

SHERIFFDOM OF GRAMPIAN HIGHLAND AND ISLANDS AT ABERDEEN
DETERMINATION
of
SHERIFF ANNELLA M. COWAN, Advocate
in
Inquiry
UNDER THE FATAL ACCIDENTS AND SUDDEN DEATHS INQUIRY (SCOTLAND)
ACT 1976
into the death of
RUSSELL ROBINSON

ABERDEEN, 10 June 2014.

1. Before turning to the determination which I have reached on the evidence in this inquiry, I wish to take the opportunity to thank all who have participated for the effective and sensitive way in which the inquiry has been conducted. I set out at the beginning the aims and purposes of a Fatal Accident Inquiry, both what it is and what it is not. All those involved have focussed on those aims and purposes, with little deviation from them. I am also grateful for the pragmatic and flexible approach taken in agreeing uncontroversial but necessary evidence and in liaising with witnesses, particularly expert witnesses, as the Inquiry developed and it became clear that the medical evidence would be crucial.

2. In cases such as this painful facts often have to be led in evidence and witnesses are required to relive traumatic events.
3. Mr Robinson's family has shown great fortitude in waiting for this Inquiry to take place and in attending. Mr Shannon has been an able representative for them.
4. Mr Robinson's fellow divers and his offshore colleagues, clearly men of great physical and mental courage undertaking work in a hostile, alien environment, spoke clearly indeed graphically about their job as saturation divers and about the situation they faced when Mr Robinson became distressed at the end of the dive on 30 October 2011. Their evidence was of great assistance to me in explaining not only the precautions which have to be taken, and which were taken on this occasion in preparing for a saturation dive, but also the necessarily confined space in which Mr Stone and Mr Bradley had to work to bring Mr Robinson back into the bell.
5. It is to be expected that at the outset of a Fatal Accident Inquiry, each of the interested parties will have different concerns and different evidence which they wish to canvass. However, as I have repeatedly stressed, the functions and purposes of such an Inquiry are clearly set out in the legislation and parties have recognised that, both in their approaches to the leading of evidence and in their submissions.
6. I will not rehearse the evidence which has been led. I will only mention those aspects which go to my determination or to particular concerns raised during the Inquiry.

CONCERNS

7. It appeared at the start of the Inquiry that there might be concerns over the equipment used on the dive. It can now, in my view, safely be said that no part of the equipment; the saturation diving system; the habitation chamber; the bell; the umbilical; communications; air supply or the operation or configuration of any of these caused or contributed to Mr Robinson's death.
8. Particular concern was raised about the fitting of Mr Robinson's neck dam.
9. The evidence was that he had commented to Mr Stone that it was "a bit tight". He had selected it a few days before the dive. It was new but it had been trimmed to enlarge the circumference. It could have been trimmed further. It could have been

exchanged for another. Mr Stone suggested to Mr Robinson that he exchange it. He did not do so.

10. The manufacturers' advice, issued before this this, warned of the potential dangers of overtight neck dams.
11. As an experienced diver, Mr Robinson must be taken to have been aware of that advice.
12. If the fit of the neck dam contributed in any way to Mr Robinson's death, and I return to that point later, there were opportunities which were not taken, to replace it.
13. One of the concerns raised on behalf of Mr Robinson's family was the operation of the "buddy system". That was not explored in detail because it was outwith the relevant considerations for the Inquiry.
14. However, it seems to me relevant to note that the evidence is clear as to why Mr Stone returned to the bell earlier than Mr Robinson. It is also clear that Mr Stone was making ready to leave the bell to assist Mr Robinson, but did not do so because Mr Robinson got himself back to the trunking at which point it would have been counter-productive for Mr Stone to be outside the bell.
15. Related to the foregoing, was a concern over the number of men in the bell.
16. Firstly, I think it has to be noted that the bell is, as Mr Stone put it, a lift to ferry the divers between the accommodation module and the sea floor. It was not suggested that there should be no bell man. And if there is both a bell man and a second diver there are, of necessity 3 men in the bell as it ascends and descends.
17. Given the point at which Mr Robinson died, the size of the bell, the number of men and the amount of equipment in it are not relevant considerations for this Inquiry and I do not take that aspect any further.
18. It was clear from the evidence that two men were needed inside the bell to recover Mr Robinson. One man inside the bell could not physically have achieved what Mr Stone and Mr Bradley did.
19. It has to be remembered that when Mr Robinson came to the hatch he was face down with the back of his helmet visible to Mr Bradley. Mr Robinson was not moving. Thus it was necessary for his colleagues to manoeuvre him, a man of 6'1", weighing in the region of 16stones, encumbered by a large and very heavy diving helmet and two cylinders known as bail out tanks, who was unable to help himself or his rescuers. They had to position him so that they could attach the rescue line from the

Maasdam to his harness and align his head and shoulders with the inner door to the bell. Mr Bradley then had to remove his helmet. Having seen what was involved in releasing and removing the helmet the timescale involved was entirely understandable. In the meantime, Mr Stone had to operate the hoist and assist Mr Bradley.

