IN THE TRIAL COURTS FOR THE STATE OF ALASKA

THIRD JUDICIAL DISTRICT

AT ANCHORAGE

STATE OF ALASKA,

Plaintiff,

vs

JOSEPH HAZELWOOD,

Defendant.

No. 3AN 89-7217; 3AN 89-7218

TRIAL BY JURY
MARCH 9, 1990
PAGES 6639 THROUGH 6817

VOLUME 36

Original

H & M Court Reporting
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BEFORE THE HONORABLE KARL JOHNSTONE
Superior Court Judge

Anchorage, Alaska
March 9, 1989
8:38 a.m.

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TABLE OF CONTENTS

WITNESS INDEX

EXHIBIT INDEX

EXHIBIT	DESCRIPTION	PAGE
BY	Cover letter by Andre Martineau	6727

PROCEEDINGS

MARCH 9, 1989

(Tape: C-3665)

(267)

(On record - 8:38 a.m.)

THE CLERK: ...Third Judicial District with the Honorable Karl Johnstone presiding is now in session.

THE COURT: Thank you. You may be seated. Sir, you're still under oath.

MR. CHALOS: Good morning. Good morning, Judge.

THE JUDGE: Good morning.

DIRECT EXAMINATION OF MR. WINER, CONTINUED

BY MR. CHALOS:

Q Good morning, Mr. Winer.

A Good morning.

Q When we left off yesterday, we were talking about the damage that you saw in San Diego?

A Yes.

Q Can you describe what damage you saw in and around the number 1, number 2 and number 3 holds?

A Certainly. There were longitudinal of 4 1/2 score marks. There were tearing of the plates and distortion of the internal members. In the

area around the starboard side of number 2 and number 3, the structure was bodily crushed upwards and to a large extent, the outer hull plating had been removed previous to the ship going in dry dock.

Q In what direction was the damage that you viewed?

A From forward to aft.

Q In a straight line?

A Yes.

Q There was some turn near number 5 hold. Was there not?

A Yes. It's shown on one of the exhibits, scraping marks and indeed, the cutting of the hull progressed aft and then sloped off toward the starboard at a degree -- at an angle of about 5 degrees. This was due to the relative direction of the ship with respect to the rocks.

Q Did you see any transverse damage?

A None, whatsoever.

Q Were you here when Professor Vorus testified?

A Yes, I was.

Q Do you remember his testimony with respect to the subtle scratch marks in the transverse direction?

A Yes.

Q Did you see any such marks?

A Well, those appeared to me, when I saw the ship, they appeared to be stains and those stains appear on the photograph to me as stains. They were not physical contacts.

Q I put before you exhibit 146 which Professor Vorus identified and indicated contained transverse scratch marks or subtle scratch marks. Do you see any such marks in that photograph?

A No, I don't.

Q Did you view that area?

A Yes, I certainly did.

Q Did you see any marks when you viewed that area?

A No, I didn't.

Q Did you see any signs of rotational damage on this vessel?

A Not in the plating that was -- that remained on the ship. No, I didn't.

Q Do you have any opinion as to how the damage was caused that you viewed?

A Certainly, I do.

Q What is that opinion?

A The damage was caused, in my opinion, by the

ship first having traveled over a hard area which scored the ship and tunnelled the ship from bow -- directly under the bow, straight down the midship and then tapering off toward the number 5 starboard tank and the slop tank. Subsequent to that, the vessel struck a second time shortly after the first striking and fetched up and stopped on a reef in the area of the six fathom mark. That's where she came to rest.

Q Is it your opinion that whatever damage was caused by the grounding occurred in the first and second hit?

A Yes.

Q You mentioned there was additional damage. I believe you said crushing damage. Do you have an opinion as to how that was caused?

A Yes. That was caused by the variations in tide during the several days that the vessel lay on the reef. One indication of how severe that was was in a divers -- was a diver's report where he shows a localized cross section of the vessel, sketched on the 24th -- excuse me, the 24th of March. Again on the 25th of March showing a crushing upward at the turn of the bilge or the lower corner of the vessel and then he shows

another section dated March 31st that shows an even more severe progression of that crushing, showing a crushing about -- well, the dimensions shown on there is about two feet.

Q Mr. Winer, would you mind drawing what you just described on the board?

A Sure.

Q You need to take your microphone with you.

A Oh, okay.

Q What area of the ship are you describing?

A This area is in the way of, I believe, frame 23 or 25 on the starboard side. It shows on March 24th -- be like that (indicating). And that would be looking forward on the starboard side. Reference is a point A here. And the next sketch shown on diver's report is like this (indicating) and this is March 25th which shows point A here and the third sketch from the diver's report is March 31st. Point A isn't shown but there is a dimension that shows this to be about two feet which in fact shows that the bottom here was crushed upward and it bubbled out to the side and even more intensely, at this point. I believe this is two feet out at about something like two feet off the flat side of the

ship.

Q And what does that all indicate to you?

A It indicates an upward crushing, caused by the consistent movement up and down as a result of the tides.

Q All right. You may resume your seat. Mr. Winer, there's been testimony here that subsequent to the grounding, the vessel's engine and rudder were used. Do you have an opinion as to whether any further damage was caused by the use of the engine and rudder after the grounding?

A Yes, I do.

Q What is that opinion?

A In my opinion, no substantial or significant damage was caused by the use of the rudder and the engine.

Q What do you mean by significant damage?

A Any more than perhaps some localized pressure or movement around the pivot point which -- but that area was already severely damaged.

Q Do you have any opinion as to whether any further pollution was caused by this additional damage that you described?

A Yes, I do.

Q What is that opinion?

A That no additional pollution was caused because no additional tanks were ruptured.

(0600)

Q Now, you were present again when Professor Vorus testified, did you hear his testimony with respect to the bowing of the longitudinal frames?

A Yes.

Q Do you agree or disagree with that opinion?

A The opinion that it was caused by transverse movement?

Q Yes.

A I disagree with that.

Q Why?

A For two reasons. One, we know that there was an upward force exerted by the grounding itself. The longitudinals on the bottom of the ship are designed to provide cross section to the ship and provide longitudinal strength. They're designed also to provide a diaphragm resistance to the upward pressure of the water. They are not designed for a grounding situation. The grounding situation in forcing the hull up would necessarily cause those longitudinals to spread apart due to the arched shape of the contact --of the damaged caused by the contact.

Q When you say contact, are you referring to the rocky bottom?

A Yes, I am. Secondly, if there are any such transverse movement, it would not only -- it would certainly show up in the adjacent plating that remained intact and there was no such evidence seen during my inspection.

Q Now, you were also present when Mr. Milwee testified. Were you not?

A Yes, I was.

Q Do you agree or disagree with his opinion of the tons aground in this situation?

A I generally agree with the tons aground. Yeah, based particularly on the large variation due to the extreme variation in tide, yes.

Q You heard Mr. Milwee's testimony with respect to the thrust of the engine at full power?

A Yes.

Q Do you agree or disagree with his opinion that about 200 tons of thrust was what this engine could do at that particular time?

A I consider that to be somewhat on the high side.

Q Did you do any calculations yourself to determine the thrust of this engine?

A Yes, I did.

Q At 55 rpms, what did you calculate the thrust of the engine to be?

A I calculated the thrust under the best operating condition and that's the situation where the propeller is turning 55 rpm and the vessel is advancing through the water and that's the function for which the propeller was designed, I calculated the thrust to be approximately 147 long tons.

Q If the vessel was aground, would you expect that thrust to be less?

A Certainly.

Q Do you agree or disagree with the opinion expressed by Mr. Milwee that this vessel -- it was impossible to move this vessel using the rudder or the engine?

A I certainly do agree with that opinion.

Q Do you have any opinion as to whether this vessel was impaled or not?

A Yes, I do.

Q What is that opinion?

A The vessel was apparently heavily impaled.

Q Do you share the opinion that it would have been impossible to move this vessel?

A I certainly do.

Q Now, you're familiar with the type of engine that was on this vessel?

A Yes, that's the RTA Salzer.

Q And you're familiar with that engine?

A Fairly, yes.

Q Can you describe how a captain would go from 55 rpms to full sea speed in a hurry, if he wanted to?

A Yes. There's an override on the program up control. The program up control, being designed to bring on powers above 33% horsepower in a gradual fashion so that you would have a stabilized heat balance on the engine. There used to be what was called an emergency override down in the engine room. There is still one but it has a different name. With that, with what they call the fine adjustment or the fine control, the engine can be brought from 55 rpm to full sea rpm of about 78 or 80 rpm in a time between 60 and 120 seconds.

Q Sixty?

A Sixty to 120 seconds.

Q Is that in effect an override of the LPU system? In other words, you don't use the load

program up in that instance?

A That's correct. That overrides the LPU.

Q So if the captain wanted to go from 55 rpms to full sea speed, all he would have to do is press a button?

A Yes.

Q Now, do you have an opinion as to whether or not this engine would have overheated had she been put on full speed in the condition that she was grounded?

A The only way the engine could have overheated would be if there were some impairment of the cooling system. The actual output of the engine would be no cause for overheating. If by some means, debris came in as a result of the grounding and it had plugged up the oil coolers, you could get a high oil temperature, but I wouldn't term that as being the engine overheating.

Q Now, I'd like to speak a little bit about the exhibits you prepared on the basis of Mr. Shizume's reports?

A Yes.

Q All right. Let's start with exhibit BF through BL. Can you tell the jury what you did

in the preparation of this exhibit?

A Sure. First, I took the hydrographic chart which gave me the background for this exhibit and...

Q When you say hydrographic chart, do you mean the nautical chart of the area?

A Yes, the one that showed the geography and the depths of water as well as the elevations on the shore. Elevation on shore as shown here on Bligh Island. And the depths of the water in the various areas is shown in fathoms which are six feet all throughout the water portion. Then I reviewed the printouts that Mr. Shizume provided to me...

Q Are those computer printouts?

A Yes, those are the CAOR printouts which showed all of the input employed in deriving the position and speed and heading of the vessel at various intervals.

Q Let me just show you what we've marked as exhibit BX. Are these the computer printouts that you refer to?

A Yes, they certainly are.

Q And what do these computer printouts tell you -- what did they tell you?

A Well, they tell me -- based on the numerous inputs and the coefficients for solving what they call the vessel motion equation, they utilize the heading taken off the course recorder together with the engine rpm taken off the bell logger and put together with all the other coefficients and constants of the vessel, the weight, the draft, the rudder area, the shape of the hull, the block coefficient and several others, you can derive from that the actual speed of the vessel, the heading of the vessel and the necessary -- the essential derivatives from that, the change in speed, the change in heading, eddy and all the other inputs from the waves and the sea and currents.

Q Having reviewed the information provided to you by Mr. Shizume, based on your knowledge of these type of matters, do you have an opinion as to how accurate Mr. Shizume's computer runs were?

A Yes, I do.

Q What is that opinion?

A I'd say they're extremely accurate with an estimated precision to be, oh, say, within one tenth of a ship length.

Q One-tenth of a ship length is how many feet?

A About 90 feet, 98 feet.

Q Okay. So then tell us what you did once you received the information from Mr. Shizume.

A Sure. I took the runs that Mr. Shizume prepared. The first one being the actual course of the vessel based on the course recorder and the engine rpm and the day bell logger, I plotted the position on a minute by minute basis, starting at 1 1/2 minutes after midnight and carrying through on a ship plan view on a minute by minute basis up to the ship's entrance on and beyond the 10-fathom mark.

Q What do you mean by the 10-fathom mark?

A The 10-fathom mark is an underwater contour line which I outlined in red and that connects all the points delineating that shelf where on one side of the shelf, it's deeper than 10 fathoms and the other side of the shelf, within this shape, it's shallower than 10 fathoms.

Q Now, 10 fathoms is 60 feet?

A Yes.

Q Now, within the 10-fathom line, there are depths that are greater than 10 fathoms. Are there not?

A Yes, there are. Yeah.

Q Okay. Go ahead.

A For a chart of this scope, taking in such area, the details shown is one that would envelope the approximate 10-fathom mark, even though there are some deeper areas within here to include all the areas deeper than 10 fathoms here would complex the chart too much.

A Okay, then do the ship lengths that you've drawn on there represent the actual length of the ship in scale?

A Yes, they do.

Q Okay. Go ahead.

A After plotting the actual track of the vessel during the voyage, I superimposed upon that those calculations provided by Peter Shizume identified by the labels here. For example, 7A and that's identified...

Q Will those labels tell you what the angle of the rudder was at a particular time?

A Yeah, the particular runs in track determinations were made with specified rudder angles at specified times. This run shown in green for example is a 4 degree right rudder, given at 6 1/2 minutes after the vessel was .9 miles directly west of Busby Island at an

approach speed of 11.67 knots.

Q So the turn started at a minute and half after midnight?

A Yes. And the vessel at that time was right here where my finger is pointing showing the label 0001 1/2.

Q Okay. What was the next run that you made?

A The next run I made is identified as run number 7C and that took into account a 5 degree right rudder at 6 1/2 minutes after and .9 nautical miles west of Busby Island light at an approach course of 180.5 degrees and a speed of 11.74 knots.

Q Again, the turn started there at a minute and half after midnight?

A Yes, that's correct.

Q Okay. What was the next run?

A The next one is 7D and it shows a 10 degree right rudder at 6 1/2 minutes after and .9 nautical miles west of Busby Island light with an approach speech of 11.4 knots and that's shown with this green curve here identified with the label 7D.

Q Why is the speed different using 10 degrees as opposed to using 5 degrees?

A Because the effect of this -- there is an effect on the speed imposed by the rudder angle.

Q Could you explain what you mean by that?

A Yeah, when you impose a high degree rudder angle on the ship, it tends to slow the ship down and that's for example the reason why you can see as we progress through these various illustrations the ship scale sizes appear to get closer together and the reason for that is that the one-minute interval, the ship just doesn't go as far because it's moving slower.

Q In the scenario that you're describing once the rudder is put over, are you saying that that tends to slow the ship down?

A Yes, it does.

Q Okay. What was the next run that you made?

A The next run was at the same time a 20 degree right rudder at 6 1/2 minutes after and .9 nautical miles west of Busby Island and an approach course of 180.5 and a speed of 11.74 knots. And that speed, of course, is the speed entering or at the time of 0001 1/2. That track is shown by the upper green curve here identified by the label 7E.

Q All right. And the last run?

A The last one is a compilation of three rudder orders. It's identified as chart number 7F and it calls for a 10 degree right rudder for a period of five minutes followed by 20 degree right rudder for a period of two minutes and then a 35 degree right rudder to the end of the run. We'll hope...

Q What kind of effect did you get using those orders?

A Well, the effect as you would expect, up to the point of 0006 1/2, it's exactly the same as a 10 degree rudder shown on curve 7D because for those first five minutes, you do have a 10 degree rudder. From that point on, you go to a 20 degree rudder and it shows here in these ten ship sketches a significantly more severe change in the vessel's heading and a slight tightening of the vessel's course because the higher degree rudder, the 20 and the 35 were only imposed toward the end of this curve.

Q All right. You have in three of those runs, the vessel headed back north. Could you explain why you did that? What's the purpose of showing that?

A The purpose of that is just to run out what

the simulator shows where the vessel would be at a given time.

Q Of course, a mate on the bridge wouldn't have his vessel going in circles....

(1235)

MR. COLE: Objection. Leading.

MR. CHALOS: Let me strike that and start again.

Q For the purpose of illustration, you ran the -- I think you've said the simulation out to a particular time?

A Yes.

Q Would you expect a crew member to be doing the same thing if he were on the bridge?

A No, I wouldn't. He probably...

Q And what would you ex...

A He'd probably get an order for a given rudder to a given course and then to hold that course and I think I've illustrated that in one of the other overlays.

Q All right. Now, having done these simulations, I would like to give you this hypothetical. If 10 degrees of right rudder was put on this vessel at a minute and a half after midnight, at the speed that this vessel was

traveling and that 10 degrees right rudder was held steady, do you have an opinion as to whether this vessel would have missed Bligh Reef?

A Yes, I do.

Q What's your opinion?

A My opinion is the vessel would have missed Bligh Reef by a significant distance.

Q What is that distance, sir?

A I've scaled this chart and we can see a 10 degrees would be chart 7D which from the point of the grounding site, the vessel's track would have been just under one half a mile.

Q Okay, now you also prepared the chart and overlays which we've marked as exhibits BM through BS.

A Yes.

Q Did you follow the same procedures in preparing these exhibits as you did the previous exhibits?

A Yes, I certainly did. Starting off with the actual track as plotted from the vessel's course recorder and bell logger. That's shown in purple here and it's called run 7B, the identical run to the run shown previously.

Q All right. And then you ran a series of other

runs?

A Yes.

Q Could you tell us what those were?

A Certainly. Starting off with run 7G, that's identified as the vessel providing a three degree right rudder, starting at the point of the vessel's being abeam and .9 miles off of Busby Island light...

