NEW SOUTH WALES STATE CORONER'S COURT

STATE CORONER: J ABERNETHY

TUESDAY 4 APRIL 2000

5/98 EVENT OF THE 1998 SYDNEY TO HOBART YACHT RACE

INQUEST INTO THE DEATHS OF JAMES MICHAEL LAWLER
MICHAEL BANNISTER
BRUCE RAYMOND GUY
PHILLIP RAYMOND CHARLES SKEGGS
JOHN WILLIAM DEAN
GLYN RODERICK CHARLES

Mr A Hill and Mr M Papallo with Ms P Lazzarini assisting the Coroner
Mr P Santamaria for the Bureau of Meteorology
Mr J Harris with Miss T Nugan for the Cruising Yacht Club of Australia
Miss C Needham for Richard Winning
Ms S Finter for Sword of Orion

<BRUCE DOUGLAS GOULD(10.16AM)
SWORN AND EXAMINED

HILL: Q. Would you give the inquest your full name please.
A. Bruce Douglas Gould.

Q. Your address, sir?
A. 7 Warringah Road, Mosman.

Q. Your occupation?
A. Merchant banker.

Q. You were a crew member aboard the vessel Winston Churchill in the Sydney to Hobart race in 1998, is that correct?
A. Correct.

Q. What position was yours aboard the vessel?
A. I was a helmsman and watch captain.

Q. Who was the other watch captain?
A. Jim Lawler.

Q. And the skipper was Mr Winning?
A. The skipper was Mr Winning.

Q. How much experience have you had in offshore yacht racing?
A. That year was my thirty-second Hobart race.

Q. And I take it you have also had other races and cruising off the coast, is that right?'
A. Correct.

Q. Did you attend the briefing at CYCA on 24 December 1998?
A. No, I didn't attend that briefing.

Q. Were you told what occurred at the briefing?
A. We discussed it on the morning of the race with Richard and John Stanley before the race started so I had a fair idea what was said at the briefing, we went over the weather. But I didn't need to attend that briefing.

Q. What time did you get down to the vessel, the Winston Churchill, on the morning, Boxing Day?
A. 10 o'clock I think, somewhere about there.

Q. Did anyone speak to you about anything wrong with the vessel at all?
A. No.

Q. Nothing to do with the bow or any corking or putty missing?
A. No.

Q. Nothing at all?
A. Nothing at all.

Q. Did you hear any conversation in regards to that?
A. No, nothing at all.

Q. This discussion that you had in regards to the weather, who was present?
A. The skipper, John Stanley and Jim and myself.

Q. Jim?
A. Jim Lawler.

Q. What was said?
A. We just got an indication what the weather forecast was going to be, we knew we were getting a north-east start, we discussed getting out the harbour and then we knew we were going to be going out to sea a little bit, discussed how far off the coast we were going to be, we knew we were going to carry a spinnaker and there was a storm warning out, or a strong wind warning, I think it was forecast to be 35 knots so we expected a bit of a southerly when we got down towards Gabo Island.

Q. And that was prior to the race start?
A. Correct.

Q. The race commenced and I understand that there was a sked at about 3 o'clock in the afternoon. Do you know anything about that?
A. I can't remember the first sked but there would have been a sked that afternoon.

Q. Did you hear it at all?
A. I can't remember to be honest, I am not sure whether I was on watch or not. I don't worry too much about the skeds because the navigator usually looks after the skeds with the

skipper. So to be honest I can't remember whether I heard that sked or not.

Q. Were you told anything about a weather change in the afternoon?
A. Yes, the next weather forecast I got was that the wind force had been upgraded and they were expecting 45 knots on the Sunday.

Q. When did you get that, do you recall?
A. I think that would have been - well, obviously after the radio sked, probably sometime on Saturday afternoon.

Q. Do you recall who told you that?
A. Either Steamer or Richard, I can't remember which.

CORONER: Q. Stanley or Winning?
A. Stanley or Winning, sorry.

HILL: Q. What was said?
A. Well, we knew we were in for a southerly the next day and what was discussed was that the wind warning had been upgraded so we were now expecting 40 knots plus, 45 knots perhaps, so we knew we were going to be in for a bit of a harder bash than we perhaps first anticipated when we started the race. But it's nothing worse than we have been through before so you just knew you were going to be in for a bit stronger wind conditions, maybe a little bit harder but nothing too dramatic. We went through plenty of 50 knotters before.

Q. If you were expecting 45 knots were you expecting winds above that?
A. No, if you get - oh it might vary by 5 knots or something like that, you expect some gusts above the usual weather forecast, but in the range of - if it was 45 knots, I think it was the figure that we had, you might expect gusts up to 50, but that's pretty - in that range, it's probably all I was expecting.

Q. When you say gusts, how long is a gust to you?
A. A gust - you might get a rain squall coming through and the wind will increase, that could last 10 minutes or it could last, you know, 20 minutes depending on what the weather conditions are at the time. But usually gusts come and go. I mean the wind doesn't blow steadily at 45 knots constantly, it's varying, the wind varies all the time. So a gust might last a minute or it might last 5 minutes while the rain squall is going through.

Q. There was at 8pm on the 26th another sked, did you listen to that at all?
A. Look, to be honest - I mean I listen to some of the skeds but I just can't recollect that far back, to be honest I just can't remember because if you are on watch you don't listen to the sked and I can't remember whether I was on watch or off watch or what, or asleep, I might have even been asleep.

Q. But isn't it of interest to you where the other vessels are in the race?
A. Oh it is and usually if you don't catch a weather sked you'll ask where the lead boat is and things like that, you usually get updated when you wake up. You'll probably discuss the change of watch if you have been asleep and if you are awake you listen to the sked or some of it. I mean all you are really interested in is perhaps who is leading the fleet and then maybe some boats around if you happen to be awake, if you have got a few boats that, you know, you have been in company with in the race. Look, frankly I am more interested in getting my sleep ready for the next watch because you don't know what you are going to get.

Q. Do you know if you were asleep at the 8 o'clock sked?
A. I can't remember.

Q. Do you recall anyone telling you about the weather forecast after the 8 o'clock sked?
A. Specifically no. I can remember having a discussion with Richard Winning, and I can't remember whether it was either straight after that sked or later in the evening, but we did get a weatherfax through, I think it might have been Sunday morning actually we had a weatherfax come through and we could see a low was building so we certainly knew we were going to be in for a fairly heavy storm condition. But I can't remember specifically, you know, I mean I just can't remember.

Q. What was said about the fact that this was going to be a heavy storm condition?
A. Well, we knew we were going to be in for a bashing. We were running with the kite on at that stage, I think at 9 o'clock we were still carrying the kite. In fact from memory I am not sure whether I was on the helm or not but I know I was on the helm at about the time we took it off, which was somewhere between 8 and 10 o'clock that night. We were running fairly hard, the northerly had built up, and we certainly - we knew that we were going to be in for it the next day so we made sure we knew where all the storm gear was and we knew we were going to have to put some reefs in the main. So we made sure the crew knew what they had to do if and when that storm arrived and we had to reef the boat and change headsails, so we made sure where the gear was and we prepared ourselves because we knew it was inevitable we were going to get it. And we discussed what we were going to do. I mean it's pretty common knowledge what you have got to do, you are going to reef the main, you know, drop your big headsail off, put a smaller headsail on, depends how big the storm comes in when it first hits you.

Q. But what were you expecting?
A. I was expecting 45 knots.

Q. Was that common among all of you that you were expecting a storm of a maximum 45 knots?
A. Yes.

Q. Did anyone discuss that the gusts would be more than 45 knots?
A. No, not specifically. I mean you know if you are in for 45 knots you are going to get sort of 50, you might get 55 knots. I mean it's fairly common knowledge that you are not going - look, it just doesn't blow 45 knots and it never goes one millimetre above that, it's in a range of 45, it could be 50. But I mean you are expecting a strong blow in that range.

Q. And was there any disquiet among any of the members of the crew about going into this storm?
A. No, I mean nobody enjoys bashing into a southerly but we had a couple of young fellows on board and we spoke to them. Michael Rynan was on board and I can remember telling Michael 'we are in for a bash', so he was going to have his first - you know, a good hard bash to windward and not to worry too much about it, that it'd be hard work but, you know, we'd get through it. Steve and I discussed making sure that our gear was right and ready to go into the storm so we were prepared for it. The boat was ready for it in the sense that we were ready to reef, we were ready to change our headsail when the storm hit. I mean if a southerly comes in you know you are going to get a southerly. The crew are briefed for it, each man knows what his job is to do, and when the time comes to do it we knew we were going to take the kite off and depending on what the weather was doing at that particular point of time we'd determine whether we were going to change down to which headsail and how many reefs we put in would depend on how bad the storm was when it first hit us. Sometimes it comes in slow, you might put one reef, then you go on to the next reef as the wind increases. Or sometimes in a southerly bust you can get it big end first and have 40 knots straight on the nose, so you reef down very smartly, get your headsail off, your spinnakers off and you batten down ready for your beat.

Q. And that was done on Sunday morning, was it?
A. Mm.

Q. Did you hear any messages over the radio in regards to what the weather was ahead?
A. Yes, I think we listened to a forecast that, you know, confirmed my thoughts that we were going to get a 45 knotter. I can't remember when that was, I think there was a weather forecast on - I think there was one on Sunday morning early. But I mean we had already accepted the fact we were going to be in for a hard blow so we were ready for it.

Q. What do you remember of that forecast?
A. I don't remember the actual weather forecast now but I can remember that at the time it was confirmed on the morning and as I said to you I think that was probably the time I spoke to Richard because we had actually got a weatherfax through showing us what the weather pattern looked like and I can remember saying to Richard well

judging by what we are seeing there we are going to be in for a reasonable blow. So it just confirmed all the reports that we had had and I knew we were going to be in for a good hard 12 hour slog or thereabouts.

Q. You said that, did anyone else say anything about that?
A. Oh we discussed it between - I mean - look, the decision is made on the boat - there was Richard who was the skipper, there was John Stanley who was the sailing master and then there was myself and Jim Lawler. All four of us have got good experience. Jim and myself had done a lot of Hobart races, I had a lot of respect for Jim, and we all knew and we discussed that we were going to be in for a blow. I mean it's nothing extraordinary, I mean if you are going to be in for a blow you are going to be in for a blow.

Q. I see. Did Mr Dean contribute to this conversation at all?
A. Well, he was the navigator but, you know, really when you look at the experience of the other members I just mentioned - although he could relate the weather forecast and so on and was doing the navigation the experience of the boat weather-like and so on was - I mean he was a junior member, if you like, of that team and really the decisions were made by the senior members.

Q. John Dean was a junior member?
A. I am sorry, I am getting it mixed up with Paul Lumtin, sorry. Yes, sorry, I just misplaced the name. No, John had been around a long time but John really wasn't, if you like, part of that decision-making process in the sense that we had - I mean there were four of us, John hadn't done a lot of ocean racing I gather in the last few years so the decisions were made by basically those four.

Q. And that's yourself, Mr Winning, Mr Lawler and--
A. And John Stanley.

Q. Mr Dean didn't contribute at all?
A. I can't remember what - I mean - look, we had a discussion, we knew we were in for a bash, all the crew knew we were in - we were going to be in for a southerly, everyone was aware of it. There is not much you can do other than get your boat prepared, we were ready for it. Everyone, as I said to you, knew what his position was in the crew and we knew that we were going to have to get the spinnaker off eventually and reef and get a smaller headsail on and get ready for the storm. And we were ready for it, everyone on board knew it. I can't remember whether there was specific discussion with John or all the other members of the boat but they all knew - as far as I am concerned I am pretty sure that everyone knew we were coming in for a storm, it had been discussed and we knew some time on the Sunday we were going to be in for it.

Q. What's the highest wind that you recall?
A. In that race?

Q. Yes, in that race.
A. We had the alarm set I think at 60 so the alarm would go off, this is the wind alarm on the wind ..(not transcribable).., it was going off at 60. I think we got somewhere between say probably maximum speed 65, it may have gusted to 70, somewhere in that range.

Q. Were you expecting anything like that?
A. No.

Q. When did it start to get up around that range, the wind?
A. Probably about 1 o'clock on the Sunday or thereabouts, between probably sort of 1 to 3. The storm was really in by then. We were down to a storm headsail, we had taken the main completely off the boat. The sea conditions had built up, we had some really bad steep rugged seas. And I think I was on the watch probably somewhere between 3 and 4 o'clock and I think that was probably the maximum speed, I can remember it was probably about 65-70 knots at that stage.

Q. At what stage?
A. About between 2 and 4.

Q. I thought just earlier you said about 1 o'clock it started to get up around that?
A. Well, it started, yes. I am trying to remember back now. The storm started I think about - from my recollection it was probably sort of somewhere about 1 o'clock and then it gradually built up. And I am just trying to remember when I was on the helm. We were doing sort of half to three quarter hour changes between probably 2 o'clock and 4, from memory, and that's probably when - from my memory at that point of time is when I can remember the maximum speed.

Q. There was a 2 o'clock sked that afternoon?
A. Yes.

Q. Did you listen to that at all?
A. No - well, I can't remember whether I listened to that sked or not to be honest, I was one of the main helmsmen at that point of time because of the weather conditions. Whether I listened to the sked then or not I just honestly can't remember but all I knew at that stage we were in for a rugged night coming up and I was trying to get as much sleep as I could.

Q. The storm has certainly built by 1 o'clock.
A. Mm.

Q. And you were getting gusts that you had not expected by that time.
A. Yes.

Q. There is a sked at 2 o'clock which gives the weather forecast.
A. Mm.

Q. Wouldn't that be of great importance to you?

A. Oh it was and I can't remember specifically whether I heard the weather forecast or not, if I didn't hear the weather forecast certainly the other boys would have done. You know, the weather forecast would have been discussed if I didn't hear it because I might have been asleep or I might have been on the helm. You know, we would have certainly discussed it. You always want to know what the weather is, when you wake up you'll ask what's happening. I mean we were well and truly into it by then.

Q. You might have been well and truly into it but on that sked Sword of Orion, which would have been just before Winston Churchill in the sked, said that they were receiving constant winds between 70 and 80 knots. Was that not told you?
A. I can remember that - no, I don't think it was actually, I don't think I got that information until much later.

Q. Until much later?
A. Mm.

Q. Who gave it to you, do you recall?
A. I can't remember now, I probably would have been talking to either Steamer or Richard or one of the boys and they would have passed that information on to me eventually.

Q. Steady winds between 70 and 80 knots is quite different to what you were expecting, wouldn't you have considered it to be very important that you have that information as soon as it was to hand?
A. Yes.

Q. Who was on the sked on your vessel, who took it, who was the regular operator?
A. Paul Lumtin was the radio operator, he was the navigator.

Q. And did he do the sked right through, the 2 o'clock sked?
A. Yes - well, I understand the 2 o'clock sked was done. I don't know - yes, I think - as far as I am aware I think Paul did the sked.

Q. Who was his watch captain?
A. Well, he hasn't got a watch captain because he is the navigator.

Q. Who looks after him, who supervises him?
A. John Stanley, he is the sailing master.

Q. Would it surprise you that the Winston Churchill didn't come up on the sked?
A. Yes, it would.

Q. That in fact the position of the Winston Churchill was radioed in by another vessel who said they had seen the Winston Churchill approximately an hour earlier. Would that come as a surprise to you?

A. Yes, I would be a bit surprised. I mean as far as I was aware we had given in our 2 o'clock sked. You know, that was the normal thing to do, when the sked is up you radio your sked in.

NEEDHAM: Your Worship, might I interrupt now and just make one point here. As I understand it these questions are put on the basis of an entry in the tape, the transcript of the tape of that scheduled radio broadcast which noted the word 'inaudible' after a certain number of responses had been recorded, which of course would leave open two possibilities. Only one those possibilities is being put to the witness.

CORONER: That's true and I think Mr Hill would realise that.

HILL: I am not sure that it says 'inaudible'--

CORONER: I'll just check the actual transcript, Ms Needham. If you are correct about that we will rectify that.

NEEDHAM: I have not actually seen it myself, your Worship, but I think Mr Hill conveyed that to me the last time I was down here.

HILL: I think what I said was 'no audible reply'.

NEEDHAM: Yes, that might be it.

HILL: I don't know whether that necessarily means inaudible or whether it's simply a comment.

CORONER: Around about p 12, here it is. Yes, down the foot of p 13. I don't know what that means actually 'no audible reply'.

HILL: Which tape?

CORONER: The 2 o'clock sked. Tape 3 side A.

