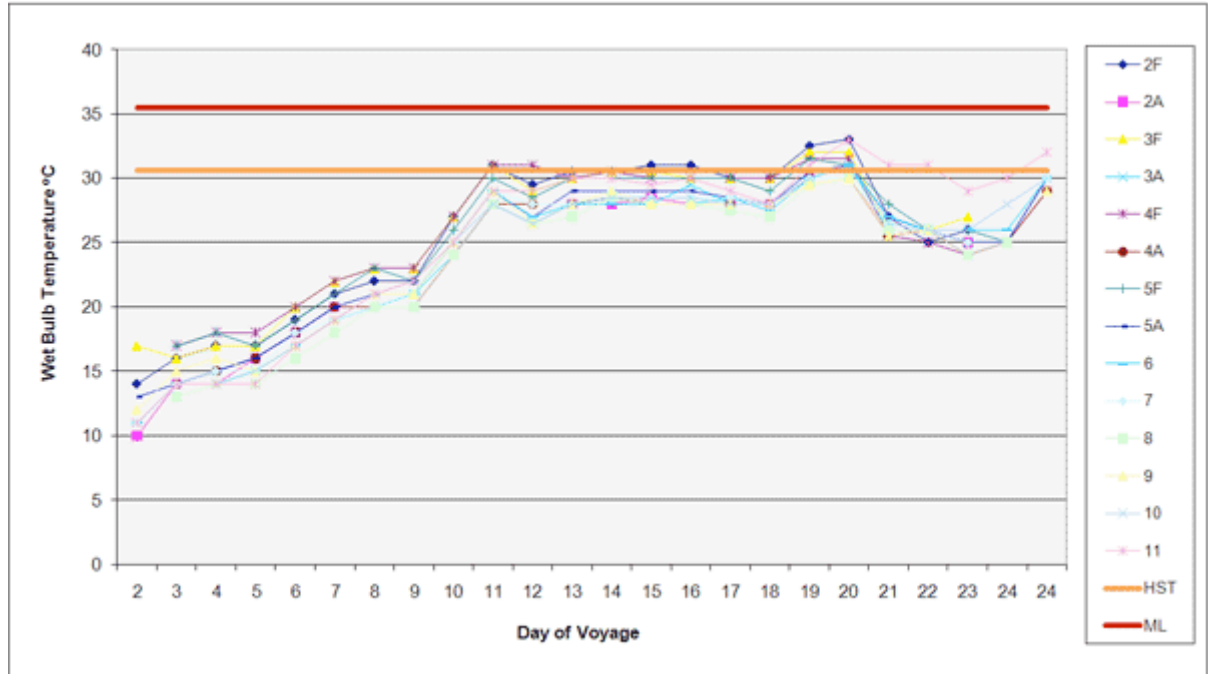




### Voyage 37

Portland and Adelaide to Kuwait and Bahrain, June 2010;

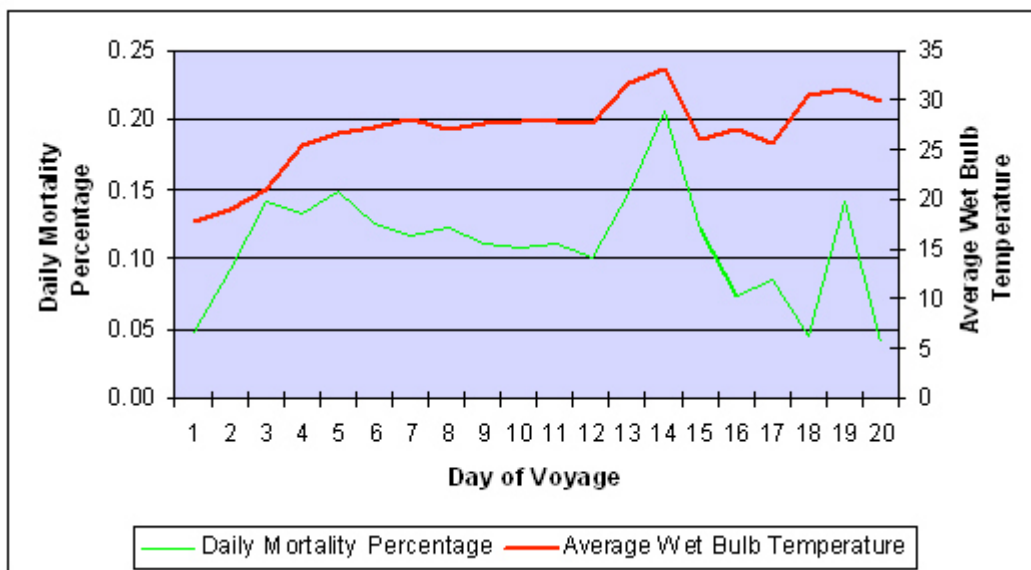
2441 deaths (3.51%) out of 77,523, with the main causes heat stress and enteritis.