Q At what time was that?

A 2355 hours Alaska time.

Q At 11:55?

A Yes.

Q Okay. Go ahead.

A And that shows -- that track shows here in blue, for example, that this point would be 000 hours or midnight and this position here is identified as five minutes after midnight. That's a three degree track.

Q And do you have an opinion as to whether this vessel would have missed Bligh Reef at 11:55 p.m., three degrees of right rudder was put on and held?

A Yes, it cert -- Yes, I do.

Q And what that's opinion?

A It would have missed it by a large amount.

Q Okay. And what was the next run?

A The next run identified as 7H and that's a four degree right rudder starting at .9 miles off and abeam Busby light at a course of 180.5 and a speed of 11.69 knots shown here with a second blue curve identified by the label 7H.

Q If at 2355, when the vessel was abeam of Busby, four degrees of right rudder was placed on the rudder and held, do you have an opinion as to whether it would have missed Bligh Reef?

A Yes, I do.

Q What is that opinion?

A It would have missed Bligh Reef by a substantial amount in excess of one mile.

Q All right. What was the next run that you did?

A The next run we did was run number 7I which is a five degree right rudder starting again at .9 miles off and abeam Busby Island and an approach course of 180.5 and a speed of 11.69 knots. That shown with a third blue curve.

Q Do you have an opinion if the turn was started at 2355 when the vessel was abeam of Busby, using five degrees of right rudder and holding whether the vessel would have missed Bligh Reef?

A Yes, it would have.
Q By a distance greater than the other two examples?
A Yes.
Q Okay. What's the next overlay?
A Next overlay is identified as 7J and 7J is a 10 degree right rudder, again at .9 miles off and abeam Busby Island light at an approach course of 180.5 and a speed of 11.69 knots. This is the one where I added to the computer information the tangent to the course to portray the track of the vessel if it were given the order with that 10 degree rudder and in addition to reach a course of 245 and to hold that course. This is supplemental to what Mr. Shizume provided.
Q Okay. If -- I'd like to give you a hypothetical. If the rudder was turned to 10 degrees right at 2355 when the vessel was abeam of Busby and held, do you have an opinion as to whether this vessel would have missed Bligh Reef?
A Yes, I do.
Q What is that opinion?
A It would have missed Bligh Reef by a substantial amount in the turn, had the turn been held and also if the vessel had held a course of

245.

Q What would be the distance that it would have missed Bligh Reef if 10 degrees of right rudder was used at 2355?

A Would have been -- measure one half mile so it would be about -- in excess of one and half miles.

Q Now, if I were to give you the same scenario but ask you to start the turn at 2356, a minute later....

A Yes.

Q ...would your conclusions be the same?

A Yes, they would.

Q Would the distance be somewhat less than what you've described? In other words, you said if they used 10 degrees of right rudder would be in excess of a mile and a half.

A Yes.

Q How much less would the distance be if they started their turn at a minute after 2355?

A That's easy to determine by merely and physically just shifting these overlays down a one minute interval which would be about one ship length and that's about the distance that the vessel would be more closer to the grounding

sight, about a ship length.

Q So if they'd started their turn at 2356, the distance that it would have missed Bligh Reef if 10 degrees of right rudder was used would still be over a mile and a half?

A Yes, what that would do in fact is at 2355, the vessel's position where I'm showing with the divider at 2356, it was here, so that would bring it down or a southerly direction about that much which is approximately one ship length, 980 feet.

Q You see some fathom markings of 55 and 38 on this chart?

A Yes.

Q In this area here?

A Yes, I do.

Q Okay. If the turn were started there, that is using three degrees, four degrees, five degrees or ten degrees, any one of those scenarios, would the vessel still have missed Bligh Reef by a substantial amount?

A Yes, it would.

Q And with respect to the 10 degree turn that we're talking about, how far would it have missed Bligh Reef if the turn was started in the area of the 55 and 38 fathom mark?

A I can approximate that by taking my divider and putting it on the 55/38 fathom mark region and that would translate this entire track pattern down this amount which is about six tenths of a mile.

Q All right.

A So on that basis, it would have missed Bligh Reef on the 10 degree right rudder by approximately one mile.

Q All right. I'm going to show you one more exhibit. (Pause) I'm showing you now exhibit BV. On this exhibit, you've plotted the grounding, the grounded position of the vessel?

A Yes, I did.

Q Which is the position that this vessel was in when she finally stopped?

A The position as reported was approximately this lower dotted vessel sketch.

Q Right here?

A Yes. Directly over the six fathom mark.

Q Now, looking astern of the vessel for a distance of what appears to be several thousand feet, do you have an opinion as to whether there was sufficient water if the vessel were to back up?

A Yes. There is sufficient water behind the vessel up to the point of this singularity which is a five fathom mark slightly in excess of one ship length behind the vessel's position on the reef. That would be -- there's the five fathom mark here and here's how the ship could have come off the ground right in this position.

Q Now, if it were to come off in a straight condition from where she was laying, how much water is behind it?

A It ranges from this eight fathom group here to 11 fathom, 14 fathoms and up to 21 fathoms.

Q Okay. This six fathom that you're talking about, I read as 8-6, 8-7, how many feet is that at low water?

A Well, eight fathoms is 48 feet; nine fathoms would be 54 feet, so it would be around 50 plus feet.

Q And if you add 10 feet at high tide?

A That would be over 60 feet.

Q Okay. So is it your opinion that this vessel had plenty of water if Captain Hazelwood wanted to back up?

A Yes, there was adequate water.

Q Sir, you viewed this vessel in San Diego. Is

that correct?

A Yes, I did.

Q Did you have an occasion to go into the cargo control room?

A Yes, I did.

Q Did you see any devices in the cargo control room for flooding any of the ballast tanks?

A Yes, there were actuators for the remote control valves, yes.

Q Did one of those actuators control the ballast tank -- the number 4 port ballast tank?

A Yes, it did.

Q Do you have an opinion as to how quickly one could ballast down that tank if they wanted to?

A Yes, I do.

Q What is your opinion?

A It would be a matter of several minutes.

Q Why do you say that?

A Because you open the tank to the gravity head of the outer water and when I say several minutes, I mean between five, ten to fifteen minutes, you get a substantial amount of water in the tank on an increasing basis.

Q There's been some testimony that the flow of the water is controlled by the size of the vents

on deck. With respect to the ballast tanks, is there any way to increase the size of the opening on deck?

A Yes, there is.

Q How is that done?

A That would be to open the ullage access plates or the entire access cover.

Q Let me get a picture and have you show the jury what you're talking about.

A Certainly.

THE CLERK: (Indiscernible -- away from mike)

THE COURT: Is it possibly already out, Mr. Chalos?

THE CLERK: If it's defense....

Q (Mr. Winer by Mr. Chalos:) I show you what we've marked into evidence as exhibit AP. Is that the opening that you're talking about?

A Yes.

Q Could you show the jury what you mean by opening the allege cover?

A Yes. On each of the cargo as well as the ballast tanks, they have this allege trunk. That's covered by a lid. On the lid, there's a small, approximately 10 or 12-inch opening which can be actuated or opened in a matter of seconds.

That 10 or 12-inch opening would have provided substantial additional area for the air to enter or leave the tank.

Q So if someone wanted to open the opening, if you will, to provide for more air to come in, would that increase the flow of water into the ballast tank?

A Certainly would.

Q And how difficult is it to open one of these covers?

A A matter of moments. Very simple.

Q Have you ever heard of the term, cavitation?

A Yes, I have.

Q Can you explain to the jury what cavitation is?

A Cavitation is the introduction of air or gas in way of the propeller which substantially reduces the effectiveness of the propeller producing thrust. That air or gas can be caused by three or more things -- reasons. One being the proximity of the propeller to the surface of the water where, in fact, the propeller sucks water from above the surface and causes a bubbling condition.

The second one is when the propeller is not

properly threading through the water causes low pressure areas which in turn cause the air dissolved in the water to come out in gaseous form and create bubbles.

The third is the churning of the propeller at an advanced speed substantially less than the propeller was designed for. This gives it sort of an egg beater effect when all it does is move water instead of causing a thrust.

Q If the engine was cavitating, would that mean that it would overheat?

A Not necessarily at all, no.

Q Let me take that back. I used the wrong phrase. If the propeller was cavitating, would that mean that the engine would overheat?

A No.

Q There's been some testimony here that when the vessel ran aground, the lube oil alarm went off.

A Yes.

Q Do you remember reading that testimony?

A Yes, I do.

Q Is that an indication to you of the engine overheating?

A No.

Q What is that an indication of?

A Merely an indication that the -- in all probabilities, that the oil cooler is ineffective in performing its function of cooling the oil. The oil cooler receives the heated oil which picks up the heat from the engine at which time it's passed through a cooler to bring it down to the design temperature and then reintroduced to the engine to provide lubrication. In the event some temporary or other blockage is caused to that cooler on the cooling water side which could be caused by the grounding or contact with the ground, that would plug up the cooler and render it less effective. That would, in turn, set off one of the alarms, high lube oil alarm, which is a warning that something is amiss with the cooling system. It's not necessarily a sign of imminent danger nor is it a sign of engine overheating.

Q You've read the testimony in this particular case. Have you not?

A Yes, I have.

Q Was that problem cleared up by the time the engines were restarted at 12:35?

A Yes, it was.

MR. CHALOS: I have no further questions of

this witness, Your Honor.

THE COURT: Do you want a glass of water?

A No thank you, Your Honor.

THE COURT: If you want one, just ask Mr...

(2028)

CROSS EXAMINATION OF MR. WINER

BY MR. COLE:

Q Good morning, Mr. Winer. How are you?

A Fine, thank you, Mr. Cole.

Q After looking at your resume, it appears that you have been a consultant here for a number of years. Is that correct?

A Approximately 14 years, yes.

Q And your work as a consultant has been in various areas of the maritime industry?

A Yes.

Q It also sounds like you've testified over a hundred times? Would that be a conservative number?

A Seventeen times in court and quite a lot of times during arbitrations, yes.

Q But in arbitration, it's the same thing. You have to take an oath and you just talk to a judge rather than to a jury. Correct?

A Well, you talk to the panel.

Q To a panel. It's the same thing. You have three people and it's very similar to this?

A Not really. It's quite different in the informality and the rules and things regarding evidence and discovery. It's quite different.

Q But you testify and you have to convince three people that your version of what happened is the correct version. Correct?

A You provide the answers to questions that are given to you. Certainly.

Q And your credibility is at issue in those matters?

A It always is.

Q Just like your credibility is at issue in this case.

A Of course.

Q Now, you've also had the opportunity to have people testify in front of you. Is that correct?

A As an arbitrator?

Q Yes.

A Certainly.

Q And you've been able to watch how they testify. Correct?

A Yes.

Q And I assume that you have been used as an

expert because of -- one of the reasons is because of your past experience. Would that be a fair statement?

A I would consider that to be reasonable, yes.

Q Now, when did Mr. Chalos contact you about this case?

A I believe it was in June or July, 1989.

Q And what material did you review in preparing for your testimony in this case?

A I reviewed some of the documents which were provided by the ship, that is the course recorder and the bell logger. I reviewed certain transcripts of the witnesses, specifically the chief engineer, chief officer, Third Mate Cousins, AB Kagan, some of the others. I also reviewed the production by Peter Shizume, the CAOR simulation. I reviewed the charts. I reviewed a substantial amount of the vessel's blue prints, both the hull, machinery and piping blueprints. That's about it.

Q So, it sounds to me like you listened to Mr. Glowacki's testimony. Did you read all his statements or just the ones that Mr. Chalos provided you?

A I read parts of his testimony.

Q What parts? Was it the grand jury transcripts? Was it his statements to the troopers...

A Oh, no.

Q ...At the NTSB or was it his testimony in here?

A Only the testimony here.

Q Oh, so the transcripts that you reviewed have been only of the witnesses' statements here in Court?

A Yes.

Q So you haven't reviewed any of their other prior statements. Is that correct?

A I only recall -- no, I did not.

Q Mr. Chalos didn't send you any of that information or you didn't think it was important?

A I just reviewed the information that Mr. Chalos sent to me.

Q Okay. You read the CAOR simulation of the track line of this case. Didn't you?

A The report by Mr. Shizume?

Q No. The one by CAOR?

A Yes, I did.

Q And that came out before Mr. Shizume's report?

A Yes, it did.

Q You're sure about that? I'm not tricking you or anything. I just want to make sure.

A Well, all I recall about that is that it did not provide the track to the extent that was required. It was done by someone other than Mr. Shizume. The one I really paid attention and the one I used in preparing these exhibits were Mr. Shizume's.

Q Now, did you do a report in this case?

A No, I didn't.

Q Do you normally not do reports when you act as a consultant or is this not the standard?

A It's very normal not to prepare a report because actually this case, for me, has not come to a point of any conclusion. The case isn't over. I've provided my observations and opinions as the inspection of the vessel and the case progressed. That's all.

Q One reason that people do reports is so that the other side can see what you're going to testify to. Correct?

MR. CHALOS: I object, Your Honor.

THE COURT: Objection sustained, Mr. Cole.

Q Now, you work as a consultant out of New Jersey. Correct?

A That's where my office is, yes.
Q And Mr. Chalos works for a maritime law firm in New York. Is that correct?
A He works for a law firm. I believe it's maritime.
Q Mr. Russo works for Mr. Chalos or with Mr. Chalos in that firm?
A Yes, he does.
Q In fact, you're presently working on another case that Mr. Chalos is involved in. Correct?
A Yes, I'm working directly for another firm. Mr. Chalos' firm is also involved in that vessel loss, yes.
Q You're working on another case in which Mr. Chalos is involved in. Correct?
A That's correct.
Q What have you billed Mr. Chalos so far?
A Nothing.
Q When do you plan on doing that?
A After I've performed my assignment. When it's completed. And if a report is required at that time, I'll also submit it but no, I haven't billed at all and I haven't provided a report.
Q And part of your assignment is testifying in this matter?

A Well, it was more than that. It was taking the pictures, studying the pictures and my pictures are not that much different than those provided as exhibits, just to generally stay abreast of developments.

Q Part of your purpose was to testify. Correct?

A Yes.

Q Now, I'd like to talk a little bit about the San Diego trip that you went on with Mr. Chalos and Mr. Russo and Mr. Walker.

A Sure.

Q Do you remember that?

A Yes, I do.

Q You talked for a little bit about the rudder angles that were available up on the bridge. Right?

A Rudder angle indicators?

Q Indicators, right.

A Yes.

Q And the turn rate indicators?

A Yes.

Q You didn't talk about it, but there were gyro repeaters up on the bridge too?

A Yes.

Q Did you go through the captain's quarters at

all?

A I entered the captain's office with the rest of the group, yes.

Q Did you see any gyro repeaters in the captain's quarters?

A I didn't notice any, no.

Q Did you see any rate of turn indicators in the captain's quarters?

A No, I didn't.

Q Did you see any rudder angle indicators in the captain's quarters?

A No, I didn't.

Q So in order to see the rudder angle indicators that you mentioned, you'd have to be up on the bridge, either in the bridge or out on the bridge wing because that was the only place you can see 'em. Right?

A Yes. There were no rudder angle indicators in the captain's quarters at all which is typical actually.

Q Because people don't steer boats from the captain's quarters. Right?

MR. CHALOS: Objection, Your Honor.

MR. COLE: He volunteered it, Your Honor.

THE COURT: Objection overruled.

Q Isn't that right?

A Of course.

Q Now, I think yesterday, you were asked about whether you had an opinion about how long it took from the time the vessel Exxon Valdez had initial contact with the reef and when it came to a rest.

A That's correct, yes.

Q And you indicated yesterday that that would have taken less than one minute?

A About or less than a minute, yes.

Q If a vessel were traveling at 11.74 feet per minute, it would travel at about 19 -- well, let me see, traveling at 11.74 knots per minute, it travels at about 19 feet per second -- 18 feet per second. Is that correct?

MR. CHALOS: Your Honor, I'm going to object. I think Mr. Cole's numbers are convoluted. It can't travel 11.4 feet per minute and then 11. or 18.7 feet per second.

MR. COLE: I'll rephrase it.

Q If a vessel is traveling at 11.74 knots -- nautical miles per hour, it travels at 19.81 feet per second. Isn't that correct?

A Approximately, yes.

Q And you estimated that the distance that this

vessel traveled from the time it hit initially to where it came to rest was about 1100 feet?

A Yes.

Q Going at 19.81 feet per second, how long does it take to go 1100 feet?

A (Pause) Fifty-seven seconds.

Q Okay. Well, we know this vessel wasn't traveling at 11.74 feet nautical miles per hour when it hit and grounded finally because then people would have thrown to their feet. Right?

A No. Not at all.

Q They wouldn't have been thrown to their feet if it was...

A No.

Q ...if it became grounded -- if it had stopped and it was going 11. -- let's say 19 feet per second and it came to an immediate stop, it wouldn't have caused anybody any concern?

