

## **VALE COMMENT ON REPORT 48, MV BISON Cattle to China**

### **Loading**

IO SUMMARY: Overall, the cattle in the majority of pens were able to lie down and rest.

VALE COMMENT: unusually generous space if accurate

### **Ventilation**

IO SUMMARY: Deck 4 (upper most deck) was the warmest deck. From 20 December 2018 until 25 December 2018, some cattle on Decks 3 and 4 appeared to have an increased respiratory rate but at no stage were showing signs of panting or signs of extreme heat stress.

VALE COMMENT: heat stress present as expected given that some of the cattle appeared to be *Bos taurus*

IO SUMMARY: The temperature readings were taken twice per day in the morning and afternoon using a hand held device.

VALE COMMENT: better than average

IO SUMMARY: The environmental conditions varied greatly during the voyage. The vessel departed with temperatures in the low 20's. The warmest part of the voyage was between day 11 and day 17 when the temperature was around 31°C dry bulb and 80% humidity. The temperature at unloading was below 0°C.

VALE COMMENT: yet another long voyage to China with extreme weather variation.