HILL: Yes, 'no audible reply'.

CORONER: I am not sure what that means.

HILL: Q. It would certainly come as a surprise to you that the position had not been communicated or received by Telstra control?
A. Correct, I mean our normal procedure was to do our radio skeds, I mean that's part of the procedure.

Q. And that was Mr Lumtin's task?
A. Yes.

Q. Mr Lumtin said that Mr Dean took over the radio halfway through the sked because Lumtin was tired, do you know anything of that?
A. No, I am sorry, I don't know anything about that.

CORONER: Q. Can you remember seeking Mr Dean at any stage around about 2 o'clock at the time of the sked either on deck or somewhere else in the boat other than at the table, or can you remember seeing him at the table?
A. Is that the radio table you are talking about?

Q. Mm.
A. No, I can't remember.

HILL: Q. You would have been behind Sword of Orion presumably?
A. Yes.

Q. And if they are getting 70 to 80 knots steadily up ahead would that not have raised concern to you?
A. Well, you know, we certainly weren't getting that wind pressure at that stage. If she was ahead of us and getting that sort of pressure we would - we were certainly aware that we were going to be in for a bashing but I am not too sure what we could have done about it, I mean we were down to a storm headsail. Our next move after that, and we did have some discussions late that afternoon probably at about 4 o'clock or thereabouts, what we would do if the wind got above 70 knots because we were coming into evening. And Steamer and I did have a discussion, I can remember talking to Steamer about well probably our next move really is to heave to and we discussed how we would do that. But at that stage it still was blowing, my recollection, about the 60 knots and we certainly had a contingency plan in place that if it got to 70 knots we reckoned that was the time to heave to. And we were keeping an eye particularly coming into the night because the night is obviously - it's hard to see and the seas are hard to see at night. But at that stage we didn't need to do that, in fact we didn't - it never go to that stage where it was over 70 and we had to heave to, in fact we didn't even get that far.

Q. I think you'd agree if you were at about the 2 o'clock sked into about 65, gusts of 65, and the vessel ahead of you, Sword of Orion, is saying that they are receiving between 70 and 80 knots, that would have been fairly vital information that you'd want to have?
A. Correct.

Q. And that didn't come to you?
A. No.

Q. You say there was a discussion at about 4 o'clock and a contingency plan for if the wind got to 70 knots, are we talking about gusts getting to 70 knots?
A. Yes, anything over 70 knots, I mean it's starting to blow - let's say it's blowing 60, you know, it's gusting - say it's blowing 55-60 knots and it's gusting to 65, if it started to gust fairly steady pressures above 70, so in other words your wind strength is gone to - let's say it's blowing fairly constantly at 70, maybe it's gusting to 75, our contingency plan then was to heave to.

Q. Were you told at all about this message from Sword of Orion?
A. To be honest I can't remember. I am just trying to think back in that particular time. I honestly can't remember.

CORONER: Q. You can't even remember whether you were at the helm at that stage, is that right?
A. No.

Q. Between 2 and 4?
A. Mm. Well, I know I was on watch between 2 and 4 some time because we were sharing the helm in about three quarter hour stints.

Q. So you do remember that?
A. Yes.

HILL: Q. Who were you sharing the helm with?
A. At that stage there was Richard Lawler - sorry, Richard and I had been sharing and also Jim Lawler had been helming. So the three of us had been helming.

Q. Was that the watch, was it, for that--
A. No, we had broken out of our watches by then on the basis that you could only stand about an hour on the helm because the sleet was coming straight at you and it's very hard to see. So we decided that what we'd do was we'd rotate and do somewhere between three quarters of an hour and an hour on and then go off, and if you have got three that means you can get two hours off. So we were rotating at that stage. I can't remember now whether John Stanley - I think John Stanley may have done a stint at that stage too because, you know, there was four of us that could helm in those conditions, we'd had experience, so we were rotating somewhere between three quarters of an hour and an hour and doing changes.

Q. So would it have been sometime during that period that the sked would have been done?
A. The sked would have been done?

Q. Yes, the radio sked would have been listened to.
A. Mm.

Q. Can you hear the radio at all from the helm?
A. No.

Q. Impossible even in good weather?
A. Oh you might be able to in good weather if it's not blowing too hard, but in those conditions you couldn't.

Q. You have told us about the Sword of Orion, that you don't recall receiving that message. Were you told that Yendys confirmed the weather in regards to what Sword of Orion said?
A. Look, to be honest I just can't remember. I mean, you know, at that stage of the game the sked was done, you know,

you always ask after a sked if you come on deck what the weather conditions are. We knew that we were in for a big blow. I just can't specifically remember whether anyone told me whether Yendys had it or Sword of Orion had it but all I knew was we had it in the strengths that we were in and I was more worried about looking after my boat at that stage of the game.

Q. You were a watch captain?
A. Yes.

Q. So for certain periods of the day you would have the command of the vessel?
A. Correct.

Q. Because the skipper, Mr Winning, would be asleep and the other watch captain would probably be also asleep, which is fair.
A. Yes.

Q. But would it not be vital for you as, if you like, having command of the ship during that period of time to have what would be a very vital information in regards to the weather?
A. It would be, but I mean I'd had the weather reports given to me, we had discussed what our tactics were. My understanding of the conditions were that we were in the blow, we had the ship shipshape for the conditions we were in, we had a contingency plan for the future if it did blow to 70 knots. So as far as I am concerned I was controlling the ship at that point of time. We were sailing - we had the right gear on in the right conditions and I think we were acting in a fairly seamanlike manner where we were at that particular point of time.

Q. The contingency plan was if it got up over 70 you would heave to?
A. Yes.

Q. And that basically would require what?
A. That would require - we discussed whether to heave to whether we could actually take the small headsail we had or maybe the staysail and we would winch it to windward to give us sort of a holding pattern so the boat was basically in irons(?). The only other alternative after that is to take the sail off, if that didn't work, and then to put out whatever sheets and ropes we could have to sort of try and help hold the boat head to wind.

Q. And that was if it got over 70?
A. Yes.

Q. When was that discussed?
A. I think it was about 4 o'clock that afternoon.

Q. And who was there present for that?
A. I think Richard was there and I think Steamer was there and myself. I can't remember, I think Jim might have

actually been in - might have been off watch having a sleep at that stage when we actually discussed that.

Q. Was Mr Dean there?
A. Not to my recollection, he may have been listening in into the conversation. I mean all the crew were kept informed of what we were doing and as we made up our minds what our contingency plans would be we'd pass it on to each crew member so that they knew what we were doing and what to expect in the sense of the night coming up. Whether John was there specifically for that conversation I honestly can't - I don't know, he may have overheard it.

Q. Did you know Mr Dean apart from this cruise at the moment, the race?
A. Previously?

Q. Yes, previously.
A. No.

Q. You hadn't met him before?
A. I might have done way back. I remember he sailed on Apollo I think at one stage, you know, going back quite a few years ago. But I didn't know him well at all.

Q. How did he come to be on the vessel? Are you aware of that, who introduced him on or--
A. I think he was a friend of Richard's, Richard Winning.

Q. Richard Winning?
A. Mm.

Q. And you simply accepted that was the situation, he was one of the crew, that was that?
A. Yes.

Q. Did you go off watch at 4 o'clock?
A. Where you ask me specifically at 4 I can't remember, but thereabouts. I think that was probably 4 o'clock or thereabouts, might have been about that time. I had actually gone off, Richard had relieved me. I was lying on the cabinsole trying to get some rest. And I can't remember specifically what time the wave hit us but I mean the only time I have got clear in my mind is I think it was a quarter to 5 we actually sent a mayday out.

Q. I'll come to that.
A. I am just trying to get time related, that's the only time I can specifically remember. But I think it was probably about 4 o'clock or thereabouts we had changed watch - not changed watch, changed helmsmen I should say. We were sailing the boat with only a helmsman and one other crew member on deck because there was nothing specifically to do, so other than having a companion on deck to make sure that the helmsman was okay and nothing untoward was happening we were only keeping two crew members on deck. And then the next thing I know was that we came up on - I could hear a huge roar coming at us, there was an almighty crash and the

next thing I knew I was flying through the air to the leeward side of the boat.

Q. And that would have been the port side?
A. Port side.

Q. If I could take you back. What was the highest wind that you recall and how do you know what it was? Did you have some instrumentation?
A. Yes, we had a wind speed instrument and as I said to you the alarm was going off, at 60 I think we had it set, and I can remember looking at it sort of occasionally at times because you are obviously, you know, very keen to know what the wind strength is and I can remember getting it somewhere between 65 and 70 in gusts.

Q. You don't recall anything above that?
A. No.

Q. You have told us that when the wave struck you were thrown to the port side, what happened then?
A. Well, there was one almighty crash as we crashed off the wave. I was thrown through the air so I was a bit stunned by all that because one moment you are lying flat, the next minute you are spewed across the cabin. I stood up. I had dislocated my thumb and I can remember sort of Jim was on the leeward bunk so I bent down to Jim and asked him would he pull my thumb back in, which he did. Then I went straight on deck because I was standing - I was right near the main companionway. I went on deck. The two boys were wrapped around the backstay, that's John Dean and Richard Winning wrapped around the backstay in a bit of a mess because the backstay splits where it joins the deck and they had gone around in circles, from memory I don't think their feet were even touching the deck. So I took the helm because there was no-one at the helm at that point of time obviously. I looked up and the mast was still standing. I was a bit surprised, I thought we might have actually lost the mast in that crash. I noticed the leeward rigging was very slack so I was worried about the strength of the mast at that stage. We got some crew on deck. I immediately took off the storm jib so we had no gears, took every piece of canvas off the boat and then I ran the boat downwind with wind coming across our quarter.

Q. Which quarter, the port or starboard?
A. The starboard, so I am running with the wind coming sort of on my starboard quarter. By that stage the boat felt very heavy to me. I knew we had shipped a lot of water because when I was down below there was a lot of water pouring in in the aft cabin where there were three portholes on the little aft separate cabin from the main cabin.

I can't remember specifically how much water was in the boat but I knew a lot of water had come through those three windows that were all broken. So I went up on deck and took the helm and the boat is now feeling fairly sluggish and I knew we'd shipped a bucket load of water, so once we got Richard untangled, we got Richard and Steamer, they knew the boat intimately obviously because Richard was the owner and Steamer had done a lot of work on the boat and knew the boat compared to me, I'd only been on the boat to weeks before the Hobart race. So I stayed in the helm, Richard tried to start the engine. I think we got one splutter out of the engine and then the engine ceased, so we didn't even get it started. My guess is that's probably because the battery is I think on the port side and we obviously weren't getting power. I then said to Richard - I think John Stanley then had a look down below on the boat to see if we could see where the boat was actually leaking, how much water there was. He came back and reported at some stage to me that the boat was - water was above the floor boards so it didn't sound too good. We then tried to - I then got everyone to get their life jackets on and to get the lift rafts on deck. We got some spare flares on deck, we brought our whole flare container and we got ourselves - we didn't know we were going to abandon ship at that stage but I didn't feel too comfortable where we were at because the boat was obviously full of water. I could feel the boat getting heavier and heavier.

Q. You were on the helm were you?
A. On the helm. So I think as time went on I think we got peaked by a wave which means when you're not running fast enough down wind you'll actually get a wave break over your stern. That put some more water aboard. I could feel the boat definitely getting more sluggish and getting deeper in the water. I said to Richard "I think you should get a mayday out immediately because I feel that the boat, we've got a possibility of sinking. So we got a mayday out. That's the only time I've got clear in my mind because I think the ABC helicopter confirmed that the mayday was sent at quarter to five.

Q. Did you hear the mayday go out or were you still at the helm?
A. I was busily helming the boat and trying to make sure we didn't--

Q. Do I take that as meaning you didn't hear it?
A. No. That was about quarter to five we got the mayday out. I think we then established that we couldn't find where a leak - it wasn't as if there was a 6-foot hole in the boat and there was water gushing through. At some stage I remember looking at the aft rigging in between all this happening and the Winston Churchill had high bulwarks going around her about that high and on top of the bulwark there was a stainless steel track about four inches wide and about three-eighths of an inch thick and I noticed after the rigging, the lower shrouds, that that bulkhead had been stowed in and was sort of almost just like the bend in my

elbow. That made me start to sort of really take some note because to bend a piece of stainless steel on the flat in that shape, not that I'm an engineer but I know a bit about stainless steel having done a fair bit of yachting, there must have been some horrific pressures because it was bent sort of roughly at about that angle.

Q. Which side of the vessel is that?
A. Port.

Q. And about how far along?
A. Three feet, four feet after the rigging.

Q. And rigging would have what, about midships or slightly forward?
A. No not quite midships. I think the mast was about probably a third of the way back from the bow. Anyway I noticed that that was staved so I mean to do that makes you sit up and take note because you suddenly think well if it's done that, there's some pretty big pressures involved in that particular scenario, so that had me even more worried at that stage because if we've done to the bulwark my guess was that we must have sprung something below and we were probably leaking. I think by about, I don't know, half past five, somewhere about there we shipped a couple of more - we were peaked by a couple of big waves obviously filling the boat with more water. I think on the second wave I said to Richard "I think we should launch the life rafts because I think we're gone". I can remember having one sort of dreadful thought well if the bloody things don't blow up we're in trouble. We launched them, thank God they both blew up and I think at that stage again I said to Richard "I think this is time mate, we've got to go". So we all left the ship, got into whatever life raft was nearest, I left the helm at that stage and walked to the side of the boat and dived into whichever raft was there. I can remember actually being hauled into the raft by must have been Paul Lumtin I think it might have been, got myself sorted out, turned around, Richard was on the edge of the raft at the entrance to the canopy, I remember pulling him in and then looking up and the Winston Churchill was sort of going down fast. I mean she was gone.

Q. The other life raft, you were in the one life raft?
A. Yes.

Q. And there was Mr Winning with you and I think Mr Lumtin and Mr Rynan I think, is that right?
A. Yes.

Q. And the other raft was a 6-man life raft?
A. Correct.

Q. I think a rectangular shape?
A. Yes.

Q. Could you see that at all?
A. How do you mean see it.

Q. Could you see it from where you were in your life raft?
A. Someone fastened the life rafts together when we first launched them. That wasn't a good idea because you could damn things apart so as it turned out as soon as we got in the life rafts we broke apart anyway We could see them as we sort of settled down but once we sort of got under way drifting, we soon got separated and I can't remember exactly but I don't think it was that long afterwards that we gone our respective ways and you couldn't see each other.

Q. Did you use the sea anchor or the drogue at all in yours?
A. Yes we got the drogue out which was on a sort of plastic nylon line. I can't remember exactly but I think probably within about five or six waves it had gone, broken.

Q. Had the line parted?
A. Yes.

Q. What did you think about the drogue that was furnished with the life raft?
A. Well it obviously wasn't very adequate and anyone that puts that nylon line on anything ought to be shot.

Q. That's fairly succinct. I think the raft once the drogue was gone there was no other drogue?
A. No.

Q. And I think you opened up - when I say you I'm talking about the group, opened up the bag that contains that?
A. Yes.

Q. What's your thoughts on that bag?
A. Well we had the sort of bag chucked in the bottom of the life raft and it's pretty natural when you - once we sorted ourselves out to see what we actually had, so we emptied it out an bit and found we had a couple of flares and I think there was some water in there and other bits and pieces, but I suppose in the after event and experience tells you that and particularly if you talk to the helicopter pilots and the people involved in the rescue, anything they own whether it's in a raft, in the helicopter or on their person has got a specific pocket usually with a velcro tab to it and it's got a decent piece of cord tied to it, not that nylon stuff, so it's got a place and it'd tied in. Our problem in the raft was that it wasn't tied in, it was just chucked in the middle of the raft and when we capsized, I mean the first time was okay because we had the little tent flaps tied up and they were tied with little nylon strings. When we capsized we had to - we couldn't actually get those undone, although we tried, we ended up cutting those to get out so that we could right the life raft and I think the second time we capsized we lost the remains of the bag.
Fortunately we'd taken some things out, flares, I think we had some water and some biscuits and the pump thank goodness, but whatever else was in there went overboard, so we lost that.

Q. I just want to take you back to when the raft capsized, I think Mr Winning actually went out to right the raft and in order to do that he had to remove his life vest. Did you think that that was something that was dangerous or what was your opinion of that?
A. No doubt it was dangerous. I think the reason Richard took his life vest off was because they were pretty bulky and in the manoeuvre that he had to do in a seaway like that frankly he was better off without it than with it because it give him I think much more flexibility to actually manoeuvre himself and get the life raft turned over. We did exactly the same thing when the helicopter picked us up, we dumped them and swam, we were better off without them.