A Depends on what you mean by immediate stop. Saying within 2 or 400 feet?

Q No, I mean immediate stop because that's what you're assuming.

A No. No, it appears to me that it came to a stop after contacting the rock -- the second contact within a distance of about 2 or 400 feet.

It ground to a halt quickly.

Q But if you're right when you say it's around a minute, you're assuming that the average speed from the initial contact until when it came to a stop was about 19 feet per second. Correct?

A No, not really. Not at all, no.

Q Well, yesterday you gave an opinion that said if this was 1100 feet, it was a little less than a minute. Right?

A Yes.

Q And I just asked you going 19 feet per second, how long it would take to go 1100 feet and you just said what? Fifty-seven seconds. Right?

A In answer to your question, yes.

Q So you're assuming that the average speed from here, Point B to Point A is 19 feet per second. Right?

A I'd rather work it in real life the way the chart was and show you what I said.

Q Well, I'll give you a chance to do that, Mr. Winer, but isn't it true that you said yesterday that you gave an opinion that it was less than 50 -- less than a minute. Correct.

MR. CHALOS: Your Honor, I think Mr. Cole is badgering the witness. He's already said and that's

true, 57 seconds. He said 19 feet per second was the correct amount.

THE COURT: Why don't you get to the point, Mr. Cole?

MR. COLE: Okay.

Q (Mr. Winer by Mr. Cole:) If this vessel was traveling half that speed over the distance from Point B up there to Point A, 1100 feet, how long would it have taken to get from Point B to Point A?

A With what part of the vessel being at Point A and what part at Point B because my calculations took into account the time that the grounding was observed aboard the ship until the time the vessel stopped in the water at the second contact.

Q I want you to...

A That was my one minute or less.

Q That was your one minute or less.

A Yes.

Q But I would like to talk about the time from initial contact until the time it essentially became grounded, right. It stopped.

A Okay.

Q You said it traveled approximately 1100 feet.

A That's correct.
Q From the initial grounding to when it became grounded. Right?
A Yes.
Q For it to do that in less than a minute, it would have had to have been traveling at approximately 19 feet per second.
A Yes.
Q Now, if it was traveling one half that amount. Let's say 9.5 feet per second, how long would it have taken to travel 1100 feet?
A Well, that's easy. That's pure arithmetic. It would have taken twice as long if it were traveling at half the speed, but I have no indication that it was.
Q All I asked you is how long it would have taken if it was traveling at half the rate.
A Twice the time.
Q And that would be about two minutes. Correct?
A Yes.
Q Now, by saying that it took less than a minute, you're not taking into account any slowdown in the rate of speed that this vessel was traveling from the time of initial contact

and when it became grounded. Correct?

A I believe my testimony was from the time the ship felt the first impact until the time it ended up at the six fathom mark was about a minute.

Q How long then did it take from the time it initially -- is that what you're saying from the time it initially started until the end?

A No, I don't believe that the vessel personnel were aware of the initial contact at the time the vessel contacted the seven fathom mark. That was not their first indication.

Q Your calculation that this took less than a minute to occur, to go the 1100 feet does not take into account any slowdown in speed caused by the initial contact with the first rock?

A Absolutely. And the reason for that is I don't believe there was a substantial slowdown at all.

Q Okay. There was no slowdown at all after putting a four foot tunnel from the port -- from the -- four feet all the way to starboard, no slowdown at all and that's what your calculations took into consideration. Right?

MR. CHALOS: Your Honor, I think Mr. Cole is

mischaracterizes the witness' testimony. He said there was no substantial slowdown.

THE COURT: Want to rephrase your question?

Q You indicated that there was no slowdown -- no substantial slowdown?

A No substantial slowdown.

Q But your calculations as far as the minute don't take into consideration any slowdown. Correct?

A They don't take into account any substantial slowdown. No.

Q Now, you're fairly confident with your time 12:09 1/2 as being the final time that this vessel came to rest?

A Yes, I am.

Q And that's why you say that the initial contact was about a minute early...

A Yes,

Q And that would have been at about 12:08? Correct?

A Yes. Yes.

Q Now, if the ship's initial contact with the vessel -- with the reef had caused it to slow down and I'm just saying if, the initial contact would have been less than 12:08 1/2. Correct?

A Moderately less, yes.

Q And that would depend on the amount of velocity that was reduced by the initial contact. Right?

A If any, yes.

Q And if it was reduced in half, it would have been two minutes and then it would be 12:07 1/2. Correct?

A Correct.

Q Now...

A Wait a minute. I got to study that one again. You say the contact would have been 12:07 1/2? No, at 12:07 1/2, the vessel -- no matter where or when the contact was at 12:07 1/2, the vessel was where it shows here, just over the eight fathom point, so no matter what happened at 12:08 1/2 and onward times, at 12:07 1/2, the vessel was exactly here.

Q That's assuming that Mr. Shizume's chart is right?

A My entire exhibit here is based on Mr. Shizume's calculations and data, of course.

Q So, if he's off by a minute or two, then your whole charts would be off by a minute or two?

A Yes.

MR. COLE: I'm sorry. I want to get another chart here.

UNIDENTIFIED SPEAKER: You need help?

Q Do you remember talking about this chart right here?

A Certainly.

Q And this is a chart Mr. Shizume said that he made. Is that correct?

A That's correct.

Q There's a chart exactly like that in the CAOR model. Correct?

A I don't know. I'm not sure.

Q Would you like to see it?

A Sure.

Q The CAOR model is only different in that it places the 180 degrees down here and the 280 up here. Correct?

A Now, this is not the same chart.

Q Well, there's one additional simulation and that's Mr. Shizume's simulation but other than that, they're essentially the same.

A No. I analyzed this chart and found it to be in severe contradiction with the numbers provided. I didn't really pay too much attention to this. I focused my analysis on not only Mr.

Shizume's chart but the input that went to create that chart which is the same data -- this point here that shows reduced change in vessel's heading from 06 1/2 to 07 1/2 as portrayed here. You'll see the vessel position at 6 1/2, the heading is substantially the same as 7 1/2 here as compared to the change between 5 1/2 and 6 1/2. I've portrayed it from Mr. Shizume's numbers pictorially. This is merely another way to show it. I didn't rely at all on the CAOR charts simply because I had several questions about the actual points achieved on that chart. This ties in with this exhibit.

Q The CAOR chart though was done with the same computer that Mr. Shizume used. Correct?

A I'm not sure, but that particular graph you showed me, I recall having seen that and I recall having some serious questions about the points plotted on that chart.

Q But you never had any serious questions about Mr. Shizume's work. Is that correct?

A It's only a matter of taking the numbers from the printout to the chart. That's what I had questions about. When I took the numbers from Shizume's and compared it with his chart, I found

it to be right on.

Q Let me just ask you again. You have no serious concerns with Mr. Shizume's charts. Yes or no?

A As to the analysis, correct.

Q Now, this chart shows the change in heading, correct, of the vessel over time. Correct?

A Yes.

Q And this little blit (ph) that you have from here to here between 12:06 and 12:07, that's not showing this vessel making a left turn at that point. Is it?

A No. But the...

Q Yes or no.

A ...change in heading was derived by a calculated left rudder.

Q But it's not showing -- this vessel changing heading to the left. Correct?

A It just shows a reduction in the change in heading rate.

Q That's correct. It's not making a left turn so this shouldn't be interpreted like that. Correct?

A Oh, I didn't interpret it that way.

Q Now, decreases in rates of turn can be caused

by a number of things. Correct?

A Absolutely.

Q And one of them as you indicated is a counter rudder. Correct?

A Yes.

Q And another is coming into contact with the ground. Correct?

A Yes. Not only a counter rudder, a reduction in the rudder angle alone will do it.

Q A reduction in the rudder angle would do it.

A Sure.

Q And there's a shallowing effect that causes things to reduce the rate of turn. Correct?

A The shallowing effect will reduce the consequence of a given rudder at a given vessel speed. The shallower the water is, the slower the response of the vessel to a given rudder, yes.

Q Now, you indicated that after working the calculations, you had no serious reservations about Mr. Shizume's calculations. Is that right? His track line?

A I took his track line and I plotted those XY locations as well as the vessel heading on my exhibits.

Q Now, have you seen any pictures of the chart that was used on the Exxon Valdez that evening?
A I've seen the -- oh, the actual chart?
Q Have you seen the actual chart?
A Yes, I have.
Q And have you seen the 2355 fix on that chart?
A I've seen the 23 -- so-called 2355 location, yes, the depth mark, yes.
Q Does that look like 2355?
A Yes.
Q Now, is the dot that's plotted for the 2355 the same point as you have plotted up on this?
A What are you referring to, dot?
Q The fix at 2355. Right there.
A Okay. Yeah.
Q Does your line run through that?
A I'm not sure.
Q Well...
A Because I didn't compare this with mine. I merely set mine at the .9 miles from Busby and I realize that some of the testimony said that they were 1.0 miles off. There's even one reference to a 1.1 mile off. The reason I selected the .9 miles off is because that was the worst case that would have put him closer to the reef as compared

to the 1.1 mile off so I selected the .9 for that purpose.

Q Mr. Winer, would you look at that...

A Yes.

Q ...and see if your track line goes through that fix at 2355?

A Let's see. May I compare it with mine?

Q Sure.

A My track line is closer to Busby Island light.

Q In fact, it's about two tenths of a mile difference. Isn't it?

A Somewhat, yeah. That's the .9 miles from Busby light as shown in the simulation and as shown in some of the testimony.

Q And...

A I did make this chart prior to my having observed the actual ship's chart here in Anchorage.

Q But your chart disregards Greg Cousins' 2355 plot. Correct?

A My chart was based on the information provided to me for the purpose of making this exhibit.

Q And that was by Mr. Chalos. Is that correct?

MR. CHALOS: Objection, Your Honor.

THE COURT: Objection overruled.

Q That information was provided to you by Mr. Chalos. Correct?

A If you call simulation data information provided by Mr. Chalos, perhaps. But again, I did take the .9 miles off Busby as being the most dangerous location. That provided the worst -- with the greatest chance of encounter with Bligh Reef. That's why we selected that. And I did not, when I prepared this exhibit, have any access to the ship's actual chart.

Q Could you have called up Mr. Chalos and asked him to measure how far it was from Busby to the 2355 mark?

A Of course, I could. But what you can do to see how that location, that Cousins fix at 2355 would affect the contact with the ground would be merely to have moved the entire pattern of overlays two tenths of a mile to the left or to the west.

Q Well, let's talk about that. How fast -- how long does it take for a vessel going 11.74 knots, how far does it travel in a mile?

A A mile?

Q In a minute. At 11.74 knots, how far does it travel in a minute?

A Take 11.74 knots times 6080 divided by 60. A minute. (Pause) About two tenths of a mile.

Q Two tenths of a mile. I think on direct, Mr. Chalos asked you what happens when the vessel turns and you indicated it slows down. The greater the turn, the more it slows down. Is that correct?

A I think the answer was in response to a rudder, what happens to the vessel's velocity and I indicated that the rudder position does have an effect on the vessel's velocity depending on the degree of the rudder angle, yes.

Q And as the vessel begins to turn, it decreases the speed, correct, because of the crabbing of a vessel.

A Well, it's more than that.

Q But that's one of the reasons.

A No, the crabbing is caused by the turn.

Q And it decreases the speed of the vessel. Correct?

A The velocity of the vessel decreases, yes.

Q It decreases -- if you're making a hard right turn, it decreases more than maybe a 10 degree turn. Correct?

A Yes. We can see that here where it shows the

20 degree rudder. You can see the vessel positions on a minute by minute basis overlap each other which shows pictorially the serious reduction in speed at the larger rudders, yes.

Q Now, if you were to move this over, this track line over two tenths of a mile...

A Yes.

Q ...and you wanted to end up in the same place, you'd have to use a greater degree of rudder to do that, wouldn't you?

A I don't think so.

Q You don't think so?

A No.

Q Now, I'd like to talk for a minute about the LPU, load program up. You indicated that there's an override. Is that correct?

A Yes.

Q And that that can be used to place the vessel on top speed or top rpm within a matter of minutes. Correct?

A The instruction book says in a period of 60 to 120 seconds, yes.

Q But I assume that the instruction book also indicated that that's not the preferable manner in going up to a high rpm

A Generally, it's for emergencies only.

Q Now, you didn't run any of these track lines at 12:02 or 12:03, did you, assuming that the vessel would have turned at 12:02 or 12:03?

A Yes, I did.

Q And what happened?

A Well, you can see very easily how that translates at 12:02 or 12:03, all you have to do is take this exhibit -- you're talking about the original turn at 0001 1/2, Mr. Cole?

Q Uh-huh (affirmative).

A I'll keep this down here where it's handy. In order to find out what would have happened were this transposed to another time is shift this down from the original position. Let's see. Say three ship lengths which would be here and that would have moved the entire operation down to 12:04 1/2 instead of 12:01 1/2 by just transferring it down on the vertical axis. That would give you then the projected tracks and positions at these times plus a certain amount of minutes with respect to the bottom and with respect to the point of grounding, yes.

Q And if you did it at 12:06, what would happen?

A You could move the whole thing down five more

minutes, sure.

Q Can you show us what happens there?

A At 12:06?

Q Uh-huh (affirmative).

A Sure. Let's see. It'd be approximately here. That would be the tracks at the various rudder angles.

Q Okay. Thank you.

A You're welcome. (Pause)

(Indiscernible side conversation)

Q Now, if the Exxon Valdez maneuvering characteristics show that it turned at a slower rate than the maneuvering characteristics of the simulator, that would mean that it would take -- to get to the same point, you would have to turn at a greater amount. Correct?

MR. CHALOS: Your Honor, I object. Mr. Cole is mischaracterizing the evidence. What the maneuvering characteristics show is the rudder at hard right and hard left and that's what he's talking about and the way he's posing the question is at any angle and I'm objecting that there's no foundation laid for that.

MR. COLE: I'll ask him on this.

Q (Mr. Winer by Mr. Cole:) Are you aware that the maneuvering characteristics of the Exxon

Valdez at a full speed -- sea speed 35 degree rudder turn. fully laden, takes approximately 17 more seconds than on the simulated -- under simulated conditions? Are you aware of that?

A Yeah, I think I saw that in table 1 of Peter Shizume's report. I'm also aware of the fact that there was a modification made to the rudder subsequent to construction of the vessel. I'm not sure whether the turning data was recelebrated. It may have been; it may not have been but for the purpose of the track on table 2 on Peter Shizume's calculations, the fit between the actual courses and positions during the calibration period of those four fixes shown on table 2 come out very precisely.

I'm really not concerned or I wasn't concerned when I made these exhibits with how Shizume's calculated turns at full speed, full rudder correlated with those posted in the wheel house because I had really had no foundation on what basis those ones in the wheel house were created.

Q Well, if Captain Stalzer came in and testified that those were posted based on sea trials that they'd done with the Exxon Valdez itself, would you have set those?

MR. CHALOS: Your Honor, I object. Captain Stalzer did not say those were based on sea trials. He said those were computer-generated maneuvering characteristics.

MR. COLE: They were compared with the ones that were done with the sea trials is what he testified.

THE COURT: I'll let him answer the question.

A There was a major modification performed on the rudder after the sea trials.

Q And if Captain Stalzer said that they did sea trials after the rudder modification and that those were the ones that were posted, how would that affect your opinion?

A I haven't seen the data for that calculation.

Q Now, the charts that you showed -- the blow-up charts that show the fathom markers, right here? You indicated that Captain Hazelwood had plenty of room to maneuver behind this. Is that correct?

A I indicated that there was sufficient water for the ship to have moved aft without contacting the bottom with the exception of that five fathom mark, yes.

Q Did you find any evidence that that particular

chart was on the Exxon Valdez on the 23rd?

A No, I did not.

Q In fact, if the only chart -- well, if one of the charts that was there that -- where it was plotted was this chart, what is directly behind the six fathom mark? What marker?

A I can't see. This is too marked up. This chart has the same numbers I have here. Do you mind if I use this?

Q Sure.

A It says behind there "five fathoms and shoal about one ship length -- a little more than one ship length behind the point of grounding."

Q Now, when you saw the damage, you talked about the diagrams that the divers had drawn on the 24th. Is that correct?

A The 24th, the 25th and the 31st. yes.

Q What time did those divers dive that night?

A I don't think it showed on the drawing I have and if it did show, I couldn't read it.

Q Are you aware that the divers did not get out there until nearly 10 o'clock that evening?

A Of what day?

Q On the 24th.

A Well, that's fine because on the first reading

on the 24th as I sketched here, there was no distortion whatsoever.

Q And so the two low tides that had occurred, one at 8:30 that morning and one at approximately 8 o'clock that night, did no damage -- no damage that you saw? Is that what your testimony is?

A My testimony only was what the divers' report showed. It showed no damage at all to that portion of the turn of the bilge on the 24th and it showed an increasing amount of damage on subsequent dates, specifically the 25th and the 31st, yes.