### Voyage 33

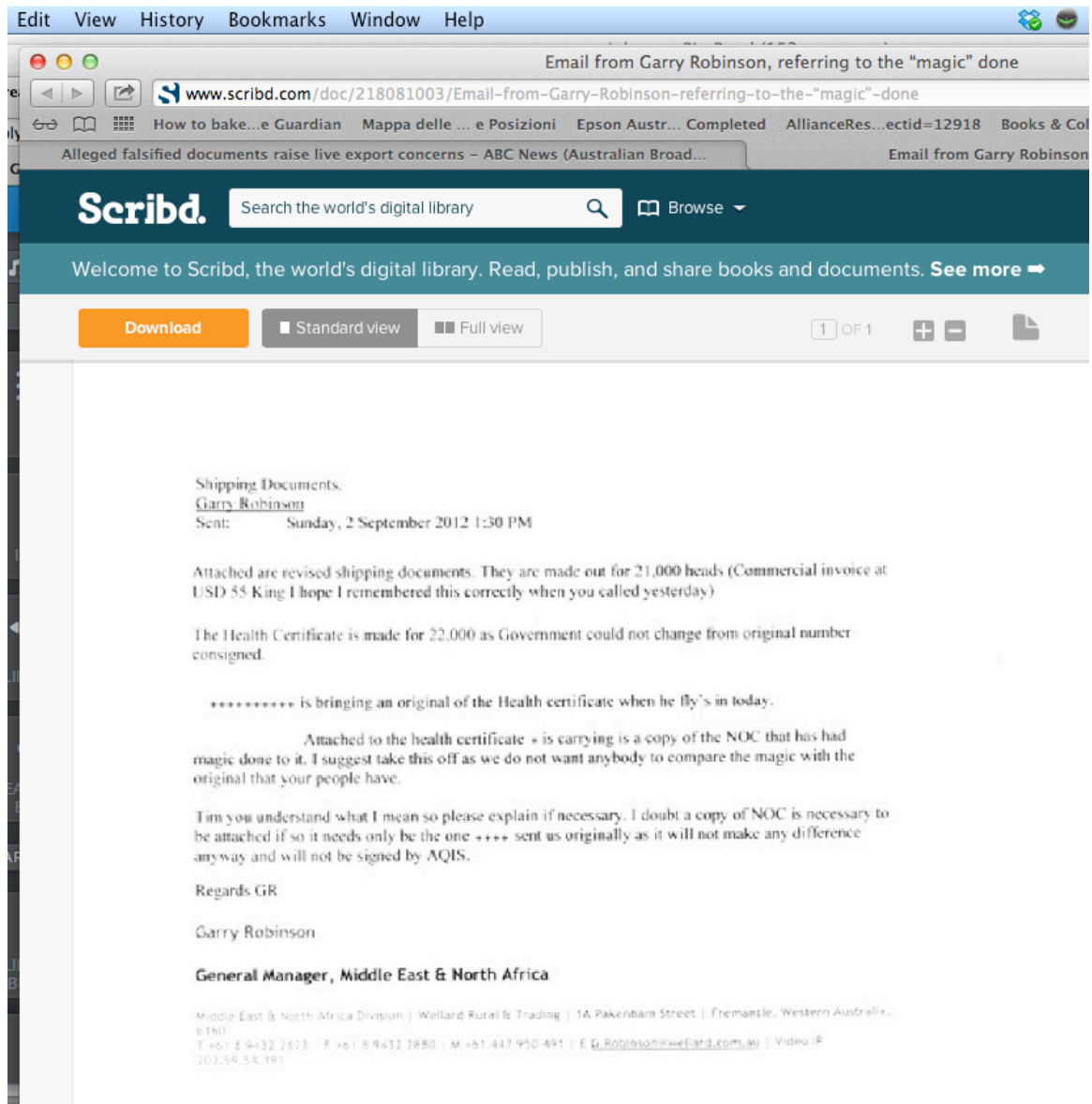
Fremantle to Kuwait, Bahrain and UAE, August 2009;

756 deaths (2.19%) out of 34535.



## APPENDIX 2

Image of an email allegedly from Mr Garry Robinson taken from the ABC 7:30 website on 15 April 2014.<sup>3</sup> Mr Robinson was employed by Wellard at that time. The email states 'Attached is the health certificate....that has had magic done on it. I suggest take this off as we do not want anybody to compare the magic with the original that your people have'.



<sup>3</sup> Rogue trader claims put live export industry at risk. See <http://www.abc.net.au/7.30/content/2014/s3985413.htm>