Q. The point that I wanted to make is that in order to right the raft and by going outside, Mr Winning in fact took a great risk. There's not much question about that in your mind is there?
A. Absolutely no question at all. I think he was - I mean there was no hesitation in doing it and frankly I admire him. There was no shred of doubt he was taking a grave risk at being torn off the raft but we discussed it and we agreed that we had no option but to right the raft. So once we made that decision to right the raft Richard said "Well I'm nearest the door, I'm doing it" and he did it.

Q. What did he say?
A. I said he was the nearest to the entrance and had no hesitation in electing himself to right the life raft and I admire his bravery for that because took a lot of guts to do that.

Q. Of course in that seaway if he'd lost any grip when he was outside?
A. He was gone.

Q. Had you received or have you received prior to this race any life raft or survival training or anything like that?
A. No not specifically although I do own a boat and I had seen my own life raft and I specifically went out to see it blown up when I had it re-serviced and I think I had one other experience where we had an old life raft that was being replaced with a new one and we launched it at the CYC just to see what it looked like. That was bout 1965 I think, long time ago.

Q. That was the launch of a life raft?
A. Yes.

Q. What about when you saw one, your own one you said, or was that the same instance?
A. My own life raft?

Q. Yes?
A. I'll put it in chronological order. I can remember launching one in say 1965, somewhere about there, because we had an old raft that we were replacing and we decided to blow it up to have a look and we did it in nice smooth water

at the CYC. I also on the factory floor at RFD where they service the life rafts, watched my own life raft being blow up so I knew what it looked like.

Q. When was that approximately, I'm not--
A. Early eighties.

Q. Were you aware that the life rafts aboard yachts are not as robust as the ones that are required say for a fishing vessel off the coast, were you aware of that at all?
A. No.

Q. That in fact the material is of a lighter material. You had no idea about this?
A. No.

Q. Has anyone ever pointed out to you that a life raft under the uniform shipping laws has to withstand 30 days in the water in all seaways whereas the one that is aboard a yacht doesn't have to have that standard, that test, were you aware of that?
A. No I wasn't.

Q. What's your thoughts on that, that that is the situation?
A. I'm pretty critical of life rafts. I think having experienced one, I mean my first comment is I think they should have double floors, they certainly shouldn't have any nylon rope at all anywhere near the boat, I think every article that we had in the raft should have been in a special pocket preferably with a velcro flap on it and a piece of string tied so that it was tied to the raft so you didn't lose it and to give you a classic example why I don't like nylon rope, at one stage I can remember there were two red flares floating around in the raft and we had the remnants of the nylon rope that was used for the drogue so I thought be smart to actually tie these flares up and tie them to the handrail inside the raft. So I proceeded to do that. I think within five minutes they were floating around again, so this time I got it and put it down my front. So that gives you an example why I don't like nylon rope.

Q. Well it does actually, you haven't explained why?
A. Because within five minutes the raft half full of water, the rope came undone and the flare is floating past me.

Q. It won't hold a knot?
A. No it won't hold anything.

Q. So that it just slips out?
A. Yes.

Q. Simple as that. What about life raft training, do you think that that might be a good idea?
A. I think it's an excellent idea. In fact I attended and actually gave a talk at the Royal Sydney Yacht Squadron where we had a life raft demonstration and we blew - we had one on shore, we also launched one and with some sort of

trepidation I actually got back in and used a life raft again and sort of decided I never wanted to get one ever again but I did make the decision to get back in. I think that's the - three training sessions that the CYC have put into place I thought were excellent. I did all the courses which included letting of flares, launching a life raft and attending a lecture on storm conditions and I think they're three definite steps in the right direction because up until then I had never specifically been trained to do anything. I'd had a bit of fun letting off old flares on farm at Oberon but up until then I'd never fired a flare either so I mean all those things I think are very practical, I think they're well needed and I think the club has done an excellent job in actually making sure that people do know what they look like which is--

CORONER: Q. Which club did you say, CYCA?
A. CYCA.

Q. When was the lecture on storm conditions?
A. The lecture on storm conditions was - there were several ones held before the last Hobart race.

Q. But you hadn't been to anything prior to 1998 race?
A. No.

Q. Going back to life rafts, as a serious racer of these boats I imagine you're regularly on a good boat, one that's likely to feature prominently at the end of the day, is that right?
A. Yes.

Q. Do you skipper them from time to time?
A. From time to time I have.

Q. How would you feel if all boats had to undergo a sort of a penalty by having to carry life rafts which were in effect considerably heavier than the type that you had on the Winston Churchill?
A. Well sir if every boat carries the same life raft nobody is at a disadvantage because you're all carrying the same life raft.

Q. Yes that's right?
A. And I would absolutely support that completely and I think the one thing that I'd probably make a strong statement on and having done a lot of Hobarts and particularly experienced this one and that is that we've got to stop kidding ourselves that this is not some of the worst water in the world and it certainly can throw anything at you and I could tell you I'd have given $100,000 for a decent life raft at one particular point of time and I think if the standard was made that every boat regardless of whether it was a crack ocean racer or even the average boat that just goes to Hobart for the enjoyment of doing it, carried the same life raft I don't see what difference it makes to the--

Q. You'd all be penalised in other words?
A. Everyone is penalised the same.

HILL: Q. If I can point this out to you. The Pro Saver which was the other life raft that you were in, that weighs 28 kilograms and costs $2,527 and there's a Pacific which does comply with the uniform shipping laws but it weighs 44 kilograms and that's $2,500, so it's $27 less so it's not a price problem at all, it's the weight difference, it's 44 kilograms. So if everyone complied with that you wouldn't see that as a problem?
A. No.

Q. Going back to the life raft that you were in, there were some problems as well. I think a hole developed in the floor at one stage, is that right?
A. Yes after we rolled over the first time we got the raft back up again as you know and I don't know what time it was but some time when it was really dark we rolled again and this time we're doing it in pitch black dark and it probably was just getting dark I think when we actually rolled and let me tell you there's nothing more frightening. I mean the one vivid think I'd carry till the day I die is being upside down in the life raft, it is just not a good experience. I wasn't quite sure whether I was still here or not because you're floundering around in water all over you and you've got legs going left, right and centre and not a good experience. When we got the life raft up the second time and Richard again went and righted the life raft we discovered the second time that we go the thing up that we had - in fact the first thing we discovered was that the bottom run of the life raft had started to deflate. So as the bottom one deflates the floor does this, so we were standing in a funnel and so we were busily working out how to pump the life raft up. Fortunately we had the pump but what we didn't have was a little adaptor that had to go into the life raft and then you put the pump into that and you pump the thing up. Unfortunately for us the little adaptor that we were looking for was in the yellow bag that went over the side when we rolled the second time and the reason that happened was because we couldn't close the tent flap because we'd cut the ties.

Q. There's a pump there and what I'm going to ask you as I understand it the pump you had was - are you all right?
A. Sorry I've just got a couple of cracked ribs so I'm not too good. As long as I don't cough I'm all right.

Q. Perhaps if you have a look at that. My understanding was your pump was in three distinct pieces?
A. Yes.

Q. Is that the same as the pump that you had?
A. In real terms I can't tell you whether it was or wasn't but it had a nozzle like this on the end, hard nylon piece on the end and then my understanding was that there was a hole in the raft, we had to put some sort of fitting into the raft and then we attached this to that fitting. Logic

would tell you why wouldn't you have this, they were going straight into the raft and then you solved your problem. You're not mucking around looking for some little fitting. We didn't have the little fitting so we're sitting there scratching our heads for a while trying to work out what we're going to do. I think it was Richard finally decided that we would take this nylon piece out of the end of the hose which we did and we managed to jam the softer part of the hose into the area where you pump the raft up and by holding it in, we managed to pump the raft up.

CORONER: Q. How did you use the pump, did you pump at all?
A. Yes.

Q. How did you use the pump? Sitting in a life raft trying to that?
A. Yes.

Q. Did you ever think of putting it against your chest and trying it?
A. I had a life jacket on, it was a bit hard. So we;'re basically pumping like this really using your hand.

Q. Almost impossible to use it as a foot pump wouldn't it?
A. Yes well there wasn't much room and it's a bit hard to stand up in big seas so using it as a foot pump the answer is no.

Q. It was suggested yesterday an effective way to us it would have been against your chest but as you say if you had a life jacket of the type that rolls out here, it would be very hard to do it wouldn't it?
A. Mm. I found the best way was actually to put it on your knee and just pump with both hands. I had a broken thumb too so that didn't help matters much.

HILL: Q. So certainly as far as you're concerned a pump should be in one unit that simply plugs straight into the raft that it's in?
A. Correct. There's no reason why you can't do that. I mean we've got rubber duckies at the squadron and you put the pump in and you pump and that's the end of it.

Q. I think that basically they make the pumps then they adapt them to different rafts though why that should be we haven't quite learned at this stage but we will. So there was a leak developed in the lower chamber?
A. Yes.

Q. How did that occur have you any idea?
A. I don't know. I don't know whether it was - there was a gas bottle that hangs on the bottom of the raft after the raft blows up and it's still hanging to the raft.

CORONER: Q. Actually in the water?
A. In the water yes, in the bottom of the raft. Whether that had something to do with it or not, I don't know. I guess the EIPRB aerial could have pierced it. We had a

EIPRB break in two.

HILL: Q. That had one of those telescopic aerials like a car aerial?
A. Mm.

Q. And I understand that snapped at some stage?
A. Correct.

Q. And that's what caused or may have caused--
A. Could have done.

Q. It certainly was a dangerous object to have floating outside I imagine?
A. Yes I think it was in the morning we - during the night because we couldn't put the tent flap up, every time a wave broke over the top of us we filled the raft up again. So it kept up pretty occupied and gave us something to do I can tell you that, so between the four of us we either baled or pumped for the rest of the night and--

CORONER: Q. I understand the baling bucket was not adequate as far as you were concerned?
A. Well there's a bit of a story to that, I'm not sure I'm at liberty to tell the story but anyway I'll tell it quickly. One of the guys that he charged off the Winston Churchill saw one of our t-shirts, one of our crew shirts in the navigation area in the little cabin near where we were all standing ready to abandon ship, so he grabbed it and put it in his oil skin and jumped into the boat and I think it was after the second roll he announced to us that he had this t-shirt and didn't think it was giving us much luck. So he asked what he should do with it, whether he should keep it or throw it away and we all sort of looked at him and laughed a bit and sort of said well it's your t-shirt, do what you bloody like with it. Anyway he ended up deciding it was bad luck and he threw it over the side. Well fortunately he didn't throw the plastic bag that it came in and that was the best baler we had because we could actually collapse the plastic bag at the bottom of the boat, pick up about two litres of water and chuck it over the side. So someone ought to make a note that if you want a baler, a good solid plastic bag is not a bad way to bale a life raft.

Q. What sort of bale did you have?
A. Plastic bag. In the raft?

Q. Yes?
A. We didn't have one, we had 16 sponges.

Q. Did you have anything like that pencil case type of thing?
A. No.

Q. What would you have seen that as if you--
A. Would have made a good baler but I prefer the plastic bag, get more water.

HILL: I think they do put plastic bags in them but they don't seem to be very big.

Q. I understand that there was a hole in the floor as well?
A. Yes in the morning we finally got the raft - well we'd get it dry all night sort of thing but when the light came I'm not quite sure who discovered, I think it might have been Paul, we discovered that we actually had a small tear in the floor of the raft. We obviously did that I think when it was light so it must have been some time early in the morning, so we shoved a sponge in it and said to Paul he had the biggest backside so we said right, you sit on the sponge. So I'm not quite sure whether it solved it completely but it did help. But our big problem all through the night was the fact that we couldn't get the tent flap closed up again. Every time a wave hit us or broke over the top of us we'd flood with water again and what we found was that it's much warmer sitting in six inches of water compared to two feet of water. So the baling became sort of a fairly good necessity.

Q. And the pumping as well presumably to keep fit?
A. Yes we had to keep pumping to keep the pump, yes.

Q. You said earlier that one of the things you'd like to see is that the rafts would have a double bottom to them?
A. Mm-mm.

Q. Why do you say that?
A. Well I think one, it gives you some insulation between sitting in the bottom of the raft. I think there's a fair bit of comfort zone, you've got two layers instead of one and I think it's really just I think more sort of a comfort factor really. I think we were extremely lucky that we were in high temperature water, I think the water was 21 or 22 degrees. I think if the water had been 16 degrees we wouldn't have fared as well as we did because the water temperature was so warm and I think it just gives you a comfort factor that if you do tear the floor you've got another one to rely on rather than just having one.

Q. The other thing I wanted to ask you was this. When you actually saw the life raft being launched in 1965 or thereabouts, were you ever - did you know anything about righting a life raft, bringing it back up the correct way?
A. No.

Q. So all that was basically foreign to you at the time of the race?
A. Mm.

Q. I think that later on the weather during the Monday it would have been, the weather abated somewhat?
A. Yes.

Q. And you were picked up eventually by a helicopter after being seen?
A. Yes.

Q. How did you manage being lifted out, did someone come down for you?
A. Yes.

Q. And assist you?
A. Yes Dean came down on a wire and he was hovering about from here to the wall away I suppose somewhere about that.

CORONER: Q. Ten metres?
A. Yes 10 metres and we actually took our life jackets off and just swam to him. As soon as we got to him he put a harness around underneath us and clipped us up and then as soon as we were in he told, you know, keep our hands down. I couldn't resist giving him a big hug because I was pleased to see him and he said "Stop that, put your hands down otherwise you're going to fall out" so the next thing we're gone, we're up in the air. I didn't have any trouble getting into that and manoeuvring that.

HILL: Q. But that was something you'd never been instructed in or anything like that, how to hold your arms or anything at all like that?
A. No.

Q. The reason you took your life jackets off?
A. Well they were very bulky, they're sort of square ones with the stuff on the front and back and they were very hard to manoeuvre in.

Q. These are the ones that do up with tapes?
A. Yes with tapes and they're sort of square bulky things. Frankly we just found it easier to just get rid of them and swim which we did. I had no trouble swimming to the bloke on the wire I can tell you.

Q. The situation now as far as life jackets as far as you're concerned, what about those ones that you had, I think they're sometimes called a May West?
A. Yes and all they're good for is when you finally do sort of doze off in the life raft you can put your chin on top of them.

Q. Do you have a different life jacket now?
A. Yes.

CORONER: Q. What do you have?
A. I've got a blow up, ones hat - in fact when I raced in the Hobart race last year we had a life jacket that had the harness, life jacket, EIPRB and ..(not transcribable).. light intact in the life jacket. As you put your harness on, you put the lot on.

Q. Did you have much trouble adjusting to it?
A. No.

Q. The extra gear didn't worry you?
A. No.

Q. How would it have gone in really heavy conditions?
A. No trouble at all.

HILL: Q. And I think you said a person EIPRB as well with it?
A. Yes.

Q. I take it you would recommend those?
A. Correct.

CORONER: Q. Did you choose the EIPRB, the type of EIPRB you were going to use?
A. No In fact I had a look at one because my wife said that if I was going to Hobart I had to have one and we looked at them and the yacht I sailed on I had a look at the EIPRB that that particular one had and it was the one I was going to buy. Seeing the yacht had it I didn't buy it because the yacht had one. If I was in any race at all and there wasn't one there I'd get my own.

Q. A person EIPRB?
A. Yes.

HILL: Are you aware of the difference between the two? There's a 406 EIPRB and I think it's the 126. Are you aware of the difference?
A. Yes the 406 is the one they can track and give you the name of the boat isn't it?

Q. Yes but it'll also - it has a buffer zone of approximately five kilometres as opposed to 20 kilometres. Have you been made aware of that?
A. No not specifically.

Q. No one has pointed out that the 406 if you wear it as a personal EIPRB will actually give the name of who it is, are you aware of that, whereas the other one doesn't?
A. Ye I did do some research on that before the Hobart race this year and if I can buy personally that's the one I'd buy.

Q. But what about the buffer zone, were you told about that, that the 406, they can find you within an area of five kilometres whereas the other one requires 20 kilometres?
A. No I didn't realise that.

CORONER: Q. Makes a difference doesn't it?
A. Yes makes a big difference.

HILL: Q. That would be something you'd want to know if you were going to purchase an EIPRB?
A. Correct.