Q Finally, you testified about, in this case, that you would have assumed that had the turns been made off of Busby Island, that corrections would have been made to avoid the ice that they had diverted away from in the first place. Correct?

A I don't believe I testified to that at all.

Q Well, when Mr. Chalos asked you about the turning, what would have happened at 2355, he asked you about why you extended these lines out the way you did. Do you remember that?

A Yes, I do remember that and my reply was that's -- those are the positions, the headings

and the XY locations shown in Peter Shizume's simulation.

Q And you also explained that you would expect a mate to change course in order to avoid the ice, didn't you?

A I don't think I mentioned avoiding the ice. I mentioned the fact that I would expect the mate would receive an order to provide a given rudder up to a given course for which purpose I sketched beyond the computer data on this exhibit an example of what the course would be.

Q In order to get that order, the mate would have to have the captain on board -- on the bridge. Correct?

MR. CHALOS: I object, Your Honor.

MR. COLE: That's what he said, Your Honor.

THE COURT: Objection overruled.

Q In order to get that order, the captain would have to be on the bridge, wouldn't he?

A I don't know.

Q Thank you.

(0330)

REDIRECT EXAMINATION OF MR. WINER

BY MR. CHALOS:

Q Mr. Winer, Mr. Cole asked you if you had

prepared a report and I think you told him that you did not, but you took pictures in this matter, did you not?

A I certainly did.

Q And you prepared charts?

A Yes.

Q Now, is there any doubt in your mind, sitting here today as to the time that this vessel ran aground?

A Based on the information provided and the exhibits made, they all fit together comparing them with the crew's statements which also fit together, the answer is no, I have no doubt.

Q And is it your opinion that the vessel struck the reef for the first time at about 8 1/2 minutes after midnight?

A Yes.

Q And came to a rest at about 9 1/2 minutes after midnight?

A Yes.

Q Do you have any reason to believe that Mr. Shizume's calculations that were made in this case are in error?

A No, I don't.

Q Do you have any reason to believe that they're

correct?

A Yes, I do.

Q What is the basis for that?

A All of the inputs -- every single input I have, the crew's statements, the actual plot, laying this out precisely according to the numbers provided by the simulation gives me a position of the turn; it gives me a time of grounding, it matches what the crew's statements as to when they heard the first contact with the reef and when it finally fetched up on the rocks. Everything puts together to support what was shown here.

Q You heard Mr. Greiner's testimony that this vessel ran aground in his opinion at 5 1/2 minutes after midnight?

A Yes, I did.

Q Do you agree or disagree with that?

A I disagree with that.

Q On what basis?

A Based on the fact that...

MR. COLE: Your Honor, I object. It's outside the scope of cross.

MR. CHALOS: I believe Mr. Cole brought that up, Your Honor, by suggesting that this perhaps this

vessel could have run aground in 5 1/2 minutes after midnight.

THE COURT: Objection overruled and you'll have another shot at the witness, Mr. Cole.

Q (Mr. Winer by Mr. Chalos:) Go ahead and can you state your opinion -- the basis for your opinion?

A Yes. The basis for my opinion is that at 5 1/2 minutes after midnight, this vessel was quite far in ship length and parts of miles away from shallow water. In fact, it was in water to the depth of about 240 feet, far from being able to touch the ground.

Q Have you had the opportunity to observe how Mr. Greiner came to the conclusion that the vessel ran aground at 5 1/2 minutes after midnight, did you not?

A Yes. I was provided with a copy of his table showing his track clock.

Q Do you have an opinion as to the conclusions that he reached or how he arrived at the conclusions?

A Yes.

Q What is that opinion?

A It seems as if he worked backwards from the

time he thought or assumed or was advised that the vessel went aground, he worked from that point backwards to determine the track upstream instead of doing what Mr. Shizume did here and finding four significant and separate fixes to provide the input for his simulation and then the extrapolation from 1155 out to the courses shown.

Q Do you have an opinion as to the accuracy of working backwards in these type of matters?

A I certainly do.

Q What's that opinion?

A It makes the simulation highly inaccurate because you're starting with the conclusion.

Q Now, Mr. Cole asked you whether crew members would be falling over if the vessel was traveling at 19.74 feet per second and came to stop within a period of time.

A Yes.

Q And you said that you didn't believe that would happen?

A I did.

Q Can you explain why?

A Certainly. If the ship is traveling at about say 11 1/2 knots and comes to a complete rest in say, 400 feet, it would be a deceleration in the

order of one foot per second per second. Under the same decelerations, if you were in a car say traveling at 60 miles an hour on an open road and you decelerated that car at one foot per second per second, you would proceed for about 7,700 feet or a mile and a half before you came to stop. You'd hardly notice it.

Q On what basis do you say that the vessel came to a stop within a 400 foot distance?

A On the basis of the evidence of where the significant resting point of the ship was in the area of number 2 and number 3 hatch -- or number 2 and number 3 tank. That being the distance from that damage area or resting area to the point of striking in the bow.

Q Could you describe how you in your mind's eye see this vessel striking the first reef and then going aground over this 1100 feet distance?

A Certainly. The vessel struck on the bow and rode completely over the rock, causing that tunnel at the mid ship portion and then veering off to the starboard side due to the change of the heading of the vessel. The velocity, as I mentioned before in my estimation, was not substantially reduced and the vessel proceeded to

the six fathom mark where it struck the higher rocks and came to a very quick halt.

Q Could you demonstrate that on the exhibit in front of you for the jury?

A Yeah.

Q What's the number of that exhibit?

UNIDENTIFIED SPEAKER: BV.

Q You can step up there...

A The calculations and the opinion which I formed from those calculations show the vessel coming upon the 7 fathom mark at about 08 1/2.

Q Eight and half....

A Eight and a half minutes after midnight. It shows the heading as I've positioned the model here. It shows the 7 fathom mark passing underneath which would be in the way of the number 5 starboard tank and the slop tank and then it shows the vessel at that point when the seven fathom mark was in the way of the number 5 tank and the starboard slop tank, the bow of the vessel was almost upon the 6 fathom mark shown here so within less than a half of a ship length, after passing over the first impediment, the vessel actually struck the 6 fathom mark in less than half a ship length.

Q Okay. You may resume your seat.
A Thank you.
Q Now, finally Mr. Cole asked you if your simulations were moved over two tenths of a mile, would that have significantly affected any of the conclusions you reached with respect to the rudder angle used in these various simulations?
A Not significantly, no.
Q When you say not significantly, what do you mean?
A It would be less than a minute in the time of contact if I moved it over.
Q Let me ask you this. If you had moved it over two tenths, would the distance between the grounding site and the point where the vessel would have missed Bligh Reef at a different angle -- rudder angles were used differ at all?
A Not significantly.
Q When you say not significantly, what do you mean?
A Less than half a ship length.
Q In other words, if you moved your track line over two tenths further from Bligh Reef and ten degrees of right rudder were put on at that particular time, this vessel at 2355 -- let me

start again. If you moved your track line two tenths of a mile to the west of Busby Island light, where you have it in your simulation, and you used 10 degrees of right rudder at that point at 2355, she would have still missed Bligh Reef by over a mile and a half, would she not?

A Yes, the missing of Bligh Reef by the transfer, two tenths of a mile to the west would have not changed the distance it missed Bligh Reef at all.

Q Okay. Now you called the .9 mile the worst case scenarios. What do you mean by that?

A I call it the worst case scenario because when you bring the track line of the ship -- you simulate the track line here, the further to the east she is, the more likely she would be to strike the reef. The further to the west you bring it -- if you bring it far enough west, she'll miss the reef completely, so given the three numbers, the .9, the 1.0 and the 1.1, I selected the one which gave the worse scenario which gave the need to provide by the vessel the greatest evasion of the reef. The most dangerous situation was the .9 and that's the one I worked on here.

Q Sir, is there significance in your mind to the fact that the simulation is two tenths of a mile different than the fix that was plotted on the chart?

A None whatsoever.

Q Now at 12:35 when the engine was restarted was the LPU engaged at 12:35 a.m.?

A No, it was not.

Q Do you have any reason to believe that the vessel's heading started to change at any time after one and a half minutes after midnight? In other words, Mr. Cole asked you to assume three minutes after and four minutes after midnight. Do you have any reason to believe that the turn started at three or four minutes after midnight?

A No, on the contrary. I think the course indicator shows clearly that the turn started and the course commenced to change and the heading changed at one and a half minutes after midnight.

Q Okay. Now, Mr. Cole asked you about a command -- the mate given a command. In your opinion, based on your experience, does the mate on watch give commands as far as the rudder and the heading of the vessel?

A The mate on watch has authority, of course, to

command a helmsman to do whatever he wants.

Q And if that mate has the con, isn't he the man that gives the orders?

A Absolutely.

MR. CHALOS: No further questions.

(0780)

RECROSS EXAMINATION OF MR. WINER

BY MR. COLE:

Q Well, if you didn't see any indication of this vessel turning at 1206 or 1207, did you see any indication of this vessel turning at 11:55?

A It didn't turn at 11:55. The course recorder shows clearly it continued on 180 at 11:55.

Q And it didn't turn on 11:56 either, did it?

A No, it didn't.

Q There's no indication that this vessel turned at 11:57, did it?

A No, there isn't.

Q And there's no indication it turned at 11:58, is there?

A No, there isn't.

Q And there's no indication that it turned at 11:59,is there?

A Same answer. The course recorder shows a

course of about 180.

Q Excuse me. All I asked for was a yes or no answer. Isn't it? Isn't that true?

A No, that's true.

Q So all these are just hypothetical. Correct?

A No, they're based on the course recorder. They're not hypothetical.

Q They're hypothetical that that the vessel will turn at 11:55 but there's no indication that it turned at 11:55.

A The plots showing the turns at 11:55? Of course, they're hypothetical. They're just there to show what track the vessel would have made had the turn been executed as described in the testimony.

Q And if they had turned at 12:06, they would have shown what the turn would have been at 12:06. Right?

A The course recorder doesn't show that.

Q But it doesn't show the 11:55 turns either, does it?

A No. This just shows and I'm sure the simulation -- text of the simulation shows that had these rudder positions been achieved at that time, this is the track the vessel would have

gone on. That's all.

Q Now, you say that all the evidence that you reviewed that this track line was consistent with that, with the track line that was developed by Mr. Shizume. Correct?

A Yes.

Q And you say it was because it was based on four fixes. Correct?

A That was the calibration of the simulation.

Q But you disregarded one of those fixes, the 2355 fix. Correct?

A No.

Q Well, your track line doesn't go with the fix on the chart itself, does it? The 2355 plot? Does your track line go through that?

A No, the simulation takes into account the vessel being abeam Busby at .9 and I indicated on all of the labels for every single track.

Q And you indicated that that doesn't make any difference?

A I worked from the simulation positions on the positions used by Dr. Shizume, purely. When I made these, as I mentioned before, I took into account various descriptions of how far abeam Busby the ship was. I used the .9 miles.

Q Now, I would like you to assume that you've got a vessel -- you have your little ship there in your pocket?

A Yes, but it's not to that scale.

Q It's not. Which scale is it to?

A Just to the...

Q This one?

A Yes.

Q Well, I bet my pen comes pretty close.

A Oh, a calibrated pen.

Q Would you show the jury what the track line would be if you left -- if you were over .2 miles and you went at the same speed and you did the same turn?

A We can do that very simply by taking the overlay and shifting it two tenths of a mile to the west.

Q Well, I'd like to see you do it on this one.

A I'd rather do it the other way because you get an interference there and I'll show you why. What you're doing is you're taking this curve and shifting it over, so what you'd have to do is take each one of these and move each one of these over so what in fact that would do is it would move this one two tenths of a mile over as I

described in my answer to Mr. Chalos.

Q It would also move it up, wouldn't it?

A Absolutely not.

Q It would not move it up whatsoever?

A No.

Q Would you show the jury how that happens?

A Sure. If you assume that your vessel position at one and a half minutes after midnight is two tenths of a mile to the west, that would put every single one of these ship positions two tenths of a mile to the west. It wouldn't affect the north and south at all, Mr. Cole.

Q It wouldn't affect it at all?

A No.

Q Okay. Thank you, Mr. Winer.

MR. COLE: No further questions of this witness.

THE COURT: You're excused. We'll take our break, ladies and gentlemen. Don't discuss this matter in any fashion among yourselves or with any other person. Do not form or express any opinions.

THE CLERK: Please rise. This Court stands in recess and recall.

(Off record - 10:25 a.m.)

(On record - 11:14 a.m.)

(0983)

MR. CHALOS: Mr. Andre Martineau.

(Oath administered)

A I do.

PHILIP ANDRE MARTINEAU

called as a witness in behalf of defendant, being first duly sworn upon oath, testified as follows:

THE CLERK: Sir, would you please state your full name and then spell your last?

A Andre Philip Martineau, M-a-r-t-i-n-e-a-u.

THE CLERK: And your current mailing address, sir?

A 30 William Fairfield Drive, Wenham, Massachusetts.

THE CLERK: Could you spell the city?

A W-e-n-h-a-m.

THE CLERK: And your current occupation, sir?

A Master mariner.

THE CLERK: Okay.

DIRECT EXAMINATION OF MR. MARTINEAU

BY MR. CHALOS:

Q Mr. Martineau, who are you employed by, sir?

A Exxon Shipping Company.

Q How long have you been employed by them?

A About 18 years.

Q I want to call your attention to September of 1986. Do you recall what you were doing with Exxon at that time?

A I was port captain.

Q And was that an administrative job or at sea?

A It was administrative job.

Q Let me show you something, sir

THE COURT: Sir, would you take the microphone off that location and put it with your right hand side?

A On my right hand side?

THE COURT: Your right hand lapel. Up high so we can pick you up a little better. Thank you.

A You're welcome.

Q Mr. Martineau, let me hand you what's been identified as defendant's exhibit number B and ask you -- just a minute, Let me show Mr. Cole that for a second. And ask you if you've seen this before, sir?

A Yes, sir, I have.

Q And when was that?

A September 18th, 1986.

Q Did you receive this in your capacity as Exxon manager?

A Yes, sir.

Q What, if anything, did you do with this after

you received it?

A I think I attached a short memo to it and sent it out as a fleet letter to the fleet because it bore some operational significance.

Q One second. (Pause) Mr. Martineau, I'll hand you now what's been marked for identification as exhibit BY and ask you if you recognize that, sir?

A Yes, that's the attached memo here.

Q When you say attached, would you explain what you mean by that?

A Well, this is a cover letter that more or less or briefly explains what the attached letter is all about and it just says just to discuss it with the officers on board the vessel.

Q And you would have done that in the normal course of your business?

A Yes.

Q And that would have, I presume, that's intended to go through all the vessels involved in the traffic trade?

A Yes, it went out to the entire fleet at that time.

Q Thank you, sir.

MR. CHALOS: I don't have any other

questions. Your Honor, I would offer Exhibit BY into evidence at this time.

MR. COLE: No objection.

THE COURT: BY is admitted.

EXHIBIT BY ADMITTED

(1160)

CROSS EXAMINATION OF MR. MARTINEAU

BY MR. COLE:

Q Captain Martineau, did you review the Coast Guard regs before you sent that out?

A No.

Q You didn't?

A No, sir. I didn't.

Q You didn't think it was important to find out what the actual regulations were before you sent it?

MR. CHALOS: Your Honor, I'll object. The only purpose of this witness is to say that he received this and sent it out as a fleet letter. His opinions or what he thought about it, I think, are totally immaterial and irrelevant.

MR. COLE: I believe that I should be able to go into the surrounding circumstances which he sent out this letter. It's relevant to why he did it and whether someone would rely on it.

THE COURT: Objection overruled.

Q (Mr. Martineau by Mr. Cole:) You didn't even contact the Coast Guard before you sent out this letter?

A No, because I've been involved in this sort of doing away with pilotage up there with the Coast Guard for a while. This really was just information and didn't go out as company policy; it was just purely for informational purposes only.

Q So, it wasn't the company policy to follow that? The information that was sent out in that letter?

A Well, we followed it in that we didn't have any Prince William pilotage available and other masters so other masters that didn't have the pilotage were allowed to go into Prince William Sound without pilotage.

Q Okay. If I could just take a look at this. So this only affected vessels without pilotage, correct?

A I don't know. It's ambiguous.

Q Maybe you could read the first sentence and explain to me why that's ambiguous.

MR. CHALOS: Your Honor, I'm sorry, but I once

again asked this gentleman here to show that he sent the letter and that's all. Now if he wants to get into his opinion as to what it means, it's totally outside the scope of direct examination.

THE COURT: Objection overruled.

A "Effective September 1st 1988, the USCG requirement for daylight passage in Prince William Sound for vessels without pilotage has been waived."

Q It says without pilotage, correct?

A That's what it says.

Q Is that ambiguous to you?

A Well, I mean if you go back into the background of this thing here...