20. In submissions it was suggested that there was a concern , raised by the medical and respiratory experts over the extent to which the divers were familiar with the equipment. That is not my understanding of the evidence and I do not recall evidence on that point.
21. The time taken to recover Mr Robinson from the point at which he became distressed was touched on as being of concern.
22. Having seen and heard the video evidence; how Mr Hale the dive supervisor reacted by giving instructions and, importantly, remaining calm; how Mr Stone reacted by getting ready to dive, and how Mr Bradley reacted by controlling the umbilical in accordance with both Mr Hale and Mr Robinson's instructions, enabling Mr Robinson to use it to climb back to the clump weight. I cannot find that any basis for criticism on that score.
23. Finally, the time taken to recover Mr Robinson into the bell; close the door and obtain a seal to enable the bell to ascend, was a matter of concern for Mr Robinson's family.
24. I have to be very clear, for the purposes of this Inquiry, and to explain why this aspect of what happened is not a matter for this Inquiry, in saying that on the basis of the medical evidence, Mr Robinson was beyond resuscitation by the time he was fully recovered into the bell.
25. As far as any difficulties in recovering Mr Robinson into the bell because of the presence of his umbilical are concerned, it seems to me that the umbilical had to be brought in because it had to remain connected at least until Mr Robinson's head was in the breathable atmosphere of the bell. The narrow space available to eject it from the bell serves to suggest that it would have been equally difficult to leave it outside the bell while trying to manoeuvre Mr Robinson past it and into the bell.

MEDICAL EVIDENCE

26. A number of experienced and well respected experts have separately examined the evidence relating to Mr Robinson's death. They have also had the opportunity to

discuss with one another their views and theories and to share their efforts to understand what happened to Mr Robinson to cause his death.

27. Once Mr Robinson had undergone decompression and been returned onshore, Dr Grieve performed the post mortem examination. He has experience in examining divers who have died during diving operations. His findings are not in any way disputed.
28. He gave the cause of death as "Death while diving (Saturation)"
29. He was not able to identify the actual fatal cause or the factors which had contributed to form the fatal cause.
30. Having had the opportunity to consider the reports of the other experts involved in preparing reports for this Inquiry and discussing their views with some of them, Dr Grieve was able to set out the contending theories which had been put forward as to the physical cause of death. He explained that no cause of death could be proved by any of those who had been consulted and who had reported. There was a degree of concordance among the experts as to the possible causes. Each expert had an opinion and each opinion had something to support it, but each expert had a favoured view.
31. A sudden cardiac event was postulated as a cause of death. Dr Grieve could not exclude it but found nothing on autopsy to show damage to the heart. Nor was there a genetic predisposition to such an event in Mr Robinson. He had no history of cardiac symptoms. There was no persuasive support for this cause among the experts.
32. Asthma and diabetes were each postulated. Although Mr Robinson appeared from his records to have a history of asthma in his younger years, Dr Grieve found no physical signs of damage to the respiratory system such as would be expected if asthma had caused or contributed to the death. Diabetes having been raised because of past weight gain and some signs noticed by Mr Bradley when Mr Robinson's helmet was removed, was discounted by Dr Grieve and others and the signs noted by Mr Bradley were explained as having other causes unrelated to diabetes.
33. Bronchospasm and a lack of breathable gases reaching the alveoli in the deep lung area were discussed and considered by the experts. These would both cause anoxic anoxia,(no oxygen reaching the brain). Bronchospasm could not be confirmed or excluded because the tissues which would have been in spasm would have relaxed on death. Lack of breathable gas reaching the deep regions of the lung could not be

confirmed on autopsy nor by other evidence although it may fit with some of the signs of asphyxia found by Dr Grieve.

34. Dr Grieve did find signs of asphyxia. There was congestion of the face, cyanosis of the face and neck and petechial haemorrhaging. There are many potential causes of asphyxia according to Dr Grieve, ranging from smothering, through crushing of the chest stopping inhalation, to lack of breathable atmosphere to external compression. All of these will give rise to lack of oxygen to the brain and ultimately death.
35. Dr Grieve had a concern over the tightness of Mr Robinson's neck dam. But could not be satisfied, in light of the fact that Mr Robinson had no difficulties during the bulk of the dive and although there was some superficial bruising around Mr Robinson's neck it was neither deep nor extensive, that it had exerted sufficient pressure on Mr Robinson's neck to cause anoxic anoxia. Professor Busuttil discounted the bruising as inconsequential.
36. Dr Grieve hypothesised that when Mr Robinson used the freeflow system in his helmet to increase the gas flow available to him, that could have increased the external pressure on the neck dam, tightening further on the neck. However, the evidence suggested that Mr Robinson was having difficulty breathing before the freeflow was opened thus it could not have caused the original problem. Further, it has to be unlikely that a system designed to make it easier for the diver to breathe by reducing the need for active inspiration would be designed in such a way that it would increase the pressure on the diver's neck and throat.
37. Thus, the expert evidence which postulated possible causes of death was not without difficulty. All of the suggested causes were based to a greater or lesser extent on speculation. None explained all of the circumstances observed, and none fitted all the facts as established by the evidence of events and of the findings on post mortem examination.

Accordingly I find as follows:

Russell Richard Robinson, born 18 September 1978, died on 30 October 2011 at 18:37:35, while in the course of a diving operation being carried out from the Balmoral Floating

Production Vessel at position Latitude 58 degrees, 13 minutes, 45.7seconds North, Longitude 001dgree, 6minutes, 31.22 seconds East in the Scottish area of the North Sea.

Mr Robinson died while saturation diving. No more specific cause of death can be ascertained.

I make no determination in terms of Section 6 (1)(c); (d), or (e) of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976.

Annella M Cowan, Advocate.

Sheriff of Grampian Highland and Islands