Q. I think it's more than four times the chance of finding you quickly.

<WITNESS STOOD DOWN

SHORT ADJOURNMENT

<BRUCE GOULD
ON FORMER OATH

HILL: Q. Sir I forgot to ask you one or two other questions that I must clear up. When you had the weather forecast, what sort of seas were you expecting? This is when you had the weather forecasts on the 26 where it was going to be 55?
A. Well I don't sort of try and estimate sea heights because they're always a little hard to but we were probably talking about 10-metre seas, something like that, eight to ten.

Q. The seas that you got, were you actually expecting them?
A. No.

Q. So what, they were much bigger?
A. Mm. I mean I think the point to make probably is that it wasn't the wind that buggered us, it was the sea. Absolute no shadow of doubt about that at all. The wind conditions we could handle and the thing that was our disaster was the sea conditions.

Q. Were you in the '93 race?
A. Yes.

Q. And the '84 race?
A. Yes, the '70 and the--

Q. They were all bad storm?
A. Yes.

Q. Winds in those races, were they up around the winds in this race?
A. My first Hobart race was 1963 and I was told - it took us eight days to get to Hobart and i think we had 80 knots and it was - but that was on the Tasmanian coast, not in Bass Strait and I can remember..(not transcribable).. that's the worse race we've ever had so you can just get on with it now. Well he was wrong because we just had the worst one in 1998. 1970 we had a long hard bash to windward down the Tassie coast on the sou'wester and..(not transcribable).. and in 1984 I withdrew from the race because we actually put a hole in - or we didn't have actually a leak but we put a big dint in the side of the boat and Freight Train retired and then in '93 certainly there's no shadow of doubt it was blowing in '93, the sea conditions weren't the same and I stood by Schwazzabubble(?) in Bass Strait for a night standing by her until she managed to get her motor going and then we escorted her back to Eden. But even then in '93 sea conditions weren't like these.

Q. There's two point I'll raise. First of all the Schwazzabubble that you stood by, that wasn't the Business Post Naiad?

A. That's my understanding it wasn't
Q. It wasn't, it was a different Schwazzabubble?
A. Correct.

Q. And what I'm trying to find out is that there's been reports this storm was the worst winds and the worst seas but what seems to be coming through is no, the winds have been met before, the seas were quite different. Was that your experience?
A. Absolutely.

Q. And everyone or at least a good many people say it wasn't the wind that did us in, it was the sea. That was quite different I take it?
A. Yes I've never experienced seas like that

Q. What sort of height of waves were you experiencing? Do you know the height of your mast for instance?
A. Yes they were - my estimate is that they were somewhere between 50 and 60 feet.

Q. That's how you would estimate that, all right. When you were interviewed just after you were rescued, by a sergeant of police I think down at Eden, you made the statement--

CORONER: Mallacoota.

HILL: Mallacoota, was it?
Q. You made the statement that as far as you were concerned it was an individual skipper's choice whether or not to keep racing and that as far as the club that organises the race is concerned they should not suspend or cancel a race. Is that still your view?
A. Yes, that's still my view. I mean it's very difficult for a club when it's ashore to sort of try and predict what conditions are like, those extreme conditions, and I think when you are out there in it - I mean the point I make to a lot of people that ask me this question and that is, you know, it's not like the Bathurst 500 where it rains and you stop and you go in the pits and have a beer, I mean if you are out there there is not much you can do about it. Some people said to me why didn't you go to Eden, Eden was 30 miles dead to windward so no way you are going to go to Eden. So I still think that it's up to the skipper to make up his mind whether he feels that he wants to continue the race under the conditions that were there. I mean you have asked me questions about wind strengths and Sword of Orion, ..(not transcribable).. sort of reflect on that and I think the first time I heard about that was when I read the Hobart race report, I think. What I am trying to get at there is just because someone has got wind there doesn't mean you have got it here. So each individual skipper has got to make his mind up in relation to the fitness of his crew, whether he has got broken gear, how he feels his boat is handling the conditions at the time, and I think the only person that can make that decision is the skipper. I mean what we have proved is this sport it has its dangers and I think it's down to the individual skipper to make up his mind whether he does or doesn't want to keep continuing on the race.

Q. Is that part of the lure, the danger?
A. Well, if you ask me whether I go out every week hoping I get into a life raft the answer is no. But there is no doubt that there is a certain challenge involved in beating the weather and if you can beat it - I mean if you can finish - one of my old sailing masters always said to me "Gouldy, don't worry about, you know, the boats around you, finish the race and you have got a chance of winning". So that's when your seamanship comes into play and if you can get to Hobart in one piece you may still have a chance of winning the race, if you don't get to Hobart because you drive your boat too hard or you don't use good seamanship you can't win the race if you have to withdraw.

Q. You have been a skipper of your own vessel?
A. Mm.

Q. There must surely come a time where you have a certain

responsibility to your crew as much as you might see your own children climbing a tree and you know when they are getting too high and you say right come down, that's a responsibility that we have when we are in charge. Where does that come in? For instance where in this race was it that the experienced members of the Winston Churchill were going to say this is enough? You have told us that you would heave to at 70, but what would happen if it just kept climbing, the wind?

A. Well, if it kept climbing I mean you are out there. You have two options, you can either continue south or you continue north. Frankly whether you went north or south would make frankly no difference to the sea conditions in my opinion, we are probably better off actually going - probably marginally better going south. I mean you have got no option but to sit the storm out, I mean you just can't go and park and wait for it to go. With the knowledge that we have now got I suppose you can look at it today and say well that was the worst conditions we have ever seen, certainly the worst I have ever experienced, and I think that if I was going into those same conditions again with hindsight, and I stress hindsight because we had never experienced those conditions before, you know, you might have a sort of slightly different view about how hard you are prepared to push your boat. I mean you go out there to race as well so I think there just comes a point of time when the skipper - and in my case I always consult the crew what they want to do and, you know, if the vote is that we retire we retire. In 1993 I wasn't skipper of the boat but the skipper put it to the boat, having escorted the boat back to Eden were we going to continue or retire. The majority won and we retired, put to the boat and the crew didn't continue on. I think it's a very hard decision but there does come a point of time I guess when you look at it you have got to take the safety of your vessel into account because, let's make one thing absolutely clear, even though you are in the race there comes a point of time in any bad sea condition where you are not racing any more, you are surviving. And we must never forget that and that's where your seamanship comes in and then I think it's up to the skipper and however he wants to run his boat what election he is going to make, whether he stays in the race or he retires.

Q. Supposing it is a bad seaway and there is going to be certain members on vessels who are going to say we will keep racing, they will push it to the nth degree. To take that off them and to make sure they apply seamanship wouldn't it be better to simply say the race is suspended? What's your attitude to that?

NEEDHAM: Your Worship, may I say something about that question. I am not sure in my own mind, and perhaps not in the witness's mind, whether this is a general hypothetical question or if it is referring specifically to the crew of the Winston Churchill.

CORONER: No, he is not referring specifically to the Winston Churchill, he is talking in general terms. This man

sailed in 32 Hobarts, 33 I think, and if anyone can answer these sorts of general questions, which I think are important to the inquest - he is the sort of witness who can, he is the last witness just about of those who actually sailed in this race and I think he is an important witness from that general point of view and I have asked counsel to ask this line of questions.

NEEDHAM: On that basis there is no objection. It seemed to be tied up with an assumption which is contrary to the evidence at least that Mr Gould--

CORONER: Well, he might be using the conditions of the Churchill of this race sort of as an example but really it's a more general line of questions. Am I not right, Mr Hill?

HILL: What I am trying to do is find out what makes you tick in regards to going on and where do you expect, for instance, the CYC to perform some sort of supervisory role.
Q. Do you understand what I am trying to find out?
A. Yes, I understand what you are trying to get to but I am not quite sure whether I really want to answer your question because I mean part of the ethos of the sport is to get out there and race and race hard and when the weather conditions are hard, you know, and when it's tough there is no doubt about it, it is hard. I guess the distinction I make, and I am not quite sure whether it's answering your question, but the distinction I make is that it is up to the individual boat and its skipper and its crew to decide how competent they are, and I talk about here seamanship. I guess you can then ask me what's the definition of seamanship, well I don't want to get involved in that. What I am really trying to say to you is this. In a race you are trying to get to Hobart and you are trying to win, depends which boats you are on and if you are one of the maxis you are going to be driving it perhaps harder that you perhaps drive an old boat like the Winston Churchill where we were going down for a "vintage cruise". Having said that as one of my old sailing masters taught me a long time ago was that the important part was to finish the race because if you finish the race you have still got a chance of doing well, if you don't finish the race you don't win anything. So when you get those weather conditions like any Hobart race that's hard. If you can look after your boat and use good seamanship, don't push it too hard so that you are not, you know, trying to get the nth degree out of your boat and you finish, well you have still got a chance of winning. If you don't finish because you push the boat too hard or you have gone to the extreme, like in a motorcar race, you know, someone goes around a corner 5 Ks too fast and goes off the track, well he is finished. So I bring it back to seamanship. I mean part of the ethos of ocean racing I guess is that you are out there in the elements and you are trying to beat the elements, there is no shadow of a doubt about that and I make no bones about that. The tougher the race the longer you remember them and if you happen to win in the tough race well it's even more satisfying, tell better stories in the bar. But, you know, if you are really asking me to make a

decision or even, you know, to give you a view whether I think that the CYC should cancel a race or not cancel a race I don't think I am prepared to answer that question because I am firmly of the belief that you are out there - I mean if you were doing a longer race, for instance, and not having the forecast available to you, let's say the Hobart race we knew the weather was coming but it turned out to be worse than it is, and you are doing a trans-pacific race or something and you are out there and you get that weather condition, what are you going to do, you are out there, you know, you can cancel the race if you want to but you are still out there and you might be a thousand miles from safety so you have still got to battle the elements. So I am not sure I want to say much more than that. I think that's probably for someone to make a decision on that at a higher authority than me.

Q. So as far as you are concerned you will continue until you think it's appropriate to stop?
A. Correct.

Q. You used an analogy earlier where you said when it rains in the Bathurst 500 they go into the pit. Someone tells them to go into the pit, don't they?
A. They probably do. I am not sure, I am not a car racer. But all I am making the point there to you is that on dry land you can actually stop and park on the side of the track I suppose if you want to, but out there you can't park, you have got to sort of sit the storm out because there is no other way of - I mean what are you going to do, you are out there, you have got to get through the storm. You know, you might make a decision if you were close to land, if you happened to be within, you know, spitting distance of Eden or a safe port. You might actually go in there, drop anchor, sit it out and then go. In 1993 there were people that did that and actually won the race. But it depends where you are when it happens.

Q. So if you had been told the storm warning the night before, this is the 26th, and the winds would be between 45 and 55 knots, that's the average winds, and you were to put on top of those 40 per cent to allow for gusts, have you ever come across that rule at all?
A. No.

Q. And that you add 86 per cent to the height of waves, you haven't come across that rule either?
A. No.

Q. Supposing with that knowledge and hindsight--
A. And hindsight I probably would have retired.

Q. So if you had that sort of knowledge that might have made a difference you think?
A. Yes.

HILL: Nothing further, thank you.

SANTAMARIA: Q. Mr Gould, I don't want to enter into the debate about whether hypothetically the circumstances were such that the Yacht Club might postpone the race or whatever.
A. Can I just interrupt for a second, can I ask who you are representing?

Q. Sorry, yes. My name is Paul Santamaria and I am briefed by the Bureau of Meteorology and I am going to ask you some questions following on what Mr Hill has asked you and I am going to ask you a few questions about the two records of interview which you gave if they are handy.
A. Yes.

Q. I won't be entering into this question of the possible cancellation or postponement of the event, you have said why you don't want to comment about that, but I do want to follow up some of Mr Hill's questions about working out what makes the yachtsman tick and I want to get you to go back to effectively summarising the answers you gave to Mr Hill. Is if fair to say that you race until you acknowledge or accept that the weather conditions have beaten you?
A. Yes, I mean that's - yes, in relation to the seaworthiness of the boat. I mean if you have suffered a damage or you have broken a forestay or something fairly dramatic you obviously have reached the point where you cannot continue under those circumstances. Maybe I can give you a specific example.

Q. Yes, you can.
A. I took my own boat to Hobart in the 50th Hobart race, Margaret Rintoul, and I quote the original Margaret Rintoul, not Margaret Rintoul II,--

Q. That doesn't really matter here, Mr Gould.
A. It may not but I don't want any confusion about which Margaret Rintoul I am. When I took the boat down in 1994 for the 50th Hobart race we were running not that far from Gabo, just entering into Bass Strait, and we went onto the foredeck as we were going to take the spinnaker down and I discovered that I had a split in the mast, my wooden mast. It was about 6 foot long, I was trying to work out in my own mind how the bloody thing was still standing, but anyway it was. So we quickly took the spinnaker off, had a meeting with the crew and decided under the circumstances the boat was not seaworthy to go to sea any further and we retired from the race. So there is a classic example of, you know, a boat not even in storm conditions. As it turned out it blew 60 knots that night and I was very glad I had retired from the race.

Q. Because you observed a physical defect in the boat--
A. Correct.

Q. --which exposed you to a greater level of danger or whatever?
A. Yes.

Q. You have now done 33 Sydney to Hobarts, by this stage you had done 32, there can't be many more people around this place that have done as many Sydney to Hobarts as you have done.
A. ..(not transcribable).. Hammond has done 40, but anyway.

Q. As I understand it once you get to 25 you have sort of entered in the hall of fame territory. That's right, isn't it?
A. Correct.

Q. You were on a boat which has been refitted and was in tip-top condition so far as you were concerned.
A. Mm.

Q. Nothing about the boat to suggest that it was not an appropriate vessel to go to Hobart with?
A. Yes.

Q. You were sailing in some pretty distinguished company?
A. Yes.

Q. Mr Stanley has given evidence here, he is on any view a distinguished sailor, someone whose judgment you would respect and value?
A. Yes.

Q. Mr Winning is an experienced sailor?
A. Yes.

Q. You have told us about his bravery today but again his judgment you would respect?
A. Yes.

Q. And there were others on board who were of the same ilk?
A. Jim Lawler in particular.

Q. Jim Lawler in particular. Not all of the same experience but you were with a solid body of yachting experience?
A. Correct.

Q. I want you to cast your mind back to before heading off into this race and I want to suggest to you that at the time you set off that it was your belief that this boat and crew could handle whatever weather conditions the race threw out.
A. Yes, that's correct.

Q. You said that "we have to stop kidding ourselves that this isn't the most dangerous section of water in the world", I think they were the words you used before the break.
A. Yes, a little bit of hindsight ..(not transcribable)..

Q. Hindsight is a great teacher. Having said that did you believe that up until this race there was a tendency amongst crews and yachtsmen generally perhaps to underestimate the potential dangers of the race and in particular Bass Strait?

A. Well, I think the events of '98 have proved that in the sense of particularly the sea conditions.

Q. You'd agree with that though?
A. Yes.

Q. Had you sailed on the Winston Churchill before this particular event?
A. No - oh well, I did a couple of training sessions before the Hobart race and I knew the boat.

Q. You didn't go to the pre-race weather discussion at the yacht club on Christmas Eve?
A. No.

Q. But you did mention that there was discussion on the boat on Boxing Day about the forecast?
A. Yes.

Q. Do you remember whether there was any reference to something that Mr Ken Batt had said - firstly do you know who Mr Ken Batt is?
A. Yes.

Q. Do you know him personally?
A. No.

Q. Evidence has been given to the Coroner that at the pre-race briefing on the 24th some mention was made of the existence of a low pressure. Mr Batt described it as a possible hiccup and quoting the video that we saw he mentioned that "it depends on the way the models handle this, this low pressure could wind up, a jet stream of 30,000 feet, something to keep an eye on in any event, the forecast will be fine-tuned daily of course". I was just wondering whether there was any discussion about the fact that a low pressure had been mentioned at the pre-race briefing.
A. When we discussed the weather and our tactics, which you usually do before you start the race, there was certainly indications that we were in for a blow on the Sunday and I guess my attitude to it was that there was probably a possibility that it could be harder than lighter on the weather information that we had and I accepted the fact that it was probably more likely to be harder than lighter.

Q. I think you used the expression 'the blow' but you have used the word 'bash' perhaps more frequently. When does a blow become a bash and what's a bash?
A. Oh well, a good hard slog to windward is a bash because the boat is heading into it and particularly in a sou'wester you are hard in the wind, you know, you are sailing about 30 degrees to the wind, slightly better if you are on a bigger better boat and, you know, you tend to fall off the back of waves. So that's commonly, in slang terms I guess, called a bash to windward.