Q I'm just asking you yes or no.

MR. CHALOS: Your Honor, I'd let him explain. If he can explain his answer and needs to, I think he's entitled to.

THE COURT: Can you answer the question yes or no?

A All right. Yes.

Q That's ambiguous to you?

A No, no. It's not ambiguous. The answer to your question is yes. It's black and white. It says it requires pilotage -- vessels without

pilotage.

Q And the second sentence reads "all non-pilotage vessels will be able to transit from Cape Hinchinbrook to the pilot station for all hours as long as visibility remains at two miles or greater." Correct?

A That's correct.

Q Is the words all non-pilotage vessels ambiguous to you?

A No.

Q Now a non-pilotage vessel is a vessel that doesn't have a mate or a captain with pilotage for that area, correct?

A That's correct.

MR. COLE: Nothing further.

(1340)

REDIRECT EXAMINATION OF MR. MARTINEAU

BY MR. CHALOS;

Q Mr. Martineau, since we've gone into this, you said that when you received this memorandum -- first of all, why did you get this from Alaska Maritime Agency rather than the Coast Guard?

A Well, Alaska Maritime is just keeping us informed of what was happening in the port. That's all.

Q Was there any duty imposed on you to go directly to the Coast Guard...

A No.

Q ...and see what they said?

A No.

Q You also said that this wasn't -- you didn't believe this was extremely novel, new, unique or...

A No.

Q ...important. Why is that sir?

A The Coast Guard was in the process of doing away with pilotage up in Prince William Sound.

MR. COLE: Objection. Hearsay. Relevance.

MR. CHALOS: Your Honor, he asked the question as to why and I think he's entitled to answer it.

THE COURT: I'm going to sustain the objection unless you can lay a foundation and show it's not hearsay.

Q (Mr. Martineau by Mr. Winer:) Well, you were involved, I think you said, in matters of Prince William Sound pilotage. Is that correct?

A That's correct. I was, at one point in time, I filled out some sort of a form for the Coast Guard as to whether we thought or I thought that we needed pilotage in Prince William Sound.

Q And you were requested to fill out a form to that effect?

A Well, they sent it to the office and I filled it out.

Q When you say we, it wasn't you personally; it was directed somehow to your desk?

A That's correct.

Q By the Coast Guard?

A I believe it was a Coast Guard form.

Q And what did you tell them?

A I told them that I didn't think we needed to maintain pilotage in Prince William Sound.

Q Why is that, sir?

MR. COLE: Objection. Relevance.

MR. CHALOS; Your Honor, Mr. Cole opened the door here as to what this means and all the rest of the background and circumstances. He directly used that term, circumstances, so I think I'm entitled to follow up and show what the circumstances was. Secondly, with regard to any hearsay, it's not offered as hearsay; it's an exception because I want to show only for the purpose of what this witness did, not for the truth of the matter asserted, so I think it's certainly an exception.

THE COURT: I'll rule on the relevance

objection. I'm going to overrule the relevance objection. It goes to one of the elements of the defense. As to the hearsay, I haven't heard an objection on the hearsay and I'll rule when that's made.

Q (Mr. Martineau by Mr. Chalos:) And what did you do, sir, on this form? How did you fill it out?

A I don't remember how I filled it out. I just remember filling it out and what I stated in there was that in my opinion, they didn't need to maintain pilotage up in Prince William Sound.

Q Why sir, in your opinion?

A Well, because it's a very easy area to navigate. It's not very treacherous. The LORAN is excellent as far as navigational aids are concerned and the mountains and rugged coastline provide excellent radar reception.

Q Did you have further discussions with the Coast Guard after sending out that form?

MR. COLE: Objection. Hearsay.

MR. CHALOS: I didn't ask what they were; I just simply asked if there were discussions. I don't think I'm asking -- it calls for any kind of an answer except yes or no.

THE COURT: Okay. As long as the witness will confine himself to a yes or no answer. Objection overruled.

Q Did you have other discussions or correspondence with the Coast Guard? Do you remember?

A I can't remember.

Q Now, Mr. Cole asked you just a couple of questions about the letter itself or the document itself and you said they were not ambiguous. Taking the document as a whole, reading the whole thing, would you agree or disagree or do you have an opinion as to its ambiguity -- whether it's ambiguous or not?

A Well, my opinion is that it would be ambiguous if you were involved in pilotage in Prince William Sound. Here they're saying that for non...

MR. COLE: Objection. Hearsay.

THE COURT: When you say they're saying, what are you referring to? The letter that's in evidence?

A Yes, sir.

THE COURT: As long as the witness can confine himself to what the letter content is and not what

somebody else has told him.

MR. CHALOS: That's fine.

Q Your understand that to be the case, sir?

A Yeah.

Q Okay, would you please finish your answer then?

A Well, when you talk about pilotage vessels in Prince William Sound, at that point in time there were so many vessels that were running up there without pilotage that there wasn't -- didn't seem much point in maintaining the pilotage requirements up there. So, whether you had pilotage or not or didn't have pilotage, you more or less went through the same procedures in navigating in the Sound with the exception of non-pilotage vessels had to report every ten minutes.

Q Where, sir?

A Point -- Montague Point.

Q From Montague Point on up through the pilot station?

A Normal reporting. And it didn't -- the letter didn't say you needed a master on the bridge either.

Q What about the pilot station? Did it say it

have to be at Bligh Reef or was it still at the normal Rocky Point pilot station?

A The letter didn't state anything that I recall.

Q Thank you sir.

MR. CHALOS: I don't have any other questions. (1573)

RECROSS EXAMINATION OF MR MARTINEAU

BY MR. COLE:

Q Captain Martineau, you didn't think that there should be pilotage because you couldn't imagine an accident happening in that area. Correct?

A No, that's not true.

Q No, it isn't? Well, you thought it was an easy area to navigate. Correct?

A Relatively easy compared to other areas that we navigate in.

Q Have you navigated in and out of Prince William Sound yourself?

A Yes, sir.

Q And did you ever strike Bligh Reef?

MR. CHALOS: Your Honor, we're getting as far afield from the original purpose of this testimony as I can imagine.

MR. COLE: I'll withdraw it, Your Honor.

Q Now, you said that this letter is ambiguous taken in context. Where is anything in there that says that the rules for a pilotage vessel have changed?

A I'll have to agree with you. It doesn't say that.

Q Thank you.

THE COURT: May the witness be excused from further participation?

MR. CHALOS: He may be.

THE COURT: Mr. Cole?

MR. COLE: Yes.

THE COURT: You're excused, sir. Call your next witness.

MR. CHALOS: Your Honor, at this time, the defense calls Captain Walker -- Shiras Walker.

(Oath administered)

A I do.

SHIRAS MICHAEL WALKER

called as a witness in behalf of the defendant, being first duly sworn upon oath, testified as follows:

THE CLERK: Sir, Would you please state your full name, and then spell your last name?

A Shiras Michael Walker, W-a-l-k-e-r.

THE CLERK: Spell your first name?

A S-h-i-r-a-s.

THE CLERK: And your current mailing address?

A 7969 Little Fox Lane, Jacksonville, Florida.

THE CLERK: And your current occupation?

A Bar pilot.

THE COURT: Would you move that microphone over to your right lapel, please.

DIRECT EXAMINATION OF CAPTAIN WALKER

BY MR. CHALOS:

Q Captain Walker, what is a bar pilot?

A A bar pilot is a person that directs the movement of a vessel from the sea buoy into docks in a river setting.

Q Where do you presently work?

A In the St. John's River in Jacksonville.

Q In Florida?

A Florida. Uh-huh (affirmative).

Q How long have you been a pilot down there?

A I've been there since October '85.

Q What were you asked to do in connection with this case?

A I was supposed to give my opinion on Captain Hazelwood's actions from the time he boarded the Exxon Valdez, on that night, up until the time she went on the reef.

Q Let's step back for a second. What is your educational background?

A I graduated from King's Point in 1969.

Q U. S. Merchant Marine Academy?

A Yes.

Q Did you receive a degree?

A Yes. Bachelor of Science and Medical Science.

Q And did you receive a license at that time?

A Yes, I did. A third mate's license.

Q Would you briefly describe your employment background for us?

A As soon as I graduated from the merchant marine academy I joined the Master, Mates and Pilot's Union.

Q What is the Master, Mates and Pilot's?

A It's a union of ship's officers.

Q Yes. Go ahead.

A And proceeded to ship out on two freighters and then in October of 1969 I came ashore on vacation and when I went back to the union hall to get jobs, Viet Nam was winding down at that time, and they were very few and far between, and I was so low on the seniority poll that it looked like I was going to stay around for a long time. So in January of 1970 I started calling the oil

companies and asking them if they had any jobs.

Q And did you ultimately get a job?

A In January of 1970 I contacted City Service Oil Company and they said they had two jobs. One was a -- I think a one or two month job and the other one was a permanent job. But to get the permanent job I would have to take a grain ship to India. So I took the grain ship to India.

Q The one that ship was a third mate?

A Yes.

Q How long did you work at City Service?

A From 1970 until approximately January 1st, 1976. The City Service people became known as Inter-Ocean Management Corporation. They're basically the same people they just changed the name of the company.

Q Between 1970 and 1976 did you work on oil tankers?

A Exclusively, yes.

Q Did you increase your license from third mate to second mate?

A Yes. By 1976 I worked all the way up to chief mate.

Q You were sailing as a chief mate in 1976?

A Yes.

Q What kind of vessels were you sailing on between 1970 and 1976?

A In 1970 I started out on about an 18 to 20,000 gross ton tanker, and in 1975 I was selected for the VLCC program.

Q What is a VLCC?

A Very Large Crude Carrier.

Q What does that mean?

A Well, it's anything, I would say, over 200,000 dead weight tons.

Q When did you first go on the VLCC?

A In April 1975 I was assigned to the Massachusetts in Bethlehem Steel's shipyard at Sparrow's Point.

Q How big was the Massachusetts?

A She was 265,000 dead weight.

Q Now you worked on the Massachusetts from, when, 1975 to 1976?

A Just about the end of 1976, yes.

Q As a chief mate?

A Yes.

Q When did you obtain your master's license?

A Early 1977.

Q And when did you obtain your first master's job?

A August 1977.
Q What ship did you become master of?
A The New York.
Q How big was the New York?
A She was a sister ship to the Massachusetts, 265,000 dead weight.
Q Now, have you ever sailed in Prince William Sound?
A Yes, I have.
Q When did you first come up to Prince William Sound?
A Right around August 1977.
Q Your first job as a captain?
A Yes.
Q Where did you come from?
A I obtained my first master's job in Singapore. I moved up from chief mate to master in Singapore, and I took the ship from Singapore to Japan. We went to the shipyard for about one week and then we left from there to come to Valdez.
Q This was in -- I think you said August 1977?
A That's correct.
Q You were the first ULCC to come up to Valdez?
A Yes, we were. DLCC. The ULCC is over

400,000.

Q I beg your pardon, you're right.

Now, when you came up to Valdez the first time did you have pilotage?

A No, I did not.

Q What was the procedure in 1977?

A 1977, the very first time we came in there, the pilot came on board, I believe it was in a helicopter, and landed on deck.

Q At what point? Geographic point?

A Rocky -- not Rocky Point. Right at Cape Hinchinbrook.

Q And the pilot would then take the ship into the berth at the Port of Valdez?

A Instead of going to the berth that time we proceeded up to Knowles Head Anchorage, because we had to pass inspection. We didn't go to the berth for about another week.

Q All right. Now, how many -- how long did you work in the Valdez trade, if you will?

A It's difficult to tell you, but basically from 1977 to 1985, a few years in there I was on the offshore -- I would go foreign.

Q What do you mean by going "foreign"?

A Worldwide. We operated a tramp tanker service

worldwide.

Q How many trips would you estimate you made into Valdez over the years?

A It would just be a guess on my part, but probably between 25 and 30 trips.

Q These trips are all on VLCC type ships?

A Nothing under 165,000 gross tons -- dead weight tons.

Q The majority of the trips were on VLCC's over 200,000 tons?

A Yes.

Q And all these trips you made you were the captain of the ship?

A That's right.

Q Now, when did you first obtain your pilotage endorsement for Prince William Sound?

A Approximately 1979.

Q How many trips had you made into Prince William Sound by the time you got your pilotage?

A Six trips.

Q That's all you took was six trips?

A That's correct.

Q And how did you get you get your pilotage endorsement?

A Studied the VTS manual and the chart and went

down to the Coast Guard in Jacksonville, Florida, and they sent the chart -- they sent the forms and the -- well, I guess the paperwork and the questions that they wanted me to answer from Valdez to Jacksonville. And I took the exam in Jacksonville, Florida.

Q This exam that you took, was that a written exam?

A Yes. Partly written, and you had to draw the Prince William Sound chart.

Q Did this exam test your ability to handle a vessel in Prince William Sound?

A No.

Q Well, what did the exam test?

A A lot of book work, the VTS manual, the aides to navigation, the characteristics of the aides to navigation, and if you could draw the traffic separation scheme in the chart. Know where the anchorage is.

Q And know, for instance, where Bligh Reef was?

A Yes.

Q The navigational aides for Prince William Sound, how would you characterize them? Are there a lot of them?

A Very few.

Q So you only had to know a few navigational aides and where Bligh Reef was?

A That's -- well, a little bit more than that, but basically.

Q And the VTS system.

A There was a lot of -- you had to know all the little bays and inlets by name. It was kind of a make work exam.

Q Now, how many times did you travel into Prince William Sound before you got the pilotage endorsement?

A Well, about six round trips.

Q And in those round trips did you always pick up the pilot at Cape Hinchinbrook?

A Yes.

Q Were the regulations such that you were required to drop off the pilot at Cape Hinchinbrook going out?

A Yes.

MS. HENRY: Objection, Your Honor.

MR. CHALOS: Your Honor, this goes to the regulations as they existed, this whole pilotage issue, and he's got personal knowledge of what was going on.

THE COURT: I'll overrule the objection, Mr. Henry.

Q (Captain Walker by Mr. Chalos:) Captain Walker, did you, in those six instances, drop the pilot off at Cape Hinchinbrook on the way out?

A The very first time I did.

Q How about the other time?

A No.

Q Where did you drop the pilot off?

A Roughly around Busby Island.

Q Was that the practice at that time?

A I don't know. It was my practice.

Q Were the actions in contravention of the regulations?

A Yes, they were.

Q I'm sorry?

A Yes.

Q Now, you've been asked to appear here as an expert for the defense, have you not?

A Yes, I have.

Q Are you being paid for your appearance here?

A Yes, I am.

Q What is the fee arrangement that you have with us?

A $500.00 a day plus expenses.

Q Now, sir, on your master's license you have radar endorsement?

A Yes, I do.

Q What is a radar endorsement?

A It used to be a 20 minute exam that would qualify you to be a radar observer.

Q That's changed in recent years, has it not?

A Yes, it has.

Q Now it's a -- you have to go to a school and you have to observe the radar?

A Right. But it's basically the same thing, it's just that they take you into a little bit more detail and give you a more detailed exam -- an on the job exam you might say.

Q In your opinion would you expect someone who has been through the courts and has gotten the radar endorsement to be able to identify targets on the radar screen?

A Well, he couldn't say, "Yeah, that's the North Slope or that's the Benicia.

Q I mean, be able to handle the radar and plot on the radar and pick up?

(2260)

A Oh, surely, surely. That was the whole purpose of the exam.

Q All right. You mentioned that you've been asked to critique Captain Hazelwood's actions in

this matter, am I correct?

A That's correct.

Q What did you review before you appeared here today?

A The National Transportation Safety Board video tapes of, I believe, Mr. Cousins and Mr. Kunkel. Then we went to the grand jury -- I think they call them "depositions" of Kunkel, Kagan, Cousins, Beevers -- I think that's about all the people. And then I have the course recorder charts, the engine-room Bell Logger, the deck lock pages that were relevant, some CAOR statistics on the vessel maneuvering capabilities, and I probably left out a few documents. But that's the majority of them anyway.

Q Did you look at charts of Prince William Sound?

A Yes, at charts.

Q How about the vessel? Did you instruct the vessel?

A Yes.

Q When did you instruct the vessel?

A About the first week in September.

Q Where was that?

A In San Diego.
Q Did you review any trial testimony?
A Yes, I have.
Q Whose trial testimony did you review?
A Mr. Kunkel, Mr. Kagan, Mr. Cousins, the female ordinary seaman.
Q Maureen Jones?
A Maureen Jones. I believe that's about all.
Q All right. Let's speak about your opinion. There's been some testimony in this case that Captain Hazelwood reboarded his vessel in Valdez approximately 45 minutes before they left the dock. Do you have any opinion as to whether that was good, bad, indifferent?
A It's good. I have no problem with that, no. In my company, in the early stages of my career it wasn't unusual that the captain went down with the gangway and came back up with the gangways.
Q What does that mean?
A He was the first one ashore and the last one back on board.
Q So you find nothing unusual about Captain Hazelwood returning to the ship 45 minutes before sailing?
A Not at all.

Q Have you read testimony about the fact that the sailing board was changed?

A Yes, it was moved back one hour.

Q What does that mean?

A That means that they were finishing cargo an hour earlier than they anticipated.

Q Now, did you review any testimony with respect to the undocking process of this vessel?

A Only to the fact that Mr. Cousins was back aft and where the various people were. Mr. Kunkel was on the bridge.

Q Do you have an opinion of Captain Hazelwood's actions during the undocking process?

A I have no fault with Captain Hazelwood's procedures.

Q Now, you read testimony about the vessel's transit through the Port of Valdez?

A Yes, I have.

Q Do you have an opinion as to Captain Hazelwood's actions during the transit through the Port of Valdez?

A No, they were perfectly normal.

Q When you say "perfectly normal" what do you mean?

A I understand there's been some business here

about whether or not he should have left the bridge. And it's my experience, even as a pilot now that about 25% of the U. S. ships that I piloted in and out of the St. John's river the captain is down below. We are in much closer waters than they ever dreamed of being up there.

Q Well, could you explain that to me?

A Well, the maximum width we have in the St. John's River is 1100 feet. The narrowest point in Prince William Sound is 3,000 feet. So there's quite a discrepancy. Our average channel is 600 feet wide.

Q There's been some testimony here that Captain Hazelwood left the bridge in the Port of Valdez right on through the Narrows up through Potato Point. Do you have an opinion as to those actions?

A I found no fault there.

Q What is the basis for that?

A There is no regulations in saying where he has to be. On the bridge, or he could be anywhere he feels like being.

Q Do you have an opinion as to whether the waters in the Narrows are dangerous waters or not?

A In the Narrows, don't forget, they have the speed limit there so the ship isn't going very fast. They're only going about six knots.

Using the two scenarios of what could happen in there, one would be an engine failure. As long as the ship had its steering gear, we would be in good shape. The VLCC's coast quite a long ways. As long as he had his rudder he'd be in good shape.

The other factor is that he lost his steering. Well, there's an escort tug that's assigned to each vessel, and in case she lost her steering the escort tug would come up on the stern and put up two lines, one on each quarter, and be used as a rudder, at least as effective as the ship's rudder.

Q Do you know Pilot Murphy?

A Yes, I do.

Q What is the nature of your familiarity with him?

A He's been a pilot on my vessel numerous times. He is also the pilot -- the first pilot I took in Valdez that very first time.

Q Do you have an opinion as to Captain Murphy's competence?

A Captain Murphy is an excellent pilot.

Q Now, there has been some testimony that the captain returned to the bridge some time prior to the pilot leaving. And there's a conflict in the testimony. One witness said it was about 30 minutes before the pilot left, and another one said about 15 minutes before the pilot left. Do you have an opinion as to those actions, whether it's 30 minutes or 15 minutes?

A Well, as long as he came up in time to sign the pilot's bill and exchange the normal pilot/captain information, I don't see no problem there.

Q How long would that normally take?

A Less than five minutes.

Q Now, you said the regulations don't require the captain to be on the bridge at any time. What regulations are you referring to?

A The Coast Guard regulations.

Q Now, you reviewed testimony about the exchange of the command of the vessel between the pilot and Captain Hazelwood at around 11:20 on the evening of March 23?

A Yes, I did.

Q Do you have any opinion as to the actions

taken at that time?

A Well, the testimony that I saw was very vague on that point, just that they apparently got together and then the pilot went down below. There was no testimony as to who said what, or who said this, so I have no opinion on that.

Q Well, did it appear to you to be the routine exchange between a pilot and the captain?

A I would assume so, knowing Ed Murphy, I would assume that that's what had happened.

Q Now, there's also been some testimony about communications that Captain Hazelwood had with the VTC, the Vessel Traffic Control Center. You reviewed that information?

A Yes, I did.

Q I'm talking now of the time period between, let's say, 11:25 and about 11:40 on the evening of the 23rd?

A Uh-huh (affirmative).

Q You reviewed that communication?

A Yes, I did.

Q And do you have any opinion as to those communications?

A No, I have no opinion on that. It was a routine exchange of information there. In fact,

since I have left it had gotten even a little bit more lax since I left on their communications procedures.

Q Well, let me ask you this. You are familiar with the VTS system in Prince William Sound?

A Yes, I am.

Q Have you had occasion in the past where you communicated with the VTS Center with respect to your course or speed?

A Yes, I have.

Q Were you ever called and told that your vessel was not in the proper position?

A Yes, we were.

Q When did that occur?

A On the very first year of going in and out of Valdez. The Coast Guard was very concerned about the Valdez Narrows area which is kind of a wide open area with one small rock in the middle. They call it Middle Rock. And they had drawn on a chart a line, and they called it the optimum track. And they wanted all the ships that came in and out of there to be on that optimum track. And, of course, the pilots are doing a job. The optimum track line that they had was a curve. There was no steady course on there. It was just

a big curve. Well, that looks good, let's draw that. So the pilots were a little one way or the other all the time, and they would call up the pilots and say, "You're 100 feet off the centerline of the optimum channel.", and really give them hell.

Q In the years that you operated in Prince William Sound, did you believe that he Coast Guard was monitoring you on the radar?

A Yes, I...

MS. HENRY: Objection. Relevancy as to time.

THE COURT: Let's get a foundation for when you're talking about.

Q You operated in Prince William Sound between 1977 and I think you said 1985?

A That's correct.

Q During that period, the eight year period, did you believe that you were being monitored by the Coast Guard on the radar?

A Yes.

THE COURT: Don't answer the question. Just a minute, please. When you see her stand, give us a second to resolve this.

MS. HENRY: Objection. Relevancy and the protective order that was discussed several weeks ago.

THE COURT: Well, I'm afraid I don't remember the -- there were so many discussed several weeks ago. Why don't you come on up here and we'll...

(2820)

(Whispered bench conference as follows:)

(Entire whispered conversation indiscernible.)

(End of whispered bench conference)

(2877)

Q (Captain Walker by Mr. Chalos:) Captain Walker, directing your attention to 1985. Did you believe at that time in 1985 that the Coast Guard was monitoring you on the radar system that was in place at the VTS Center?

A They were very proud of that radar and one time they even took me in there and showed me what they could...

MS. HENRY: Your Honor, I object and move to strike. His answer is not responsive. He's going to the prohibited time period.

Q I'm talking now about the time period of 1985. Did you believe that you were...

MS. HENRY: Excuse me, Mr. Chalos. I have a motion on the floor.

MR. CHALOS: I'm sorry. I'll withdraw the previous...

THE COURT: The question didn't ask you if they took you in there, they asked if you -- what you thought about what they were doing at that time when they were monitoring you in 1985. So restate your question and try to answer the question.

Q (Captain Walker by Mr. Chalos:) Captain Walker in 1985 did you believe that the Coast Guard was monitoring you on the radar system that they had in place at that time?

A Yes.

Q To what geographical point did you believe you were being monitored at that time?

A Approximately 18 miles from Potato Point, which would put you somewhere several miles southwest of Bligh Reef.

Q Let me get a chart of the area so we're all talking about the same -- (pause). Captain Walker would you point to the jury the geographical point which you believe the Coast Guard was monitoring you down to on their radar?

A Approximately right down in here, in this vicinity.

Q The area that you pointed is several miles south of Bligh Reef?

A Yes.

Q Sir, in 1985, if your vessel were standing into danger, did you have a belief that the Coast Guard would warn you of that fact?

A That was the whole purpose that they were there.

Q What do you mean by that?

A Well, in the beginning of their manual was that they spent the $70 million to build that place, was to prevent collisions and groundings.

Q It says so right in the manual?

A Yes, it did. And you're not going to go aground if you are staying in the traffic separation scheme that they have right there.

Q What do you mean by that?

A Well, I would assume that as soon as you left that traffic separation scheme that that would be the time of intense monitoring, because you're not going to have a collision and you're not going to go aground if you're in the traffic separation scheme.

Q So you believe that if you were outside the VTS System for whatever reason north of Bligh Reef that the Coast Guard would be monitoring you and warning you if you got into danger?

A I believe they should be monitoring me even

more than normal.

Q Because you're out of the traffic lane?

A Absolutely.

Q I would like to speak a little bit about ice. Have you ever had occasion to encounter ice in Prince William Sound?

A Yes, I have.

Q On how many occasions has that happened?

A I believe at least three occasions.

Q In those occasions what did you do?

A One time I went through and two other times I went around it.

Q The time that you went through was it daylight, night?

A It was daylight.

Q And what did you do in that instance?

A Well, the ice was fairly heavy across both traffic lanes and I just picked a spot to go through the ice that I believed was the thinnest; had the least amount of ice in the vicinity.

Q And on those two occasions that you diverted around the ice, when was that? What time of day?

A That was at night.

Q And what did you do in those instances?

A Did about the same maneuver that the Exxon

Valdez was supposed to have done.

Q What do you mean by that?

A Come down around Busby Island and come right close by the buoy at Bligh Reef.

Q Why don't you take a pointer -- there should be a pointer either to your right or on the chalkboard there.

THE COURT: Just behind your elbow there.

Q Why don't you point to the jury the maneuver that you made on those occasions where you diverted around ice?

A Around the ice?

Q Yes. It's very hard to tell you exactly where I was because that was six or seven years ago. The ice would come out of this place right here and it would generally come out and come around into this vicinity here. It seems that sometimes it got up a little further it would tend to even come along this shoreline here. And on your way out, about right here would be where the pilot would get off. I would normally come around this buoy to check -- make sure I was in the centerline here, and then do approximately what Captain Hazelwood had done right here.

Q And at what point would you start to come back

into the lanes?

A Depending on where the ice was. How far around the ice I had to go. If the ice was only into the separation scheme, of course, you come down and just come back on -- I would like to use this light here abeam.

Q What is that?

A That's the light on Glacier Island.

Q Now, on those occasions did you steer a course around 180 when you were changing -- coming out of the lane?

A I couldn't really tell you right now, but it's the logical course to steer.

Q Why do you say it's a logical course to steer?

A Well, for one thing, it's a convenient course. It's a cardinal point.

Q What do you mean by "cardinal point"?

A Okay. It's a north, south, east, or west line.

Q So 180 is a north, south line.

A 180 -- your correspond -- it's very easy to plot with the -- because all your longitude lines here are north and south. It's just very convenient to steer at.

Q On those occasions when you diverted around

ice did you leave the traffic separation lanes?

A Yes, I did.

Q Let me ask you about your experience with ice over the years. Have you found, let's say from the early days until you stopped sailing in 1985, that the ice had gotten worse or better?

A In the early days we never even saw it. We used to come up here, and about this position here everybody would come up on the bridge to see if they could see Columbia Glacier. We were like tourists up there. We wanted to see the ice and the glacier that everybody said, you know, this is up here, and nobody had ever seen it before.

After the years started to go by we started to notice ice. Little bergy bits would start coming out of here, and of course everybody oo'd and ah'd. "Oh! There's one over there.", you know. And towards the end, around 1984, 1985 it was getting very heavy. The glacier was starting to calve a lot.

Q Was it the customary practice of vessels to divert outside the lanes to avoid the ice as best as you knew when you were sailing up there?

A Some vessels would go through it but most came around it.

Q You don't have any problem with the fact that Captain Hazelwood diverted to go around the ice on this particular night, do you?

A Not at all, no.

MR. CHALOS: Your Honor, I wanted to get into another subject. I have to get some more exhibits. Shall we take a break at this point.

THE COURT: That will be fine.

Take our next break, ladies and gentlemen. Please don't discuss this case among yourselves or with any other person. Please do not form or express any opinions.

THE CLERK: Please rise. This court stands in recess subject to call.

(Off record - 12:02 p.m.)

(On record - 12:26 p.m.)

(3406)

(Jury present)

THE COURT: You may resume, Mr. Chalos.

MR. CHALOS: Thank you, Your Honor.

Q (Captain Walker by Mr. Chalos:) Captain Walker, I've put before you what we've marked as Exhibit F, which is the chart of the Arco Juneau, which was the vessel that immediately preceded the Exxon Valdez out of the Port of Valdez.

Have you had an opportunity to look at that chart?

A Just in the last few minutes, yes.

Q There's been some testimony here that the Arco Juneau made some course changes and maneuvers in and around the Bligh Reef area. Can you see those on the chart?

A Yes, I can.

MR. CHALOS: Your Honor, may the witness approach the jury?

THE COURT: All right.

Q Let's step over here by the jury and you could show them what the Arco Juneau...

THE COURT: Captain put that black box in your pocket and you can take the microphone with you a way.

Q Can you describe for the jury what the captain of the Arco Juneau was doing to divert around the ice? You have to step aside so the jury could see.

A I'm sorry. The marks on the chart are very faint; not too good of a reproduction here. It looks like an 18 something fix right here.

Right now he's started to deviate out of the traffic separation scheme; appears to be headed down this way (indicating). At some point in

time -- okay. At some point in time he starts to make a rather radical course change right here, and it looks like he used the sector on Busby Island Light to make his course change on.

You see, he's very, very close to that reef. The course change that he had to make here was probably -- it looks to me to be about 70 or 80 degrees course change. Very little maneuvering around here. I don't like this maneuver at all.

Q Why is that?

A Well, he doesn't leave himself any sea room if anything should happen to his vessel. The two things you have to worry about on a ship are mechanical failure -- well, the big thing is mechanical failures, and the two things that you have there, the engines and steering gear. You always have to be alert to that fact.

If the engines had failed here he might have been able to get his vessel out of the way of Busby Island -- of Bligh Reef, rather. But if his steering gear had failed at that time, I feel that he's beyond the point of no return, and he has no other choice but to hit Bligh Reef.

Q Let me ask you this: there's been testimony that the captain was steering a course -- the

captain of the Arco Juneau was steering a course of 175 headed for Bligh Reef at about 16 knots. Do you have an opinion as to that maneuver?

A Well, again, like I say, he's really taking a chance here. If anything should go wrong -- if this quartermaster put the wheel the wrong way when he ordered "right rudder", it's a common -- not too common, but it's not an uncommon mistake for a quartermaster to put the rudder the wrong way, or the helm the wrong way. If that had happened, he doesn't have a whole lot of room to recover from that situation.

Q There's also been testimony that he started to make his final maneuver away from Bligh Reef about a half a mile north of it. Do you have any opinion on that?

A Well, like I say, a half a mile -- 16 knots is not a whole lot of time. He's given up all his maneuvering room -- his margin of area, let's put it that way.

Q Do you have an opinion as to whether the maneuver that the captain of the Arco Juneau was making was a risky maneuver?

A I would say it's a risky maneuver.

Q Now, I also placed in front of you Exhibit AF,

which is Captain Knowlton's master's license that indicates that he has pilotage to Busby Island Light. Do you see that?

A Yes, I do.

Q I would like to give you a hypothetical. If the pilot, according to the Bell Log of this vessel, departed at Rocky Point. And this captain's license only has pilotage to Busby Island Light. Between Rocky Point up here and Busby Island Light here, is how far?

A I would say close to three miles.

Q In that three mile stretch, would that captain be in violation of the pilotage regulations?

A Well, you are talking pre this Bob Arts letter, or as I knew it in 1985?

Q As you knew it in 1985.

A In 1985 he would have been in violation, yes.

Q Refer to Exhibit C, the letter from Alaska Maritime. Have you reviewed that letter?

A Yes, I have.

Q Would your opinion as to the violation that you just spoke about, be different, having reviewed that letter?

A Yes, it would.

Q In what way?

A I think this eliminates him from having to take a pilot.

Q You mean Exhibit B, the letter from Alaska Maritime?

A That's correct. As longs as his...

Q Why do you say that?

A ...visibility is over two miles, I don't see any problem there. They let pilotage go. Obviously, looking at this letter here, that's the end of pilotage.

Q And that's how you interpret Exhibit B?

A As long as the visibility is over two miles pilotage is no longer required.

Q I would like to talk about the course changes that were made by Captain Hazelwood after he dropped off the pilot. There's been testimony, and I'm sure you read the testimony, that he went from course 219 to course 200, and then ultimately to course 180 over a period of about 20 minutes. Do you have an opinion as to those course changes?

A No, I think -- if you get down to the 180...

Q No, you don't have an opinion, or, yes, you do?

A Yes, I do have an opinion. The 218 or 219 was

when the pilot got off. And I think he waited a few minutes there to come to course 200, and then a few more minutes, came to 180.

He was setting himself up for a very nice maneuver around the ice. I think he started well back from the ice to assess where he was going to have to be when he had to go by Busby Island and Bligh Reef.

Q When you say he was setting himself up for a nice maneuver, what do you mean?

A He's never putting his vessel in any great danger there as the Arco Juneau captain did. He's leaving himself plenty of room to maneuver there. If anything would have happened at any point in there, in his planned maneuver, he had several miles that he could either stop the vessel using his engines, or if the steering gear failed, or if his engines failed, he had plenty of time to make a turn out of there.