Q. But does a bash connote that there might be physical

bashing of he boat, there might be damage to the boat?
A. Yes, there is a possibility when you bash to windward - you are certainly putting more strain on the boat when you bash to windward because you are falling in all seas et cetera. I use that term as a general comment that, you know, over about 30 knots you usually start pounding and bashing to windward, as sort of a general comment.

Q. It's not a pleasant Sunday afternoon sail?
A. Correct.

Q. Let me ask you about Boxing Day morning. You came to the CYC I think you said at about 10 o'clock or so?
A. Yes.

Q. In your record of interview you mentioned I think showing family over the boat and whatever?
A. Correct.

Q. Did you actually go to the clubhouse that morning? Do you remember doing that?
A. No, not specifically. You are asking me did I go to get a weather forecast or--

Q. I was about to.
A. No, I didn't go and get a weather forecast.

Q. Did you whether others did?
A. Yes.

Q. Did you know whether they came back with any written materials?
A. I believe Steamer came back with the weather forecast for the--

Q. Did you talk about that with him?
A. Yes, we did, and we discussed that as part of our tactics before we left.

Q. What was the forecast at that stage? I think you mentioned strong wind warning or gale warning. What was it to the best of your recollection?
A. I think it was strong wind warning blowing about 35 knots I think was the forecast.

Q. I think during the evidence you gave before the break there were one or two occasions when you said that you couldn't recall some event which happened on board and you were perfectly candid about that and I am not criticising you for it.
A. To be honest with you I am trying to forget the whole event, but anyway.

Q. Can I suggest that the record of interview which you gave on 29 December, a day or so after these events, would perhaps be the most reliable guide to your recollections of what was happening on board?
A. Yes, that'd be true.

Q. It stands to reason, doesn't it?
A. Yes.

Q. You gave a record of interview later in the year in about October, two of them, do you recall that?
A. Yes.

Q. On different topics, life rafts and things principally. Mr Hill asked you about the '84 and '93 races in which you sailed, I wanted to get the benefit of your experience in earlier races and I was going to hand to you a page extracted from the yacht club's review of this particular race. Your first race was in 1963?
A. Correct.

Q. Aboard the Sylph(?)?
A. Yes.

Q. And that was, as it turned out, a pretty vigorous race in itself?
A. Yes.

Q. It says there that after a light northerly start followed by a strong south-westerly in Bass Strait and down the Tasmanian coast and over 70 knots in Storm Bay I think you might have said it got a bit stronger than that, went to 80?
A. Yes, from my memory I think the Eddystone lighthouse recorded 80 knots.

Q. What were the conditions in Bass Strait in that race?
A. Hard.

Q. But blowing 70 knots?
A. Oh not 70 knots constantly. I mean it took us 8 days to do the race so I can't remember exactly, you know, whatever. But certainly I can remember that the Eddystone light recorded 80 knots, and I am not sure where we were when she recorded 80 knots but it's a sort of number that sticks in my mind. It was a long hard race.

Q. The reason that these particular races have been extracted because those who know about these things regard these as the toughest races.
A. Yes.

Q. The next one is 1970 and it talks about 40 to 50 plus knot south-westerlies, again pretty vigorous sailing?
A. I remember it well, yes. We were racing Ragamuffin down the Tasmanian coast neck and neck and we managed to win the Hobart race that year, so it sticks very much in my brain.

Q. Conditions at sea?
A. Conditions at sea south-wester blowing, we were close to the Tasmanian coast. We were lucky we only had about a day of it I think and we were out of it.

Q. But lots of other boats retired?

A. Yes.

Q. Other boats physically damaged by the--
A. Yes, there were boats damaged. We did a fair bit of damage to our own boat actually.

Q. The same in 1977, wind speeds there reported at 30 to 50 knots, later south-west change at 35 knots with an 85 knot squall hitting the tail enders. I suspect you might have missed the squall?
A. Yes.

Q. But again fairly extreme weather conditions?
A. I mean I don't particularly remember that race as being all that hard but it was--

Q. You were probably up the front?
A. Probably up the front, yes, I was on a big boar from memory I think.

Q. 1984 Mr Hill has asked you about.
A. Yes.

Q. Again solid 40 to 45 knots?
A. Yes.

Q. I think again--
A. And bad sea conditions.

Q. Bad sea conditions?
A. Yes.

Q. And lots of retirements?
A. Yes,--

Q. And damage?
A. --including us.

Q. And 1993 the same again?
A. Yes.

Q. What I wanted you to focus on was this, Mr Gould. It seemed to me reading this that there was, if you like, a lowest common denominator, very generally speaking, about severe seas and very difficult sailing conditions when the wind speed gets around 40 to 50 knots, 50 knots.
A. Yes, well looking at these numbers you could say that.

Q. That being the case, and again it's really coming following on Mr Hill's questions, when you get a forecast of 45-55 knots what does it do to the average yachtsman, what do you think about?
A. You sharpen your wits about because you know you are going to be in for a good hard sail. Well, the same procedure I suppose, if you know you are going into these sorts of conditions you quickly get your boat ready to batten down the hatches--

Q. Can I say proverbially you batten down the hatches--
A. And reduce sail and wait till it comes.

Q. And try and, pardon the pun, weather it out?
A. Mm.

Q. What people don't seem to do is actually think about perhaps not going into it.
A. Well, I think - well, I can only speak for the boats I have raced on and I guess I have been lucky to race on some pretty strong very good boats and if you are on a strong boat that you have got faith in you don't think about pulling out, you are there to win a Hobart race. I mean we didn't think about pulling out in 1970 and we kept bashing on and we won the race because we finished, classic example. We shortened sail, we did sail hard because we had Ragamuffin sitting on our tail, we were doing tack for tack down the Tasmanian coast. But if you have got confidence in your boat and your boat is strong enough - it's not very enjoyable out there bashing and that sort of stuff but I have never thought about retiring in these circumstances because up until 1998 - I mean even in '84 the seas were nothing like they were in '98, they were a bit short and sharp and we did some damage to the hull and retired, but nothing like we had in '98. I mean I have read the Hobart race report and with hindsight if you are going to tell me that we can have 80 foot seas instead of what you are forecasting then, you know, one might have a slightly different view on it if you thought it was going to blow very hard. But up until I read the Hobart race report I didn't realise that the bureau had such a lovely set of averages.

Q. But you knot the difference between an average and a gust though because you talked about that with Mr Hill.
A. Yes, but I mean--

Q. That's right, isn't it?
A. It is correct, yes.

Q. And when you corrected I think either a question or your own evidence you drew a distinction between the average wind speed and the gusts.
A. Mm.

Q. And I think in fact it was in the context of the discussion about if it got up to 70 you'd heave to I think was the--
A. Yes.

Q. We were talking about winds gusting up to 70, were we not?
A. Yes.

Q. Above the average of 55-60, whatever it was?
A. Yes.

Q. I wanted to ask you about that because I was interested

to know that you hadn't heard this bureau formula, and I accept that you haven't heard the formula.
A. No, I haven't.

Q. And I am not suggesting criticism for one moment. But what I want to know is to what extent, from your own experience, you add on gusts to above the average wind, and you have given some evidence about this already.
A. You know, in general terms you might add 10 knots maximum, I mean if someone saw gusting at 45 you probably say oh well we might get a gust of 55. But probably that's about the maximum I ever thought about. I mean I don't expect you to be accurate to the one knot but mind you I think 80 per cent discrepancy is a bit vague.

Q. Where did you get the idea of 80 per cent?
A. I read it in that Sydney-Hobart race report.

Q. Are you sure?
A. Yes. Do you want me to prove it to you?

Q. Well, we'll come back to that. You are not confusing 80 per cent for waves with 40 per cent--
A. Correct, sorry. No, I correct that, 40 per cent with wind and 80 per cent waves.

Q. We were at cross-purposes.
A. Correct.

Q. Mr Stanley, everyone calls him Steamer,--
A. Yes.

Q. --he gave evidence to the Coroner that with 30 to 40 knots you could expect 10 to 15 knots gusting, a wind to 40 knots would possibly go up to 50 knots, if it gets to 50 there is a chance it will gust to 60. Is that consistent with your experience?
A. Yes, that's about it.

Q. When you have got a wind speed of 40 knots, an average wind speed of 40 knots, and you add on another 10 knots, what sort of percentages are we talking about?
A. What have we got, 40 knots. 10 per cent is 4, so double that it's 8, so that's a 20 percent increase if it goes to 48.

Q. Yes, and if it's an average wind of 50 and it goes to 70 you are talking about 40 per cent, aren't you?
A. Yes, I guess.

Q. In the '93 race the yacht club report says that the average wind speed I think was 50 knots gusting to 70, do you remember that?
A. I can't remember specifically but it was certainly blowing.

Q. And that's consistent with your recollection?
A. Yes.

Q. Mr Senogles, do you know Mr Darren Senogles?
A. No.

Q. But in any event with an average wind speed of 50 knots it doesn't surprise you that the winds may gust to 70?
A. No.

Q. Let me ask you about the actual wind conditions encountered, you deal with this in the record of interview.
A. Yes.

Q. Do you have that in front of you because I can get a copy for you. Just let me lead you through a couple of answers which you gave because I just want you to confirm again that they are what you remember. At question 27 of the first record of interview, which you gave a couple of days after the event, I think in that you had been asked "Have you experienced worse conditions" and you said "Well, everyone keeps asking me that" and you have then recounted some of your experiences. You said "You know, I think the unusual part I felt with it was that it was from the west and, you know, it was blowing. I think we recorded 55 knots maybe gusting to 60 once or twice but basically sitting in that 45 to 55 range", that's your recollection?
A. I heard that tape last night actually, I sat down and quietly listened to it.

Q. And that was the case?
A. No, subsequent to that I think that subsequent events have proved to me that I remember that we did have the wind alarm set at 60, so the wind alarm was going off at 60. So I think when I said 55 there I probably - the wind indicator was set, the alarm, at 60 and that did go off and it was gusting higher than that. I don't think I saw it get to 70, I certainly saw it get to 65. And I don't know what the average was, probably somewhere between 55 and 60. So that's all.

Q. And when you were asked in the record of interview about the waves, and I think you said it wasn't the wind that caused the problem, it was the waves, at question 85 of your record of interview you began to talk about rogue waves and the very strong impression I had from the record of interview was that you regarded the rogue waves as being the essential danger out on the sea in that race.
A. Correct.

Q. I think you said "There is always one rogue wave out there and I think as far as the Winston Churchill was concerned, you know, we got that rogue wave".
A. Yes.

Q. "And did all the damage and it was a difference between surviving or not surviving". Am I right in assuming that when Mr Hill asked you about the height of the waves and you gave the estimate of 50 to 60 feet you were talking about the occasional rogue wave?
A. Yes,.

Q. You were asked some questions before about the various skeds and it wasn't your particular responsibility to be there at the time and you were doing other things. Let me ask you about one particular sked, the 8pm sked on Boxing Day evening. You had been sailing for 7 or 8 hours or a bit less and you had enjoyed pretty amenable sailing conditions up to then?
A. We had a great spinnaker up, yes.

Q. Do you recall this particular sked at all?
A. I think that was the one where the forecast that we had had at the start of the race was upgraded I think to a storm warning and up to 45 knots I think or 50 knots.

Q. And that was the first that you had heard of the storm warning?
A. Yes.

Q. Was there any discussion on board at this stage about the mere fact that the warning was a storm warning?
A. Yes, we discussed it, we talked to the crew and told them that we were in for a little bit harder bash than we thought we were going to get at the beginning of the race because we thought we were going to get 35 knots so getting to 45 knots you are starting to really get into some fairly lumpy conditions.

Q. Did anyone ask, any other member on board, about what a storm warning meant?
A. No, I don't think so. I think that, you know, we just told them that the wind strength was going to be 45 and therefore we were in for a much harder bash to windward than we first anticipated.

Q. Would you have known at the time that a storm warning was the most extreme warning that the bureau issue for this part of the Australian coast?
A. Yes, I think in general terms I knew a storm warning was--

Q. Have you ever sailed in waters in Australia where there has been a storm warning issued?
A. Yes.

Q. What were those conditions, Mr Gould? When was that?
A. A couple of Montague races, storm warning issued, long hard bash from Sydney to Montague, about 180 miles, hard, October, cold, wet, miserable, but still not sea conditions like we had experienced this time.

Q. I get the very strong impression and correct me if I'm wrong, that you regard the weather conditions like that as a distinct challenge?
A. Yes.

Q. Have you ever withdrawn from a race either permanently or temporarily because of the particular forecast that you've received?
A. No.

CORONER: Q. Ever contemplated doing so?
A. No.

SANTAMARIA: Q. When a weather forecast, and I'll finish with this, when a weather forecast tells you that the swell will be for example one to two metres rising to two to three metres, seas one to two metres rising to three to four metres and I'm talking about the forecast that was issued at the time of the 8pm sked on Boxing Day, I think that's right?
A. Yes.

Q. What does that forecast mean to you in terms of sea conditions, what do you do with sea and swell?
A. Those sort of conditions really are nothing spectacular. I mean that's pretty accepted standard what you're going to get. It's the next one up that you start thinking about I guess.

Q. But do you add the four metres of sea to the possible three metres of swell?
A. Yes I think - if you've got a big swell running and then particularly if you're got a current running against it you know you're going to get much deeper seas than you normally would. So yes you're probably expecting to get bigger seas than what you've said there.

Q. And after that you've got a factor in the possibility of the rogue wave phenomenon?
A. Correct.

Q. And the rogue wave as I think we've heard can come from different directions?
A. Yes.

Q. I think I may have misled you, I've got one more question. Were you trained in the Beaufort scale?
A. No.

Q. Is that something you know about?
A. I know a little bit about the Beaufort scale but I couldn't quote it to you verbatim so don't ask me to go through the--

Q. I won't do that.

CORONER: Mr Harris.

HARRIS: Q. Just one small issue of detail in your evidence which I didn't understand. You said I think that if everyone carries the same life raft there'll be no disadvantage?
A. Yes I did say that.

Q. What exactly did you mean by that?
A. Well everyone is so weight conscious these days with modern boats that it's a bit like having a horse race, if you put a pound on every horse they're all the same I guess so I'm saying if you put a life raft on that's identical for the Hobart race then if every boat is carrying the same rafts - same weight, I don't see where the boats are disadvantaged.

Q. Could I just tell you I'm not asking these questions with any sense of trying to defend what was used at all, I'm looking to the future here. But everyone doesn't and won't carry the same sort of life raft will they? I mean a maxi-boat will have a distinctly different range of life rafts from these two presumably?
A. Yes, that is a fair comment but I think that it's got to be a combination of, I mean we're talking about weight, but I guess if you want to expand it a bit, it also should be quality as well.

Q. Certainly quality. Would you agree that lighter weight of itself, all other things being equal, which I can agree on a large qualification, but all other things being equal, a lighter weight raft on a yacht generally will be of greater utility than a heavier weight raft?
A. In relation to what?

Q. The capacity to move it from one part of the boat to the other, both at the dock, at sea, in an emergency particularly?
A. Yes.

Q. With different sized crews as racing yachts tend to have when they're coming back on a delivery for example?
A. Yeah that's a fair comment.

NEEDHAM: Q. So essentially what you're saying Mr Gould, in relation to Mr Harris's line of questions is that you accept that it's not simply the weight of the raft that must be factored into account, but the number of rafts that each boat carries?
A. Well yeah, well it depends if you're on a maxi, you know you're going to tend to carry maybe two or three rafts because of the number of crew you've got rather than one gigantic one that nobody can move anywhere. So you've got to take into account the size of the boat. I guess what I'm trying to really say there is that I'm interested in the quality as well as the weight. The weight was only the expression of saying well, everyone carries the same weight and no-one's at a disadvantage. John has also said that you know, if you've got a maxi you might have three rafts so therefore because of the

number of crew, you've got to carry it so he's right in what his assumption is there, but what I'm trying to get to is quality.

Q. The number and size of rafts carried by each particular boat may, of course, vary?
A. Yes.

Q. Do you recall you were given a line of questions from Mr Hill at the outset in which you explained in your evidence that you had been answering those questions on the assumption that they had referred to Mr Paul Lumtin not to Mr John Dean?
A. Yes, that's correct.

Q. That line of questions had to do with the ship's navigator, and it's correct is it not that Mr Lumtin carried that title of navigator?
A. Correct.

Q. However that title bears a different - or that task which a ship's navigator or a boat's navigator performs in a race like the Sydney to Hobart of course may vary between each boat?
A. Yes.