Q Now, there's been some testimony that at 11:52 the load program up was engaged to move the vessel from 55 rpms to ultimately full sea speed in a period of about 45 minutes. Do you have an opinion as to the engagement of the load program up at 2352 or 53?

A Well, I'm just surprised that he waited so long. I would have...

Q Why do you say that?

A Well, I would have done it as soon as the pilot got off because you just want to get the ship moving and get the voyage going. You're not paid to lolly-gag around.

Q Was it customary practice to set sea speed once you dropped the pilot off?

A Mine was, yes.

Q Did you do the same thing when you diverted around ice?

A Yes.

Q You set it for sea speed?

A Yes.

Q Now, there's been some testimony that this vessel was travelling at about 11.57 knots at the time of the grounding. Do you have any opinion as to that speed?

A It's a nice maneuvering speed. We on the St. John's River use about 12 knots as our full ahead speed. So that's a nice maneuvering speed.

Q When you say "full ahead" what do you mean?

A Full ahead maneuvering. When I talk "full ahead", I mean full ahead maneuvering. If I want

more than full ahead, I say "full ahead sea speed".

Q Did you find in those years that you operated up there that your vessel responded better travelling at a speed of about 11 and a half or 12 knots than it would have if you were going much slower.

A I really don't understand the gist.

Q Well, I mean, if you wanted to make a course change in a short period of time, did you find that the vessel responded better at a higher speed?

A Well, on a slower speed you actually made the turns tighter than a higher speed. A higher speed will give you a much wider turn for the same angle of rudder. It just appears that it's not, but it is.

Q These vessels -- these VLCC's handle well at 11 and a half, 12 knots?

A All the ones I've been connected with have.

Q Now, there's been some testimony about the use of the automatic pilot. In your experience is the use of -- or, not use of the automatic pilot in the captain's discretion?

A Yes, it is.

(Tape: C-3667)

(000)

Q Anywhere he might be?

A At any time. Right.

Q Now, the testimony in this case was that the autopilot was engaged at 2350, 11:50 and it was disengaged at about 11:53. First of all, do you have any opinion as to the use of the autopilot in Prince William Sound?

A Well, it was my practice never to use it.

Q Do you have any opinion as to the use of the automatic pilot in this situation?

A I find no problem with that.

Q Did you have an opinion as to the use of the automatic pilot for three minutes?

A I find it kind of strange for only three minutes, but I don't find any fault for using it or not using it.

Q There's been some testimony that the automatic pilot played absolutely no role in the grounding of this vessel. Do you agree or disagree?

A I agree.

Q To the best of your knowledge are there any Coast Guard regulations that prohibit the use of the autopilot in Prince William Sound?

A None that I know of.
Q Again, it's left to the discretion of the master?
A That's correct.
Q There's been some testimony in this case about the AB look out being placed on the bridge wing as opposed to the fore part of the vessel. Do you have an opinion on that?
A Well, I never had a hard and fast rule of thumb. Sometimes I put them on the bow, sometimes I put them on the bridge wing, and sometimes they would be travelling from one place to another.
Q Again, at the discretion of the master?
A At the discretion of the master, yeah.
Q Now, I take it you read the testimony with respect to what Captain Hazelwood wanted the mate to do when he came abeam of Busby Island Light?
A Yes, I have.
Q Do you have an opinion as to the instructions that were left by Captain Hazelwood with the mate?
A I find no problem with the instructions.
Q On what basis do you say that?
A Well, as a very general term, he had set

everything up; he had plenty maneuvering room.

Q Well let's take it one step at a time. What do you mean he had set everything up?

A He has set it up beautifully there. He came abeam of Busby Island on a cardinal point. He made the turn on an abeam bearing, which is, you just look out the door and say, "Yeah, it's abeam.", and start your turn. One mile off, or .9, or 1.1, or whatever. It's a mile a off. It's a nice round number. Had plenty of sea room in there.

Q Now what about the instructions that he left with the third mate. Do you have an opinion on that?

A Well, he just said, as soon as you get abeam of Busby Island start coming back into the traffic separation scheme. It's obvious what he meant by that.

Q What do you mean?

A To make a right hand turn and start coming back into the traffic separation scheme.

Q Do you have any problem with those instructions?

A No, they were real -- again, he had plenty of room to maneuver; plenty of time. He didn't have

to make an extreme rudder command. It was just nice. He had, like I say again, sea room. He has plenty of sea room.

Q How much room did the third mate have between abeam of Busby Island Light and Bligh Reef?

A Oh, just an oddball, I would say two, two and a half miles.

Q Do you consider that to be a sufficient distance to make a simple course change?

A Oh, it's more than ample distance.

Q Now, there's also been testimony that Captain Hazelwood, a few minutes before the vessel got abeam Busby Island Light and left the bridge. Do you have an opinion as to those actions?

A No. I find no fault with that. He left proper instructions with his mate and he also left a check. And what I mean by "check", is he didn't just say, "Okay, I'm going down below." He gave instructions on what he wanted done. He gave a lawful command. And he gave another lawful command to the third mate to call him when he started to make the turn. That was Captain Hazelwood's check to make sure that his orders were being followed as he gave them.

Q There's been testimony that about 2357 or two

minutes after the vessel was abeam of Busby Island Light the Third Mate Cousins called the captain and told him what he was doing, that he had started his turn. Do you have an opinion on that?

A The mate did exactly as he was instructed to. He called the captain when he thought he was making the turn.

Q If you find yourself in the position of Captain Hazelwood, would a call like that assure you that your commands were being carried out?

A Yes, it would put me at ease.

Q Now, you saw the ship down in San Diego, did you not?

A Yes, I did.

Q You saw the bridge of the ship?

A Yes, I did.

Q You had a chance to inspect the navigation equipment?

A Yes, I did.

Q Could you tell us what you saw?

A A very well designed ship. The wheelhouse is very well set up. I'm a pilot, and it was beautifully set up fora pilot.

Q Did it have all the modern navigation

equipment?

A Absolutely. Everything.

Q Did you have a chance to look at the various rudder angle indicators?

A Yes, I did.

Q All well placed?

A Very well placed.

Q Could be seen from anywhere on the bridge?

A Yes, it could.

Q Did you happen to notice two rudder angle indicators on the bridge wings?

A Yes, I did.

Q Where were they?

A The one on the starboard wing was a small one. That was over the top of the wheelhouse door. The one on the port side was a larger one. It looked like it had been removed from either the console or the wheelhouse overhead and placed out there so they could see it a little bit better for the docking and undocking maneuvers that they had to...

Q Were both rudder indicators on the wings easy to see?

A The one on the port side was far easier to see than the one on the starboard side.

Q How much bigger was the one on the port side than the one on the starboard side?
A Oh, I would say double the size.
Q Did you have any problem seeing the one on the starboard side?
A With my glasses on I could make it out. It wasn't very good. I thought they could have done a little bit better job.
Q In any event, the one on the port side you had no problem?
A Oh, no.
Q There was a big rudder angle indicator on the overhead, was there not?
A Right.
Q And that was sort of in front of the chart room?
A Yes.
Q Now there were also other instruments on the front panel of the wheelhouse?
A Yes, there were.
Q There was a rate of...
A A turn indicator.
Q That was visible?
A Yes, it was.
Q Now, sir, in your experience is a 10 degree

right rudder command a simple order?

A A very simple order.

Q Is the task of turning the helm 10 degrees to the right, is that a simple task?

A Very simple.

MS. HENRY: Your Honor, at this time I'm going to have to object to the series of leading questions that have been going on for quite a while, I'm objecting at this point.

THE COURT: Objection sustained as to leading question.

Q Sir, can you describe in terms of difficulty the task of turning the helm to 10 degrees right?

A It's a very simple thing. You just turn the wheel. It's all electro-hydraulic so there's no strain or pain. It's even easier than steering some cars.

(294)

Q Do you have an opinion as to whether or not a third mate holding a second mate's license would be able to carry out a command of 10 degrees right rudder?

A In the first minute of his career he should be able to do that.

Q Sir, there's been testimony that if 10 degrees

of right rudder was placed on this vessel and held at 2355 or 2356 when the vessel was abeam or just a little bit south of Busby Island Light, she would have cleared Bligh Reef by at least a mile and a half. Do you agree or disagree with that opinion?

A I agree with that opinion.

Q There's also been testimony that if a 10 degree right rudder was placed on this vessel at a minute and a half after midnight and held, she would have missed Bligh Reef of over a half a mile. Do you agree or disagree with that?

A I agree with that opinion.

Q Captain Walker, how would you compare the waters in the area from Potato Point down Bligh Reef to other areas of the world that you've operated in?

A You mean in other -- like confined waters?

Q Yes. In terms of confinement, danger...

A Oh, this was like a millpond. After the Straits of Malacca or...

Q Where are the Straits of Malacca?

A Singapore. That's a choke-point.

Q What does that mean?

A That means where you have a lot of traffic,

very shallow bottom. Sometimes you're running through there one or two foot clearance from the bottom of the sea floor. And some ships even have to slow down because of squat so they could get over the shoal spots.

Q What do you mean by "squat"?

A Well, a ship is -- the faster it moves through the water it will tend to sink down, and we call that squat. It will gain and draft. Some of these DLCC's going through the Straits of Malacca had to slow down because otherwise they would strike the bottom, that's how close we were. And some points it was only half a mile wide. Very heavy traffic. Fishing boats. You name it. It was -- pirates, everything was in that one in those waters.

The English Channel is another place. Very close to the bottom, very heavy traffic. What would be another...

Q What about the St. John's River that you operate in?

A Well, the traffic's not very heavy, but a lot of places there, we're very close to the bottom, very narrow channel. We're only minutes -- not even minutes. Sometimes only seconds away from

catastrophe at any one time. That's what the pilot is there for.

Q Sir, groundings and -- do you have an opinion as to the occurrence of groundings and collisions in the maritime business?

A I don't understand what you mean.

Q Well, I mean, have you found in your experience that groundings occur?

A Oh, yes.

Q Now, you described the area as a millpond. What do you mean by that?

A Very easy maneuvering. There is good radar targets, good visual bearing navigation aides and it's very deep so you don't have to worry about the bottom and very little traffic.

Q All right. Now, with respect to the company that you work for, did you have a bridge organization manual on board?

A No, I did not.

Q Did your company then leave to you, the captain, the discretion of doing whatever was necessary at a particular moment in time?

A Yes, they did. They wouldn't even put a satellite communications on there.

Q I would like to speak now about the grounding.

You are familiar with the vessel running aground at about -- according to the testimony here, between eight and a half minutes after midnight and nine and a half minutes after midnight?

A Yes, I am.

Q I take it you reviewed Mr. Cousins' testimony and Mr. Kunkel's testimony and Ms. Jones' testimony with respect to the events following the grounding?

A Yes, I did.

Q And I take it you read the testimony of the captain coming back up to the bridge after the grounding?

A Yes.

Q Do you have any opinion as to the actions that he took immediately upon coming on to the bridge?

A No. Well, I do have an opinion. I think he did the proper thing. Find out what was going on, what happened. See where the vessel is. I think he had the third mate get a bearing position.

Q Well, the testimony has been, when the captain came up on the bridge he went to the bridge wing, looked over the side, then came in and told the mate to take a fix. Do you have an opinion as to

that action?

A Oh, I think it's very good. I think he looked to see, number one, is he dead in the water. That's a very quick way of seeing if you're dead in the water is looking over the side.

Q What does that tell you?

A Well, that tells you you're stopped. You're hard aground at that point. The other thing was to see if there was any oil coming up. Obviously, then it's very easy to know if you've been holed if you see the oil in the water.

Q There's been some testimony, also, that he told the helmsman to put the rudder amidships at that time. Do you consider that to be a proper action?

A Very proper, yes.

Q There's been some testimony that the captain instructed the third mate to call the engine-room and have them stop the engines. Do you have an opinion as to that action?

A Well, I think what he did there was give the engine-room notice before he started to ring it down on the manual lever, so that they would be prepared that the order was coming down. I find no problem with that.

Q Do you find that to be a proper procedure?
A That's very proper, yes.
Q There's also been testimony that he told the third mate to go down and wake up the crew. Do you have an opinion as to that action?
A I thought that was a very good action.
Q Why do you say that?
A In lieu of sounding the general alarm, it prevented panic on board.
Q Well, let me ask about that. There has been some criticism of Captain Hazelwood for not sounding the general alarm. Do you have an opinion on that?
A Yes, I do.
Q What is your opinion?
A I think it was a very good opinion -- a very good thing that he did go down and -- or, not he, but he sent somebody down to wake them up rather than ring the general alarm. There's only two signals that are authorized on the general alarm. One is fire and one is abandon ship. And either one of those would create panic at 1:30 in the morning, or whatever time...
Q 12:30.
A Or, 12:30. Either one of those would have

created panic at that point in time, and it might have created -- somebody might have got hurt.

Q If you found yourself in Captain Hazelwood's position at that time, what would you have done with respect to the general alarm?

A I would have done exactly what Captain Hazelwood did.

Q Now, there's been testimony that Captain Hazelwood called the engine-room at some point before 12:30 and told them to sound the voids and the tanks in the engine-room. Do you have an opinion as to that action?

A I think it was a very good action.

Q Why do you say that?

A Well, in case the engine-room hadn't thought of sounding their void tanks, you could find out if the area in the way of the engine-room had been holed. That's one way of doing it is to have the engineers go back and sound their tanks and make sure that there is no water in them, or that the water that's in there has been in there.

Q What was the purpose of that command at that time? Do you know?

A Well, the purpose was to find out if he had

been holed in the way of the engine-room. That would be my guess.

Q Why is that important to know?

A Well, you want to know every placed you're holed. And if you're holed in the engine-room, that's probably one of the biggest areas of reserve buoyancy that you have on a vessel -- a tanker -- a loaded tanker.

Q Do you consider the command to sound the voids and the tanks to be a proper one?

A Very proper.

Q There's been testimony that the captain had a discussion with the chief mate, where the chief mate relayed some information to them by 12:30 about the vessel being stable. And there's some testimony that the captain then told them to go back down to the cargo control room and continue ascertaining the damage and how much oil was being lost, as well as the stability. So you have an opinion on that instruction?

A I think it was a very good instruction.

Q Why do you say that?

A Well, the captain, at that time, needed information. And the chief mate was probably, besides the captain, the second most

knowledgeable person on board as relating to cargo, and piping, and anything forward of the engine-room. And he would have been the one man that Captain Hazelwood would use to lean on to find out the various things, the various factors that Captain Hazelwood needed.

Q If you find yourself in Captain Hazelwood's position, what would you have done at that point with respect to your chief mate?

A Exactly what he did.

Q Now, there's been testimony that at that time the captain told the chief mate to go below and lower the life boats to the embarkation deck, and to get the fire mains ready. Do you have an opinion as to that action?

A I think he was really thinking -- really thinking. It's amazing that he had the presence of mind, with all the crushing pressures on him at that one point in time, to think that clearly. It just amazes me.

Q Why do you say that?

A Well, I've been in the way of an oil spill or two myself, and the feeling is equivalent to being punched in the stomach. And I'm talking about a little one or two barrel spill. I'm not

talking about the magnitude that he faced. And to bear up under that is amazing.

Q Now, there has also been testimony that in the midst of the actions that I'm describing to you, he called the Coast Guard and reported that the vessel was hard aground and leaking oil. Do you have an opinion as to that action?

A I think that was a proper action to take. I think the law at that time says you have to report any oil spills.

Q Now, there's been some testimony by experts -- state's experts that have faulted Captain Hazelwood for not taking soundings. I want you to assume, because there hasn't been any evidence that soundings weren't taken -- but I want you to assume that soundings were not taken. Do you have an opinion as to that?

A I don't think it would have done him a whole lot of good.

Q Why do you say that?

A Well, he was on a pinnacle bottom. And of course this is -- I'm looking at hindsight. But every -- I'm not going to say "every tanker captain", but if I went aground I would look around to see what kind of -- what the scenery

looked like. Because usually what you have up on top is also what you have down below. And in the area of valdez you have a lot of pinnacles, and peaks, and boulders, and stuff, and that -- what I would assume would be what I was also sitting on.

So to go around and take soundings, to me, at that point in time, unless I knew I was on a sandbar or a mud bank, wouldn't help me a whole lot.

Q Why do you say if you were on a sandbar or a mud bank you would take soundings?

A Because on a sandbar or a mud bank you have a relatively stable bottom. In other words the soundings might change radically in height, but it's more or less like a level surface. It's not -- you have 10 feet of water here, and 20 feet of water two feet away. It ends, on the mud or a sandbar, to be a more uniform surface.

Q Do you have an opinion as to taking soundings through oil?

A It would be rather difficult.

Q Why do you say that?

A Well, because the sounding line that you use is a cotton line, and your marks will be all

covered in oil the first time you dropped it. That would eliminate a lot of your marks.