Q. It may vary according to the degree of experience of the crew member that is given that title?
A. Yes.

Q. And of course, over the years the functions of a navigator have changed significantly haven't they, from the old days--
A. Dramatically.

Q. --when the navigator actually plotted the course to determine what position the boat or the ship occupied. Nowadays a navigator will generally receive that information by electronic devices such as the satellite system?
A. Correct.

Q. On the Winston Churchill in the 1998 race, Mr Lumtin's duties as you understood them carrying the title of navigator, were simply to receive the electronic position statements from the satellite system, to record them and to take the radio scheduled times?
A. Correct.

Q. So that whilst being called a navigator he was a relatively inexperienced member of the crew and his duties were limited to those?
A. Correct.

Q. Whereas Mr Dean, really he didn't have a title of navigator, he was a crew member?
A. He was a crew member, that's correct.

Q. And his experience was somewhat greater than Mr Lumtin's as a crew member?
A. Yes.

HILL: Q. You have expressed in questions that I've asked you about your willingness to go on and you've added to that with my learned friend, what I want to know is was the whole crew of the same opinion as you have displayed?
A. Well we discussed that situation with the four senior guys in the crew. We informed the - all the crew knew what we were going to do. No-one raised the question about retiring. My understanding was that the crew were unanimously behind our decision and our decision at that stage was to continue on with the race, and up until that big wave hit us I was very comfortable what the boat was doing. We weren't pounding, the boat was handling the conditions very well, we didn't get knocked flat like some of the more modern boats. The old girl was sort of doing quite nice thank you until we hit that wave.

Q. What about Mr Muller, because in 1993 I think he retired at 55 knots. Was he of the opinion that--
A. Well he never voiced to me, or to the best of my knowledge he never queried any of the decisions that were made and they were certainly discussed with him. I think if I can just make the comment you know, if you're 5 miles off the coast it's very easy to pull out if you've got a port. If you're 30 miles out and it's dead to windward, it's a lot harder to pull out. I think at that stage there was - my view was of the senior people on the boat and it was all discussed with the senior people, everyone was happy with the decision. There was no - no-one ever raised the question about whether we should retire.

CORONER: Q. None of the more junior members raised it either?
A. No.

Q. Specifically Mr Dean and Mr Bannister, you don't recall them raising it at all?
A. No.

Q. Do you remember Mr Dean's attitude to the decision to keep going until the winds reached 70?
A. My understanding was that he was happy with what we were doing, your Worship.

Q. Thanks very much Mr Gould, you can step down.
A. Can I make just one comment that I'd like to be recorded.

Q. Yes?
A. I just happened to reflect my memory seeing the model of the Whyfar(?) sitting behind you. See those little ties sitting on the life raft to tie the tent flap up.

HILL: Q. I'll hold it up. Yes?
A. They are absolutely totally hopeless.

Q. I think in fact they were cotton. You thought they might have been nylon but I think they're a sort of cotton?
A. Whatever they were, you couldn't get them undone and my only comment is that, and I have put this in the report to the CYC that that sort of canopy should be at least done with - and I think probably the best thing to do these days is with velcro, because whether you're warm, cold or indifferent, you can usually get velcro undone and you can also reseal it again.

CORONER: Yes.

HILL: Q. On that, have you taken the opportunity of examining a SOLAS life raft, and SOLAS being the international convention on the Safety of Lives at Sea?
A. No I haven't.

Q. And the Uniform Shipping laws which is just a step down from a SOLAS life raft. Have you ever been given the opportunity?
A. No I haven't.

Q. If such things were demonstrated, do you think you might be interested. If a club said we're going to show you the different types of rafts, this is the convention one, this is the shipping laws one et cetera, would you be interested?
A. I'd be very keen to look at anything like that.

CORONER: Q. If there were courses involving actually getting into the water and playing around with righting the things, would you be interested in doing that sort of thing?
A. Yes I would - I'd like to get back in the water and do it.

Q. Yes, you'd probably be in Sydney Harbour?
A. Preferably sir.

<WITNESS STOOD DOWN

<IVEN HUNTER YOUNG (12.49PM)
SWORN AND EXAMINED

HILL: Q. Doctor, would you give this inquest your full name please?
A. Iven I-V-E-N Hunter Young.

Q. Your address?
A. The Department of Respiratory Medicine at Royal Prince Alfred Hospital, Missenden Road, Camperdown.

Q. Your qualifications?
A. BSc in medicine, MBBS, PhD, FRACP.

Q. Now you have a 2-page report that you gave to this inquest on 11 February 2000. Is that correct?
A. Mm.
Q. Do you have a copy of that with you?
A. I do.

Q. Just to understand the situation what you've done is you've taken the measurement, or you've been given the measurement of the upturned life raft from the Winston Churchill?
A. Yes.

Q. And that was the square one in which a hole was eventually cut in the floor to allow air to come in?
A. Mm.

Q. You have done calculations with regards to five adult males inside that. Now you set that out in the first paragraph and I think that you point out that the individual persons in there would be consuming oxygen at 2 litres per minute. Is that right?
A. Yes my calculation would be between 1 and 2 litres per minute bearing in mind that a resting person, all of us sitting in the courtroom here would be consuming around a third of a litre at rest and at maximum exercise it's around 3 litres per minute for a normally fit person. An extremely fit athlete will be able to consume more but a normally fit person at maximum exertion would be 3 litres per minute. So I would judge these people treading water in turbulent seas would be somewhere between 1 and 2 litres per minute.

Q. I think then you worked out what the likelihood of the CO_2 concentration would have been?
A. Yes. Now I've used the calculations provided for me from the report by Richard Phillips. I didn't perform any other calculations because as I indicated in my letter, I agree with those.

Q. Yes you've accepted what Mr Phillips set out in his report, that's the Tasmanian, I think he's from the university of--
A. Being reasonable, yes.

Q. You then point out, you say, "However the fall in oxygen" this is at page 2 first paragraph, "With the increasing carbon dioxide potent stimuli to the ventilatory control centre in the brain and this process would initially increase the sense of breathlessness and agitation and further increase metabolic rate as Mr Phillips describes"?
A. That's right. The important principle there is that if you take someone and drop the oxygen level but keep the carbon dioxide out by scrubbing it out of the atmosphere, then the person will start to feel breathless and likewise if you keep the oxygen stable but add carbon dioxide the same process will occur, but the two together are more than additive. They're synergistic so they

actually multiply together to create a much more intense sense of breathlessness. So these people would have become aware I believe, of a sense of suffocation without any ventilation of that space much more quickly in that circumstances than if just the oxygen had been withdrawn or just the carbon dioxide had been added.

Q. Now if they had gone on, that is continued without any exchange of gases and therefore no fresh air coming into that chamber that they would have been in, you say in your judgment that each individual would have become disorientated and be at risk of a drowning death within 10 minutes of the circumstances outlined?
A. I believe that's a reasonable calculation, yes.

Q. How would that have come about?
A. Within 10 minutes they would have been at a level of oxygen lack and carbon dioxide excess, sufficient to cause drowsiness and confusion. Enough, I think, to put them at risk of drowning in the situation where they were. Now that's somewhat different to if we had five people in an upturned raft in this room and sealed it all off, where they could afford to become disorientated and will then just simply lose some degree of consciousness and lie down on the floor. They wouldn't die immediately, but of course there's no floor where they are, so they'd be at risk of drowning. So my point there is that the risk of death from drowning is far earlier than would be their risk of death from suffocation in a dry enclosed space. That's all.

Q. Now you then say, "It would therefore seem a very reasonable strategy to open the roof of this space within the first 5 to 10 minutes of confinement"?
A. Yes. That would be, I would judge, the appropriate time to do that.

Q. In fact I think you thought that the slit should have been much bigger in order--
A. Yes, now that's something that could be very roughly calculated, but the principle is that any opening of a reasonable extent would very rapidly refresh the air underneath the boat. So it would only be a matter of opening it for seconds in order to restore the air in that space to a safe level.

Q. Some of the survivors talk about using it like a bellows?
A. Yes exactly.

Q. That's the sort of principle?
A. Exactly. Because the turbulence that you would create by doing that would greatly assist in the diffusion between the enclosed space and the atmosphere.

Q. I think Mr Boyle who took part in these experiments in Tasmania said that when they tried the same thing that when it was cut, everyone reached for it to make it open

more. I take it this is just a natural reaction to--
A. Yes to get to the fresh air.

Q. --the fresh air?
A. Precisely. But in fact that air would extremely rapidly equilibrate within the boat. While you might not get the sensation of the fresh air if you were at the other end of the boat, it would be become safe within a very short time period. An example in everyday life is being in an enclosed room in an ordinary house. While five people in a fairly smallish room and just the doors closed and the windows closed, it might become uncomfortable from other odours, it's certainly not life threatening and sufficient diffusion takes place under doors and around windows in order to well and truly sustain life. It's only in situation of having an enclosed hermetically sealed space like a refrigerator where danger occurs.

Q. In effect, this upturned life raft was life threatening, there's no question about that?
A. No question about that because it's my understanding that the seal between the raft and the water was not opening up at any stage. Literally it was pushed into the water enough to create a perfect seal around the raft. Now if it had been the case that from time to time the edge lifted up--

CORONER: Q. Or you could lift it?
A. Or you could lift it up completely, you're in exactly the same situation of having a slit in the roof.

HILL: Q. So realistically these men had up to 10 minutes--
A. Yes I--

Q. --of life, but the reality must be that they only had a very short number of minutes in which to make a rational decision?
A. Yes. I think that's right. I think--

Q. --to do what they did?
A. --by the time 10 minutes was up, and of course you can't be exactly precise about this, but by the time 10 minutes was up they would have been becoming disorientated, confused, distressed certainly from the oxygen lack and the carbon dioxide excess.

Q. I suppose in reality they would have had up to 5 minutes to be rational about what they were going to do?
A. Yes I would think that that's reasonable.

CORONER: Mr Santamaria?

SANTAMARIA: No.

CORONER: Ms Needham do you have any questions?

NEEDHAM: Nothing your Worship.

CORONER: Q. Thank you very much doctor you can step down. Your evidence has been very helpful when we look at it in conjunction with other medical evidence we've heard. So thanks very much.

<WITNESS RETIRED AND EXCUSED

LUNCHEON ADJOURNMENT

HILL: Mr Coroner, the next two witnesses are Mr Turner on safety harnesses and this is to do with the death of Mr Glyn Charles from the Sword of Orion and Professor Cross who is also to do with the death of Mr Glyn Charles from Sword of Orion. The solicitors for the Master of the Sword of Orion have been notified but there is no-one present.

CORONER: You're the solicitor?

FINTER: Yes I am.

CORONER: Could I just have your name for the record?

FINTER: Sophia Finter.

CORONER: We'll put you on the record as being here.

HILL: Mr Papallo will take the next witness.

<CHRISTOPHER JOHN TURNER(2.09PM)
SWORN AND EXAMINED

PAPALLO: Q. Mr Turner can you please give this inquest your full name?
A. Christopher John Turner.

Q. Your professional address?
A. WorkCover Authority of New South Wales, 400 Kent Street, Sydney.

Q. You have particular experience with safety harnesses. Is that correct?
A. In relation to industrial fall arrest, yes.

Q. Can you please give his Worship just a quick run down of your experience with respect to those industrial harnesses and lanyards?
A. Basically since joining WorkCover in 1988 I've been the WorkCover representative on the Australian Standard for industrial fall arrest harnesses and have been dealing with any WorkCover issues in regard to industrial fall arrest equipment.

Q. I understand you're also the chairman of Standards Australia Committee for Industrial Belts and Harnesses?
A. That's correct.

Q. You've been chairman for how long?
A. About 4 years.

Q. You've kindly given me a copy of your CV, if I can tender that your Worship.
CORONER: Yes I'll place that in the brief with his report. It's document 27 of new documents 2.

PAPALLO: Q. Mr Turner, you were brought in to the investigation by the police officers for this inquest basically to assist as a consultant to Crashlab and witness the tests. Is that correct?
A. More as a consultant to the group looking at what testing we should do and that included Crashlab, yes.

Q. And ultimately to prepare a general report to be used in this inquiry?
A. That's correct.

Q. Have you got a copy of your report with you?
A. Yes.

Q. I'll just go through it. I'm looking at the bottom paragraph at page 1. You say that, "I was advised that the manufacturer, Tuff Marine, has not manufactured these items for a number of years?
A. That's correct.

Q. Also one of the harnesses from the Sword of Orion carried the Standards mark now administered by QAS. Geoff Clarke from QAS was checking their records to see when Tuff Marine were last certified to use the mark on that product. What they found was the last certification occurred in February 1986?
A. That was certainly the occasions at that early stage when I became involved. I'm not sure whether it was clarified after that.

Q. From the fact that the last certification that they could find occurred in February 1986, would that mean that the Australian Standard version for 1983 would apply?
A. Yes.

Q. And there being up until now four versions; the 1978, the 1983, 1986 and 1992?
A. That's correct.

Q. You initially inspected to two harnesses, that is the one that was worn by Glyn Charles and also a further harness that was tested also from the same vessel that--
A. Not quite. It was only the line that was involved with Glyn Charles that was available. The harness was lost. So it was only the line and then also the - so I did see a harness and another line and the line that was involved with Glyn Charles.

Q. So you were able to see the line that was worn by

Glyn Charles and also a line that was used in testing by Crashlab both from Sword of Orion?
A. Yes.

Q. I notice on page 2 up the top you're referring to there having been on both those lines a lack of damage to the webbing?
A. Correct.

Q. And you say that that was of concern. Why is that so?
A. Normally in a product that's made from webbing and with stitched joints, the aim is to make the whole product as close to the same strength as you can get. So you normally find that in breaking a stitch joint you do considerable damage to the webbing itself whereas in this case the stitching had failed but the webbing was virtually undamaged.

Q. I hand you up the line that was worn by Glyn Charles and also the other line to which you refer in your report. If you can just identify those two?
A. This is an untested one. It's a used but untested line.

Q. That's an untested one sorry, yes. That's an untested one from the Sword of Orion but more importantly the other one, does that have the effect that you were talking about with the lack of damage to the webbing?
A. Yes. Basically you've got one end with some of the stitching having failed on this end and the total stitch pattern having failed on this end. If you pulled out the small pieces of stitches left remaining you'd even have difficulty to tell that there was stitching there in the past.

CORONER: Q. But there's absolutely no damage to the webbing?
A. No that's correct.

EXHIBIT #30A LINE WORN BY MR CHARLES TENDERED, ADMITTED WITHOUT OBJECTION

CORONER: Q. The other one, you say you did no testing on that one?
A. That's correct.

Q. That's simply another line from the Sword of Orion?

PAPALLO: Yes, intact.

EXHIBIT #30B INTACT LINE FROM THE SWORD OF ORION TENDERED, ADMITTED WITHOUT OBJECTION

PAPALLO: Q. And untested?
A. Although there is some small amount of damage at one end, the stitching has started to fail at one end. I'm not sure why.

CORONER: Q. Right, but it's untested?
A. As I understand it, yes.

PAPALLO: Q. If I can move on to section 3 of your report on page 2 which is the proposed test schedule?
A. Yes.

Q. You had some involvement in setting the past criteria for the replica lines were you not?
A. Yes.

Q. That were tested by Crashlab?
A. That's correct.

Q. And I note that the past criteria that you determined was 12 kilonewtons?
A. That's correct.

Q. Can you please explain how you came to set that past criteria at 12 kilonewtons?
A. Okay, the Standard has two different load cases that it considers. One, it talks about the webbing needing to be 22 kilonewton webbing which is a brand new test, however, webbing in general is damaged in use by both UV degradation, minor abrasion and other things. So it can be - during its use you would expect it to suffer some lessening in its strength capabilities, but the Standard then calls for hooks and other non-deteriorating components to be capable of withstanding 12 kilonewtons. It also recommends that the point that you attached the lanyard to on the vessel is capable of 12 kilonewtons. So on the basis that that was a lower level of strength requirement than the webbing it was determined that that was appropriate. There was no point having the whole system stronger than what you connect it to because the weakest link will fail. So it was determined that if it allows hooks and other components to be 12 kilonewtons, it would be fair to assume that a used product should still be capable of achieving that 12 kilonewtons.

Q. And that same reasoning means that if you're going to test a used line in accordance with the Standard, that is the drop test, you couldn't expect that it will pass?
A. That's correct.

Q. On the second last paragraph of page 2, you say that, "It is also noted that no addition of AS 2227 includes any requirement or recommendation on the maximum service life or shelf life of the harnesses and lines"?
A. That's correct.

Q. Your experience is in the industrial side of the harnesses and lines?
A. That's correct.

Q. Are there any requirements in terms of service life or shelf life for those harnesses and lines?
A. The latest, the 1995 version of the Australian Standard calls for a maximum life.

Q. And what's that?
A. Ten years.

Q. And that's for the harnesses and the lines?
A. That's correct.

Q. And in circumstances where the harness and lines are put to, for example, in the industrial field I suppose if there was a fall, does that put the harness and line out of use?
A. It needs to be taken out of service, but depending on the extent of the fall and whether there is any damage they can be examined by a competent person and put back into service if there's no apparent damage.

Q. Is that a requirement under the Australian Standard for those lines?
A. That's a requirement under the Safe Use Standard. The industrial standards are split into two sets. One is the design and manufacture and the other is the safe use.

Q. Neither of those requirements apply to lines or harnesses used on yachts?
A. No.

Q. Moving to section 4 of your report. In terms of the replica lines that were manufactured to test, you were involved in setting the criteria for the manufacturer of those lines?
A. That's correct.

Q. How did you go about setting those criteria?
A. Basically from an inspection of the existing lines and then just trying to replicate them as best as could be.

Q. You were happy--
A. There's a specification included as appendix two that I provided to the company that were prepared to manufacture them.

Q. Essentially in your mind they were identical to the lines on the Sword of Orion apart from the fact that I understand the bar tack was slightly different?
A. That's correct. They are as good as we could get basing it on just inspection of a small number of samples, the length of stitching between the samples from the Sword of Orion varied so there were some variations even in the Sword of Orion.

Q. But in your opinion the difference in testing would be negligible or almost negligible?
A. Yes, almost negligible I'd say.

Q. Moving on to page 4 of your report there's reference to a test report from Techni Search Limited and that relates to lines that were manufactured by Tuff Marine

and it's the report dated 16th May 1984 and it says, "Techni Search Limited dated 16 May 1984 concerning a drop test conducted in accordance with AS 2227 - 1983 on a harness with 1.8 metre webbing line" and you say that the test report results stated, "The stitching broke for a total of 80 millimetres length of webbing at the line attachment but the remainder held." And you say that that indicates to you that the product on that occasion only just passed the test?
A. Yes.

Q. Is that correct?
A. Yes.

Q. As a result of that you say that if there was a slight difference in manufacturing there is a risk that the other product just might fail?
A. Yes, especially in relation to the relevance of the replica lanyards. Especially with the replica lanyards a very small change in the thread composition or something that we didn't have the full specifications on would also make the replica less exact, I suppose.

PAPALLO: Q. It says in that comment from the report or you've actually said that the harness - I'm assuming you mean the line that was used was 1.8 metres?
A. Yes.

Q. If the line that we're talking about was 1.5 metres, in your opinion the shorter length line would take less to break is that correct, because it has less--
A. The test would be more severe on a shorter length line because you're dropping the weight through the same distance and you've actually got less material in the line to absorb - to act as a shock absorber for that energy. So the peak force would end up being slightly greater which makes it more likely that it would fail.

Q. So would it stand to reason that if the line that was 1.8 metres only just passed the drop test, that if lines of 1.5 metres, that is shorter lines were manufactured in exactly the same way, that they would be likely to fail?
A. Yes.

Q. That's essentially because the longer the line the more energy they absorb?
A. For the same impact, yes.

Q. Moving on to the comments that you make at page 5 of your report, I've already touched on the first item A. Item B you say that a possible reason for the stitch joint failing with so little damage to the webbing is given in the Standard. The Standard specifies the webbing must be at least 22 kilonewton breaking strength whereas the metal components need only withstand 12 kilonewtons. The only strength requirement for the stitching is that it pass the drop test. So what are you actually saying there?
A. That normally when you have a stitched joint in webbing you're normally trying to produce an economical product from the point of view of materials used so if you only need for example 12 kilonewton strength, you would use a webbing that will give you 12 kilonewtons or 15 or something and make it a very good stitch joint so that you got the whole product failing at around about the same load, but because this Standard actually specifies that the webbing has to be 22 kilonewtons strength, it is actually arguably over-strength for its use. If you put a stitch pattern on it that is good for 12 kilonewtons, it will be very much less able to take the load and you'll get a failure purely in the stitch joint rather than the webbing itself.

Q. Do you make any recommendation in terms of--
A. When I first looked at the harness, I thought that stitch pattern is very light for the webbing it was in and this probably explains why it was an apparently light weight stitch joint for the webbing that it was on.

Q. What you're saying is basically the reason it was light weight is because there was no requirement for it to withstand a load of say 12 kilonewtons like the other non-deteriorating parts of the line?

A. Well more that if the webbing was 22 kilonewtons strength, I would normally expect I suppose that the stitch pattern would be good for a little bit less because you rarely get full efficiency, but a stitch pattern in 22 kilonewton webbing is normally good for around about 20 kilonewtons, 18, 19, 20 kilonewtons whereas because this stitch pattern only had to perform in the drop test which will give you a load of around about 12 kilonewtons that's all it needed to be good for.

Q. You also make comment that the drop test takes into account a fall factor of 1 - and I'll get you to explain that in a second, whereas given that these things are used on yachts and the fall factor maybe greater than 1, consideration might be given to amending the Standard to test the lines to a fall factor of up to 2. Can you please explain to his Worship what you mean by fall factor and why on yachts the fall factor might in fact be a fall factor of 2?

A. Okay, the fall factor is basically the distance you can fall divided by the length of your line. So if the point it's attached to on the structure and the point it is attached to on yourself prior to the fall are level, you fall whatever the length of the lanyard is which is a fall factor 1. If you then for example, climb a ladder or rigging or whatever else and you are above the anchor point to the point where the lanyard or line is stretched vertically, you're falling twice the length of the lanyard and it's a fall factor 2. Why that's important is that for a lot of materials, it is the relationship between the amount of energy you put into it by falling compared to the amount that it can absorb that makes a difference, and therefore it is quite often that it is the fall factor rather than the distance you actually fall that is important in the peak load that the system will see. Appendix 3 has got an extract from actually a climbing brochure which explains it in a bit more detail.

CORONER: Yes that explains it, yes.

WITNESS: A. Because it's the climbing industry where they quite often use fall factors as a way of determining how their systems work.

PAPALLO: Q. I'm looking at the last--

A. Sorry you asked me to go on one more thing: how it can happen on board. Basically it would depend on where you anchor and where you are at the time if you have a fall. There's a number of ways obviously the line can be loaded. When you're talking about yacht racing you obviously can be hit by water, hit by a moving object or have a fall. In the event of a fall if, as the boat lent over, you are above the anchor point you could have a fall of more than a fall factor 1.

Q. I'm looking now at the last comment paragraph F. You refer to the replica lines and just for clarification I'll give you one of the replica lines that we used for testing.

Do you agree that that's one of the replica lines?
A. Yes.

EXHIBIT #30 C REPLICA LINE BLUE TENDERED, ADMITTED WITHOUT OBJECTION

Q. You say that the fact that the hooks failed in two of the tests on the replica lines is significant and of concern if these hooks are still being used on current lines as they did not reach the required 12 kilonewtons?
A. That's correct.

Q. Do you want to--
A. Well there's one hook that didn't fail and one hook that did fail. The Standard itself says that hooks are to be capable of resisting 12 kilonewtons. I've forgotten which particular one this is but the two that failed, failed at less than - one failed at 9 kilonewtons the other at 10.8. Both much less than 12 kilonewtons. It is certainly of concern, however the question is this particular brand of hook used for harnesses and lanyards. It's a fairly standard product I believe made by a number of manufacturers. It's not uncommon for things that look the same to be actually very different in strength and things like that, so I haven't looked at the available product or done any comparisons so that's why I've said it's of concern but it may turn out not to be specifically an issue.

CORONER: Q. Basically because the yachting harness comes under AS 2227 that includes the hooks I take it though?
A. Yes.

Q. They should be 12 kilonewtons too?
A. That's right. And they are to be tested in the drop test with hooks attached.

PAPALLO: Q. You were explaining to the Court your experience in terms of hooks and if I could just show you, we've got a board with some hooks on it. These are various hooks that are used for yachting lines. You were explaining that if certain hooks are used they can actually release without the person wearing the line physically removing or detaching the hook from the strong point?
A. I've brought along a strong point of some description. A number of the hooks are what are called single acting hooks which basically just have a spring to prevent the gate from opening. Now depending on where you've got them hooked on, if that is to twist around and then be pulled it can come straight off. It is not always that easy to actually, in real life, hold the hook in that orientation but certainly it can occasionally happen. Normally if you've got a detached webbing line it will spin around and stay fine, but if because there's something else in the way or just the way it's configured that load can be applied like that, they can come off. Depending on the design - some designs are more susceptible to come off on a hook but on a straight bar find it not possible. I think all of the ones here - this type is similar. It just has a bent spring wire

that does the same. The other--

CORONER: Q. It will come off the same way?
A. It will come off the same way. If for some reason, although it's not relevant here, but if for some reason you've connected on to a section of line, if that gets some slack in it, you normally need it to form a slack and a bend and you get the same result. From the industrial point of view normally the issue is that if you've had a fall you don't normally want to disconnect so it doesn't matter, but in an upturned situation here you may need to disconnect and there's one other issue. A lot of - some of the hooks actually have a little cut-out notch or a groove that, depending on what it's connected on to can make getting it off a bit difficult because you roll around this nice smooth surface and then you come to a notch which can - even that fits nicely into that little - and it just won't come off until you turn it around enough and get it off. There's another example here I saw earlier. This one, two reasons, one: It is a double action hook. It requires you to actually pull this towards the opening and then push open before you can open it. So it does make it harder to accidentally release, but the buckle that this one comes with - I'll just take it off - doesn't matter. This is just a flat section of pressed metal and it's a very distinct notch on this particular one. Again it's reasonably easy even with gloved or wet, cold hands to pull that back and to open it. It is not necessarily easy - when you've got a load on it to release it because if you're being dragged along or stuck underneath you actually have to push that upwards to get some slack in the line to undo it and at the same time manoeuvre it through that notch. That's an issue that's not normally of concern for industrial harnesses because you normally don't want to disconnect.

Q. It might not be in your interests?
A. It may be in this case.

Q. It certainly is in this case?
A. There are a number of double action hooks available. Certainly already in this environment and in the industrial fall arrest environment. The difficulties are the harder you make it to accidentally become disconnected, the harder you also make it as a rule. There are some that are better than others but as a general rule, the harder it is to disconnect accidentally, the harder it is to disconnect when you need to. What's probably more important is that whoever is using the equipment is actually familiar with the particular equipment and has used it. So sometimes the danger is using a product that is supplied with the vessel rather than using your own. It means that you're not familiar with it and in an emergency you haven't got the almost reflex action of how to use it. A good example from an industrial point of view is this particular hook here where you actually have to - to open it you pull it down with your thumb but you have to squeeze it in there first. So you've got to squeeze and then pull down. Once you get into the habit of doing it, it actually is not that hard,

but for someone to pick that up and not having used it considerably it becomes very difficult to do it in an emergency. But in an industrial situation you don't have to, so it doesn't matter. Just very quickly by comparison, in climbing and aviation industries have again different products. In the climbing industry they've actually got what I suppose is normally called a triple lock whereby to open this one it's very similar in principle. It starts off being a central spring loaded catch to which you add a black, in this case a black bar that has to be turned through 45 degrees against a spring before you can open it, but before you can turn it there's a little, in this case green button you've got to push in. So there's actually three things to do before it's undone and all of these products have the problem of if you're under load, if you're hanging on this you actually have to lift it this far to get it off and manoeuvre--

Q. And three manoeuvres--
A. Even taking this one, you actually have to give yourself that much slack to be able to get it out.

Q. You've got to undo the other things first to get to that stage?
A. The only other industry where you need to release while under load is basically the aviation industry. This is a parachute type latch where you actually have to pull the front out and then pull out a wire. But this one is fairly complicated to connect. So to connect yourself on in a rolling sea would be very difficult. So it's sort of horses for courses and that's I suppose - I'm not trying to put any specific recommendation forward.

Q. No, but it's a matter that the yachting industry should consider?
A. Yes. I've mentioned a couple of issues in there in the report more for consideration than anything else.

PAPALLO: Q. Mr Turner, if I can now just run through what you've put down as recommendations, I'm looking at page 7 of your report. The first one being that all Tuff marine harnesses and lines of the type tested remaining in use be withdrawn from service and that is because what?
A. The product - the samples that I saw visually looked in almost as-new condition and yet failed at a load of around about 6 kilonewtons, half of the minimum load if you go through the Standard for a non-deteriorating product.

Q. You've made some specific recommendations in relation to reviewing the Australian Standard that applies, that is AS 2227 and the first one is that the marking of the manufacture date and maximum life or an expiry date on the products be included, specifically I suppose and most importantly the maximum life. Is that right?
A. Or you can either put a maximum life in it or simply put an expiry date on it. If you don't want to put a manufacture date and maximum life you simply put an expiry date. You don't need all three.

Q. A further recommendation is that there be added a requirement that all load bearing joints and lines and at the line attachment point on the harness whether stitched, glued, spliced or fused be capable of withstanding either the same load as the base material or a specified load that includes a safety factor for reasonable in-service degradation. What do you mean by that?
A. At the moment the Standard specifies that non-deteriorating products such as hooks meet a 12 kilonewton load, that webbing with 22 kilonewton load capacity on the basis that that's allowing for some degradation during use while still maintaining well above that 12, whereas at the moment there is nothing - well stitching degrades the same way webbing does and quite often to a larger degree because it is normally exposed on the surface and wearing away, or UV on the thread on the outside of the surface is likely to have a more significant effect on the stitching than on the webbing itself which goes right through the webbing. So I believe that any deteriorating form of join - any join should at least meet a certain strength requirement which needs to be more than the 12 kilonewtons so that during use with a bit of degradation it will still meet the 12.

Q. Would that avoid the situation where a line is tested and it just falls within the drop test, that is, it's hanging by a thread? Would that avoid that situation where it passes the test but as soon as degradation hits in - I mean it's not going to get anywhere near what we would have expected it to handle?
A. Yes that's basically the intention.

Q. The third one is that as the fall factor results in a higher peak load for a shorter line, it may be appropriate to test the shortest line to be manufactured and that's just coming back to your explanation as to why the 1.5 metre line would fail sooner than the 1.8 metre line. Is that correct?
A. Yes the test is more severe on a shorter line.

Q. And the final one is that you say here that there's little point in calling for a stronger line as there are limits to the forces the body and the harness will withstand. Are there any further recommendations that you want to make to his Worship over and above those that are listed there?
A. The only one that may be relevant bringing up not so much as a recommendation but in the fall arrest harnesses, the lines or lanyards actually incorporate an energy absorber which can either be a mechanical device or in the form of a deliberately manufactured webbing which absorbs energy by tearing of the stitches. The furry bit there is the bit that has absorbed the energy, is actually one continuous or joined piece of webbing which even if after having absorbed, torn all the way through still remains as a single length. In industrial fall arrest this is designed to tear at between 4 and 6 kilonewtons and absorb that peak spike of the energy which is both useful for reducing the damage on the person as well as on the equipment, so

reducing the bruising sort of thing.

CORONER: Q. So it will damage the webbing but it won't snap it?
A. That's right. The reason why I don't necessarily want to make a definite recommendation is that in the instance where you are overboard and held by your line, if the load on you is sufficient to tear through this energy absorbent webbing you could end up being more difficult to pull you back on board. So it's possibly a compromise.

Q. What sort of work or activity is that sort of webbing used for?
A. For fall arrest where you're working say on a roof and might fall over the edge or fall through brittle roofing or on a steel structure where you're doing connections, there's no real floor area.

PAPALLO: Q. I believe you have with you that harness or what it looks like before it's taken apart?
A. This is one from a different manufacturer but essentially it's the same inside, has a 2 metre line and this section here incorporates the webbing inside a protective sleeve. So again it's less exposed to the UV and all of those sort of products, but is that function if need be.

NUGAN: Q. You mentioned earlier in the report that as far as you're aware the last certification for Tuff marine was in February 1986?
A. Yes.

Q. And therefore the Standard that would apply would be the 1983 Standard?
A. Yes.

Q. And you said you're not sure if later on they discovered a later certification or not?
A. Yes.

Q. At that stage that was all you were aware of. If I was to tell you that harnesses and lanyards were manufactured in 1999 and signed off by the Australian Standards on 13/12/90, which Standard would apply then?
A. It would depend on what standards mark they got the approval to use. They may have been able to continue their old - the standards market has gone through some evolution over its time. It's now handled like QAS but was originally part of Standards and at various times it could apply to a previous Standard if it was continuation of an existing certification. But I would expect that if it was in 1990 that it would have been the Standard current at the time.

Q. So you would expect it to be 1986 AS 2227?
A. Yes. To a large extent most - for the testing point of view there's really little difference between the two anyway. The test is pretty much the same but there's a few marking changes and other things.

CORONER: Q. What does QAS stand for?
A. Quality Assurance Services, I think.

PAPALLO: Q. So Mr Turner, just picking up on that last issue, in terms of the testing that was done on the harnesses whether we're talking about the 1983 Standard or the 1986 Standard, there is no difference?
A. No, the test is basically the same.

Q. And the requirements in terms of the weight bearing load or capacity for the webbing and the non-deteriorating components, they're the same?
A. They're basically the same. One difference is that the first version allowed for natural fibres in the stitching whereas the later ones didn't, but that's again fairly much irrelevant as I think the test on the thread showed that there were no natural fibres.

Q. Ultimately the test is the same?
A. Test the basically the same, yes.

<WITNESS RETIRED AND EXCUSED

<RODNEY CECIL CROSS(2.54PM)
SWORN AND EXAMINED

HILL: Q. Professor, would you give this inquest your full name please?
A. Rodney Cecil Cross.

Q. Your address sir?
A. School of Physics, University of Sydney, across the road.

Q. Your qualifications?
A. PhD in physics.

Q. You've prepared a 4 page document which is a report on the possibilities and probabilities of what happened to Mr Glyn Charles?
A. Correct.

Q. During the rollover of the vessel Sword of Orion, have you a copy of that with you?
A. I have a copy I brought with me.

Q. You've got the details basically from Stuart Grey, the now Sergeant of Police, Detective Sergeant who was involved in the investigation and Rob Kothe and Derek Wainohu and also from various other documents. Is that right?
A. Yes.

Q. You understand that Mr Charles was sat on what we call the gunnel of the port quarter of the vessel and he probably had the wheel in between his legs and he was sat facing forward. He had on him that particular lanyard that is now an exhibit, that's broken. Have you actually seen that lanyard before?

A. I did, I saw it.

Q. As you point out, this lanyard gave way whilst it was on Mr Charles and the other ones were tested and they appear to break at a force of approximately 6.7?

CORONER: Q. Kilonewtons?

HILL: Q. Kilonewtons. Is that right?
A. Correct.

Q. The test as I understand it is 132 kilograms at 1.47 metres drop?
A. Correct.

CORONER: Q. Did you analyse the tests that were done?
A. I've done my own analysis. The tests have been done at the RTA crash labs, yes.

Q. And they do compare with the RTA tests?
A. I did not test a particular lanyard but I analysed the results--

Q. That's what I mean?
A. --of the test in terms of the energy forces involved.

Q. And you're satisfied that they're correct?
A. Yes.

HILL: Q. You've put various possibilities of what may have happened to Mr Charles. What is it that you say is more probable than not in this instance of what happened to him?
A. The most probable reason that the lanyard failed in my opinion is that, and according to the descriptions that were given of the event, obviously there was no video recording of exactly what happened and in fact nobody saw what happened, but it's known that the yacht rolled over, it's known that the yacht was hit by a wave of height of 10 metres or more travelling at about 60 kilometres an hour. There's a description that the yacht fell down the face of the wave and one can imagine that the face of the wave is almost vertical. The yacht would therefore have hit the bottom of the wave at considerable speed and at an angle. That was observed by David Senogles. The yacht was tilted so that the mast was below the horizontal. There's also a description of the large force involved where the starboard side of the yacht was torn apart, the boom was unleashed. People have said that the boom possibly swept through the steering wheel and also swept Glyn Charles overboard. My calculations indicate that that was unlikely to have happened and that the most likely event is that the side of the yacht hit the bottom of the wave, Glyn Charles was travelling with it, the yacht would have suddenly stopped, the lanyard would have stretched, there would have been a force of at least 6 kilonewtons on that lanyard and the lanyard would have broken at that point.

CORONER: Q. Rather like a car accident, front is it?

A. I liken it - I mean you can envisage a person sitting on top of a car held on by the lanyard and the car hits something. That person will continue moving at high speed until the lanyard stretches and breaks.

HILL: Q. So basically as he sat on the port side of the vessel, as the vessel starts to go starboard side down the wave, falling down the wave, he is also falling with it?
A. He is falling with the yacht at the same speed.

Q. Now then the yacht starboard side hits the water and stops?
A. Within a very short time in all.

Q. Yes and he simply keeps going?
A. Correct.

Q. And then you have more or less the test that's talked about on that lanyard with him?
A. That's equivalent to the drop test if that's what you mean, yes.

Q. Yes?
A. It's a different circumstance but it's equivalent in terms of drop height and energy that's absorbed.

Q. Because the lanyard would be fastened at a point - the last witness spoke about being level with the hook did he not, and he was talking about the fall rate?
A. Yes.

Q. There'd be more than a fall rate of 1 in a case like this?
A. The circumstance is different from the two circumstances that the previous witness described. The previous witness described a fall from a point where the person is level with the other end.

Q. That's right?
A. Or a fall where the person is above the point of support, then he falls the factor of 2 distance. This is different yet again.

Q. Where would you put this? Would it not be more likely the fall of 2?
A. It's similar to a fall of 2 but it depends on how fast the yacht stops when it hits the water. If it hit concrete there'd be a bigger force involved. If it hit foam rubber it would be a soft landing.

HILL: Q. But that's in your opinion more probable than not what happened in this case to Mr Charles?
A. Correct.

Q. Once he is off that, presumably the boom if it was latched to the starboard side does not begin to move until after that vessel actually strikes its starboard side to the water?

A. Not necessarily. As the yacht is sinking into the water the lanyard starts stretching and the boom starts ...(not transcribable)... as well simultaneously.

Q. So it's quite possible that he then also after being released as it were, by the lanyard failing, he may actually have struck that boom?
A. Or he may have gone straight past it.

Q. You simply don't know?
A. No, because as the boom came up it smashed the steering wheel.

Q. Yes and it sweeps across to the port side but presumably it doesn't do that until the vessel actually goes into a roll and the boom is--
A. No if I imagine - I imagine that's the model of the Sword of Orion.

Q. Yes?
A. If you imagine that's tilted through 90 degrees and it's falling on its side, for the boom to sweep through to the port side where Charles was seated that means the boom's rising vertically.

CORONER: Q. Rising up towards the mast or going from starboard to port side of the boat?
A. Yes vertically, not horizontally. At the moment it's horizontal.

CORONER: Q. I see yes.

HILL: Q. So it's rising up towards the port side?

CORONER: Q. Vertically?
A. Yes.

HILL: Q. He may have gone past and what I'm saying is that although the vessel is sinking into the water from the fall the boom may now be simply coming up and wiping out the wheel?
A. But that's about as far as it could get I would estimate. I don't think it would make it vertically upwards as far as the port side.

Q. The vessel then rolls around and Mr Senogles thought that because the strap, that is the lanyard was hanging over the port side, he'd presumed that the boom had come out somehow, wiped out the wheel and Mr Charles with it because the strap was over there?
A. Possibly.

Q. But that would also be perfectly consistent with the vessel turning that way and the lanyard being dragged after it, it would come up on the port side?
A. After the yacht had rolled 360 degrees.

Q. Yes?

A. Yes it would be back on the port side.

Q. So to base weight upon the concept of because the lanyard was hanging over the port side is not really tenable. I want to suggest to extrapolate from that to say therefore the boom swung across?
A. No it doesn't - doesn't prove that, I think.

Q. No, it doesn't.
A. No.

CORONER: Q. It's a possibility but no more than that?
A. Yes. But it would have been washed around by the water, it's hanging free--

Q. Yes the water--
A. --it could have ended up anywhere.

Q. --itself as it turns it must do something. Now, what other possibilities have we in an order of less likely, if I can use that, as to what happened to Mr Charles? For instance, the boom simply coming over and wiping him out, moving through the wheel and then across him. Supposing--
A. No, are we talking about vertical motion as the most likely event?

CORONER: Yes.

HILL: Q. Yes.
A. The boom would have come up vertically. Given that the wave speed is 16 kilometres an hour - 60 kilometres an hour which is 16 metres a second, one would imagine that the boom might have come up at a speed of ..(not transcribable).. 10 metres a second. You can calculate the energy in the boom and how far it will travel starting off at 10 metres a second, how far it's going to travel vertically and the answer is not very far, particularly since it had to hit the steering wheel on the way, so that would have taken a lot of energy out of the boom. Unfortunately I've never had a description of what the boom - what the steering wheel looked like after it was hit. Was it washed overboard or--

CORONER: All we know is that the actual cockpit reduced--

HILL: Yes, there was damage to the cockpit.

CORONER: --it came apart and lowered by some centimetres, isn't it?

HILL: Q. Presumably where the wheel went in, you can imagine a slot for the wheel as you turn it and there's a slot in there, in the bottom, that has been struck - the wheel has been struck and pushed through that lower part of the cockpit and split that slot which is allowing water to come in. That's the only description that we seem to get--

CORONER: Q. It implies enormous force, doesn't it?
A. Not necessarily, it depends whether it was a hollow aluminium construction, the steering wheel, or solid steel and I'd imagine--

HILL: Q. What I want to know is this, that it's been put forward by Mr Senogles that he thinks the boom came across and hit the wheel and hit Charles and knocked him over presumably the port side. I want to know the likelihood of

that. Supposing as the vessel turns, as it rolls onto its side, with some ability he remains clinging to the port side of the wheel and thus he's in the position where he would be susceptible to the boom coming up and striking the wheel, then him, and knocking him off the port side.

CORONER: Into the water.

HILL: Q. What's the possibility of that?
A. I think that's remote, because the boom would have had to come up at a very high speed off - bounce off the water in order to not only take out the steering wheel but to strike Glyn Charles, lift him up 1.5 metres, the length of the lanyard, plus another 1.5 metres to stretch the lanyard. The boom wouldn't have had enough - sufficient energy in my opinion.

CORONER: Q. So it's more likely he hit the boom than the boom hit him?
A. Correct, correct, but if he hit the boom on the way down, that wouldn't necessarily break this, it would certainly injure him.

Q. It wouldn't necessarily--
A. No, because you've got to stretch this its full length.

Q. But could it be that it went to its full length and then he hit the boom?
A. So if--

CORONER: It's only what, 1.5 metres?

HILL: I'm sorry?

CORONER: It's 1.5 metres in length?

HILL: Yes.

A. I know what you're saying, I'm thinking it through, but if it - but if he hit the boom on the way down and the boom had just reached its top point, he'd certainly be feeling sore and sorry but that wouldn't have broken the lanyard.

CORONER: Q. No but couldn't he have--
A. You need to stretch the lanyard to break it.

Q. Couldn't he have kept going on hitting the boom to the point where it got to the end of the lanyard then it became taut and broke - and snapped?
A. Right, that's my first scenario where I've got him falling and not hitting the boom. In fact, if he hit the boom maybe that would have stopped his fall.

Q. But maybe it wouldn't?
A. No, if he'd hit the boom on the way down, that would--

Q. You reckon that would be enough in probability to save

the lanyard from--
A. And to save Charles, yes, if he'd actually hit it, then the lanyard wouldn't have stretched.

CORONER: Alright. One of the problems is we've got evidence from some witnesses, particularly Mr Senogles, that he appeared to be injured but we have medical evidence which goes to simple injuries as a result of the force applied by coming to the end of the lanyard.

HILL: Q. Is it possible that in fact because the vessel comes so fast down the wave that he is if you like before the vessel actually stops he is already flying through the air and has reached the end of the lanyard, that breaks and he is in free fall then and simply strikes the boom near the water's edge and then has gone overboard?

CORONER: That's what I was suggesting. That's what I was trying to suggest.

A. So you're saying that the lanyard's fully stretched?

HILL: Q. Yes.
A. He's at the bottom of it.

Q. He doesn't ..(not transcribable)..
A. The yacht is falling down, is it, so both he and the yacht are in free fall?

CORONER: Yes.

HILL: Q. Well, let's look at--
A. And then the lanyard comes up from - the boom comes up from underneath and hits him, is that what you're saying?

Q. Yes, basically because the wheel itself is turned, because it comes out and he actually turns so he goes over with the wheel, the lanyard snaps and then he hits the boom. You follow--
A. Why did the lanyard snap?

Q. Because it's reached the end, because he's--

CORONER: Q. Rather like in that diagram of yours, he's fallen straight through to the end of the lanyard, beyond the end of the lanyard which has snapped, he's then hit the boom?
A. The only way the lanyard can snap from that position is if the boat suddenly slams into the bottom of the wave and it suddenly stops and he keeps going because of his inertia. Now whether or not he hit the boom is irrelevant in that circumstance.

CORONER: That's true.

HILL: Q. I follow it's irrelevant from what you're putting forward but it's a possibility that once he's in free fall

the boom is there and he could well have hit it?
A. Yes he could have and been--

Q. He could as well have missed it?
A. --and been injured, yes, certainly.

Q. And if someone said he looked injured whilst he was in the water, then there's a distinct possibility and even probability that he did in fact strike something, if not the boom he struck something?
A. Most definitely.

CORONER: Maybe the starboard gunwale or something.

HILL: A stanchion, any piece of stuff, yes.

Q. Apart from the other possibilities that you've put forward in here, you still think that that is the most probable thing, that he has simply - the lanyard has stretched and broken and then he has simply gone overboard?
A. Yes and the reason that it stretched is that the yacht suddenly stopped--

CORONER: Q. When it hit the trough?
A. --..(not transcribable).. the water. It was in the water all the time but it was being forced down possibly by the weight of the breaking wave above it pushing on the side, pushing it in with some force to the bottom of the wave.

CORONER: Yes, you've illustrated very clearly in your diagrams actually.

HILL: Yes, I have nothing further, thank you.

CORONER: Have you any questions?

SPEAKER: I have no questions, your Worship.

SPEAKER: No questions, your Worship.

CORONER: Q. Is there anything else you want to add to your evidence, or anything at all that might assist me in any way, Professor?
A. Only in the sense that perhaps the simplest way to envisage the accident is to imagine that you're sitting on top of a vehicle and the vehicle crashes. Now despite the fact that you've got a lanyard on you're not going to be saved by the lanyard. You'll just keep going. Whether or not you're hit from in front or behind.

Q. It's almost like the boat crashed rather than--
A. It is, it's like--

Q. --simply turned over, it's crashed?
A. View it as a car crash but you're not fastened in with a seatbelt because your seatbelt's a long piece of webbing.

And I'd say the only way you could safely survive that is to be properly fastened in.

Q. Like a seatbelt?
A. By a seatbelt type arrangement. Even though there were other yachts that did a 360 degree roll and people were thrown out but maybe not with the force of this one.

Q. No. There'd be a lot of different factors such as the way this boat actually, in actuality, hit the wave or hit the trough, hit the sea if you like?
A. Yes.

Q. As opposed to those other boats. That'd be one factor?
A. And maybe also--

Q. Position of the seamen on those boats--
A. As I said, quite a few of them and I suspect probably the reason that they survived and Glyn Charles didn't is that their lanyards were rated at 12 kilonewtons and they didn't fail at six. But I don't know, I'm just guessing.

Q. We haven't tested the lanyards off any of the other boats, we didn't go that far, we thought we've gone a long way this far. Alright.

<WITNESS RETIRED

HILL: Mr Coroner, that is the last witness for today. What we've got tomorrow is we've got the three rescue witnesses.

CORONER: Mr Boag, Mr Key and Mr Jones.

HILL: Yes. Mr Boag is on fixed wing aircraft and Mr Key and Mr Jones are the helicopter and pilot and the person that went down on the wire and they did some rescues, especially off the Kingura and various other vessels.

CORONER: Alright. And then there's a bit on on Thursday and Friday it should be very light.

HILL: Yes, there's a bit on the Thursday, we're still having some problems with Ms Plummer. I will speak to you--

CORONER: If absolutely necessary she can go to the next phase in July. Is there anything else from the bar table? Mr Harris?

HARRIS: No thank you, your Worship.

ADJOURNED TO WEDNESDAY 5 APRIL 2000 PART HEARD

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