Q What do you mean by "marks"?

A They tie rags and ropes with -- they use various things to indicate every six feet on that line.

Q So it's your opinion after you dropped the line in the water once through the oil that you wouldn't be able to read it accurately any more?

A Yes. It would be rather difficult to read it accurately after that.

Q With respect to soundings, what points would -- let me start again. The sounding mechanism that you use, you'd drop over the side of the vessel, right?

A That's correct.

Q And all it would tell you is what you're experiencing at that point next to the vessel?

MS. HENRY: Objection. Leading.

Q Well, what do soundings tell you. I'll withdraw the previous question. What do soundings tell you?

A Well, the sounding with a hand lead tells you exactly the depth in that little small area about three square inches, what is the depth of the

water at that one specific point.

Q If you found yourself in Captain Hazelwood's position on that particular night, given the situation as we discussed. In the list of priorities, where would soundings come in?

A Very low down on that list.

Q In your opinion, if soundings were taken, hypothetically, at that time, would they have told the captain any more information than he already had?

A Maybe a little bit more information, but nothing substantial.

Q Now, if you were the captain of this vessel, finding yourself in the position of Captain Hazelwood on that particular night. If you wanted to get off this reef, what would you do?

A I would call up the engine-room and tell them I wanted maximum speed astern.

Q Why would you go astern?

A Well, you know that's where the deep water is.

Q How do you know that?

A Well, because you came from the deep water to the shallow water by going forward. The obvious thing is, go back.

Q If you had wanted to stay on the reef, what

would you have done if you were in Captain Hazelwood's position?

A I would have either done nothing, or if -- I assume he looked at the tide tables and saw that the tide was coming -- or, the current was coming in and the tide was rising. Just maintained a little astern -- I mean, ahead, to keep the vessel on the reef.

Q What engine order would you have used in that situation?

A Half ahead.

Q Do you find the use of full maneuvering ahead at 55 rpms to be -- do you have an opinion on that?

(870)

A Well, it's a little bit more than I would use, but I don't have any problem with it.

Q Sir, do you have an opinions to whether or not the engine would have overheated if this vessel were put to full sea speed ahead in the grounding condition that she was in?

A The only time it would overheat is if the intakes were -- the engine cooling water intakes were obstructed.

Q Do you have an opinion as to the use of the

ship's engine and rudder by Captain Hazelwood after the grounding?

A In what respect?

Q Well, do you think it was bad, good, indifferent.

A Well, having the data that he had at the time, I think he didn't want to come off that reef at that point in time and to use his engines ahead was a proper order.

Q Do you have an opinion as to whether the rudder -- just using the rudder by itself would have gotten them off the reef?

A Oh, absolutely not.

Q There's been some testimony that Captain Hazelwood stopped the engine about 17 minutes before the tide was at its highest point. Do you have an opinion on that?

A Well, I think probably a half an hour before the highest tide. I think he knew at that point in time that there was no hope of coming off that. As you get closer and closer to high water, or closer and closer to refloating, you can feel that on a ship.

Q There's been some testimony that the difference in the rides of tide between the time

that the engine was shut off and high water, was one inch. Would that have significantly changed any of the information Captain Hazelwood had at that point?

A Well, if Captain Hazelwood felt that the vessel was about ready to come off the reef, then obviously one more inch might have done it. But if he felt that she was hard aground at that point, you might as well shut them down. You're not doing anything.

Q There's been some testimony in this case -- hypothetical testimony that if the vessel had come off the reef it would have sunk within 95 minutes if the crew did absolutely nothing.

I would like for you to put yourself in the position of a master of a vessel that's been holed to the extent that the Exxon Valdez was holed, coming off the reef at some point hypothetically. What action, if any, would you, as a master, take?

A You mean if she was starting -- if I knew she was starting to sink?

Q Well, let's say you started to notice her listing to starboard, and perhaps even the head starting to go down a little bit. What would you

do as a master?

A As a master, if she started to list to starboard and the head was going down, I think i would find out exactly -- try to find out as much information as I could where...

Q Where would you get that?

A From the chief mate. Where the water is coming in, because obviously water is coming in, and at what rate it's coming in. And if she's going to continue to go over. If she's going to continue to go over, I would start looking at my ballast tanks that are on the port side.

Q What would you do with those tanks?

A Well, number two. If I'm going down by the had -- there's two ballast tanks on the port side, number two and number four. I would hold off on filling number two, or putting water in number two.

(1100)

Q Excuse me one second. Let me get a model. Maybe you could demonstrate to the jury what you're talking about.

(Pause)

Let me show you what's been marked as Exhibit 154. The model of the Exxon Valdez. Now, could

you explain to the jury what you're talking about?

A All right. If I'm captain on this ship. And let's assume that she's on an even keel right now, and she's run aground, backed off the reef and for some reason, water is coming into number two and number four starboard, and also into the fore peak tank. So she's staring to come down and she's starting to take...

Q You have to stand up and show the jury, because I think...

A Okay. Well, maybe it would be better just to do this. I'm trying to get the proper aspects so they could see -- when I start tilting it.

Q Well, why don't you step closer to the jury, maybe it will be easier.

A All right. Now, she's run aground. I've taken her off the reef. The damage is on the starboard side, and she's...

Q Excuse me, Captain Walker. Every time you mention how you take this vessel off the reef you show a backing motion. Is that your instinctive way of getting the vessel off the reef?

A Yes.

Q All right. Go ahead.

A That's the only way to get it off. There's water coming into the number two starboard and the number four starboard and the fore peak tank. That's the scenario I've been given.

The ship is starting to go to starboard and starting to go down by the head. A ship is like a seesaw with two kids, one on each end. Obviously the kid on this end weighs a little bit more than the kid on this end. So what we have to do in order to counteract that is to put water either here in this ballast tank, or, as I understand, there was some ballast tanks in the engine-room, to bring her back on to an even keel.

I would hold off on putting water here to bring her back this way, because she is going down by the head (indicating). So you know you're adding weight up here, so you don't want to add any more weight up here (indicating). She's like a seesaw; just like a seesaw, both ways. If you want to think of it as a simple seesaw, that's the easiest way to visualize it.

So she's going down by the head, got a starboard list, put water in here, or the tank back here on the port side and bring her back.

Q What would be the affect on her continued flooding if you were to put ballast in the port side and straightened out her list?

A Well, it would depend on how much water had already come into these two tanks here. You've got to figure that these two tanks are going to seek -- the water is going to seek its own level, so they're going to come up to the water line. They are going to fill up to the water line. And also you've got water coming in up here that will also come in and water will seek its own level and will fill up to the water line.

So the obvious thing to do is fill this tank here, and if you can pump it full -- I understand this was a 10,000 ton tank. Probably she would have come even. The thing you don't want her to do is keep going because these tanks are -- again, they fill up to wherever the sea level is. And the more she's listing the higher the water is going to come into these tanks, and the more weight will be on that side. So she's going to tend to keep going.

Q So your counterbalancing...

A What we call it is a -- a cross flooding is what we call it.

Q Some ships have a valve in the -- an actual pipe that goes from one side of the ship to another, and in the middle of that line, that pipeline, is a valve. And they call it the cross flooding valve. And the naval architects put that in there in case a ship gets rammed, starts taking on water on this side, you just -- the crew, all they have to do is go and open up a valve and it will flood from one side to the other. That compartment will automatically -- as the water comes into this compartment, will automatically go to this compartment and stabilize the ship.

Now, the Andrea Doria, I think is a prime example, where she got in a collision and was holed on one side. The crew abandoned ship without ever opening up the cross flooding valve. And they suspect that that's why she sank. She just continued to go over, because the crew never did a simple thing like open up the cross flooding valve.

Q Captain Walker, if you had the ability to ballast out number four starboard -- the one on this side?

A That's four starboard.

Q And your vessel was off and you're starting to list a little bit to the right. We list more to starboard. Would you pump out your number four tank?

A You mean number four starboard?

Q Number four starboard.

A The water is coming in to number four starboard?

Q Yes. But you have the ability to pump it out.

A Well, if you can get the water out faster than it's coming in, that's great.

Q You would do that as a maneuver?

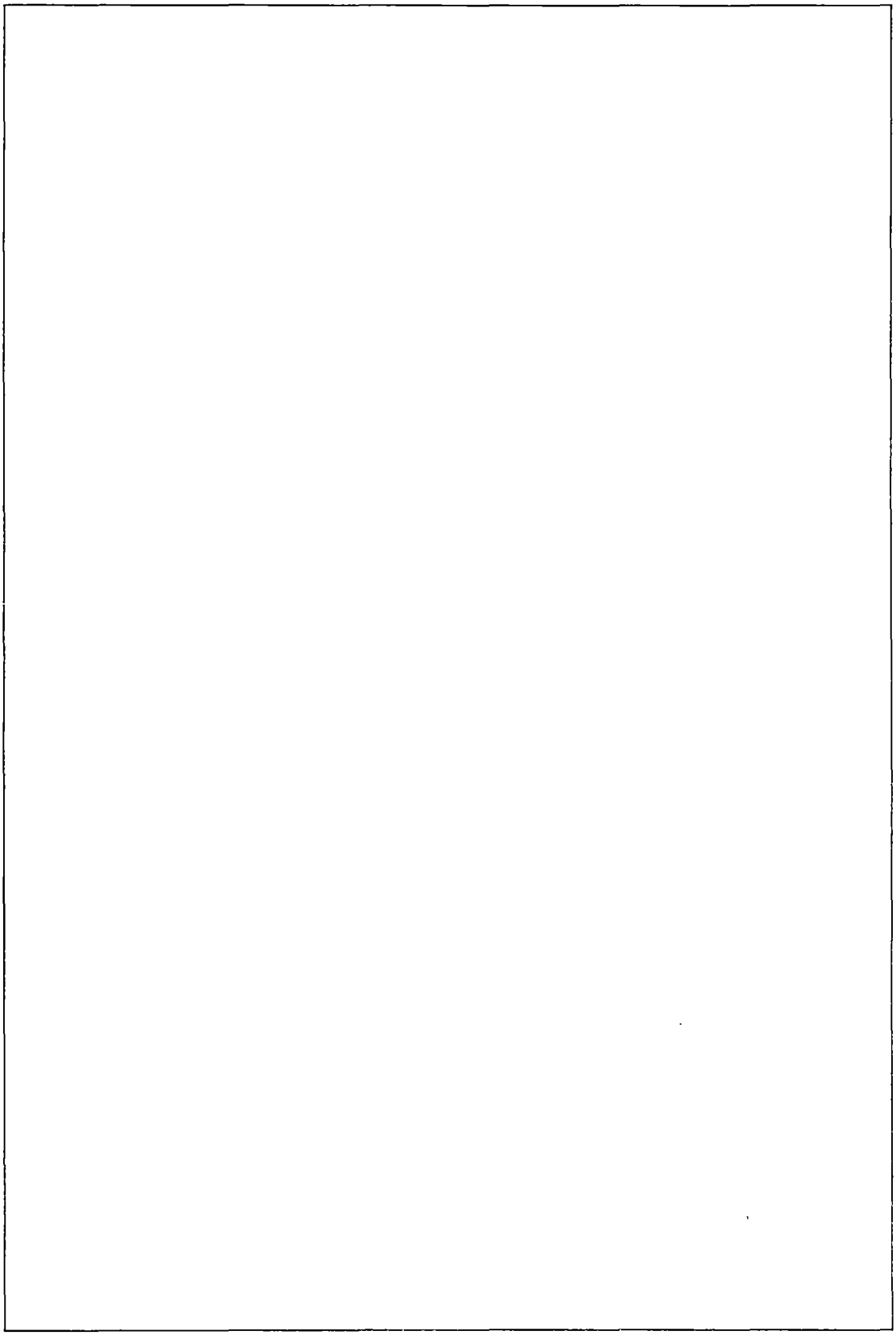
A Oh, yeah. But I'm assuming that you had a catastrophic crack back here and the pump would have been more or less useless.

Q The testimony with respect to the number four starboard tank -- ballast tank, is that she had a small crack in the bottom and that her ballast pumps were available to be used.

A Oh, well, now you're even in better shape than the scenario that I am.

Q Why do you say that?

A Well, because now, just as long as you can put a pump on here and keep the water from coming into this tank -- in fact, if your pump is bigger



than the water that's coming into this tank, then you can get the -- you could possibly pump the tank dry -- keep it dry.

Q And that would tend to bring you back?

A Oh, yes. Oh, yes. You're taking the weight off. Again, the seesaw. You're taking the weight off.

Q And if you get the ship to a relatively even keel at that point, is it your opinion that you will stay afloat, given the amount of oil she had?

A Sure. You're full of something that's going to float, so obviously -- tankers are very hard to sink; very hard.

Q When you say you are full of something that would float, what do you mean?

A Well, you're full of oil or at least partially full of oil anyway, and that will tend to also keep you up. The Germans in World War II found tankers -- if they didn't explode they were extremely difficult to sink.

Q You may return to your seat.

A What do you want me to do with this?

Q Let's not have another accident here. (Pause) Captain Walker, there's been testimony that

when this vessel grounded approximately eight tanks were holed -- the cargo tanks were holed. Do you have an opinion as to whether the fact that you have holes in the bottom of your ship to the extent that the Exxon Valdez did, would that in itself mean that the vessel would sink if she came off the reef?

A No, it wouldn't.

Q Why do you say that?

A Well, number one, he didn't know how many holes he had, or the size of the holes of that one point in time. I think the ship had plenty of reserve buoyancy. She was full of oil. I don't think she was gonna sink. She might have capsized. Now, that's a whole different ballgame. But, again, I showed you how you could prevent that.

Q I would like to read to you a definition of reckless, and ask you some questions. "A person acts recklessly with respect to a result or circumstance described by the law when the person is aware of and consciously disregards a substantial and unjustifiable risk that the result will occur or the circumstances exist.

"The risk must be of such a nature and of such

a degree that disregard of it constitutes a gross deviation from the standard of conduct that a reasonable person would observe in the situation."

Now, sir, based on the evidence you reviewed; based on the testimony that you've read, was there anything in what Captain Hazelwood did, from the moment the vessel left the dock in the Port of Valdez until the time that he shut his engines down for the final time while he was on the reef, that, in your opinion, constituted reckless conduct on his part?

A No.

MR. CHALOS: I have no further questions of this witness, Your Honor.

(1500)

CROSS EXAMINATION OF CAPTAIN WALKER

BY MS. HENRY:

Q Sir, how many times have you testified in a trial?

A One time.

Q And how long ago was that?

A That was in 1981, I believe.

Q And what state was that in?

A New York.

Q What kind of trial was it?

A It was a civil case where the captain of a VLCC had fallen in the fore peak tank and hit his head and the chief mate ran out of the tank and more or less abandoned him, and then shortly thereafter went back down and found out that the captain was still alive, and they took him out of the tanks and brought him back to the superstructure and put him in his bed, and...

Q Was that a personal injury?

A Yes, it was personal injury.

Q Now, going back to some of your employment prior to starting the Prince William Sound runs. I think you said or your resume indicates that in 1975 you were working for Cities Service Tankers, is that correct?

A City Service Tanker Corporation.

Q And how long had you been working for them at that point?

A I started with them in January 1970.

Q All right. And sometime in 1975 you began working for Inter-Ocean Management Corporation?

A Yes. It's basically City Service Oil Company personnel but they just changed the name.

Q Why did they do that?

A At that time I think the Arco Merchant had gone aground and then everybody was concerned about oil. It's my opinion that City Service wanted to get their company's name off of their ships. We had ships called the City Service Miami, the City Service Baltimore, etc., and it doesn't look too good if your ship's name is also indicated with your oil company.

Q It wouldn't look good if the ship's name is connected with an oil spill either, I suppose?

A Right.

Q In your opinion were they concerned about groundings of their tankers?

MR. CHALOS: Your Honor, I object. It's irrelevant in this case.

THE COURT: Petty long ago, Ms. Henry.

MS. HENRY: All right.

Q (Captain Walker by Ms. Henry:) I think you also indicated to me last evening that during some period of time in this area you were working for a company and were asked to inspect a boat, I think it was the Baltimore?

A Yes. We were -- the company had tried to get the contract to operate these three VLCC's, and the first one, the Massachusetts was supposed to

come out in April of 1975, and I was the first chief mate assigned there. So they assigned -- you know, they thought that she was going to sail. We were going to go on a sea trial; a week later we were going to sail.

Well, she was so bad that we just stayed there for, I think, about six and a half more months.

Q Doing what?

A We were originally ship's crew and then we kinda got relegated to owner's representative. We were kind of a grey area that -- nobody really knew what we were.

Q And that was for about six months?

A Yes. From April until about October of '75.

Q Now, did somebody from the company ask you to inspect the vessel and find things that are wrong with it?

A Not from my company but from the owner's company, yes.

Q From the owner's company?

A Right.

Q Did they, in fact, ask you to stall?

A Yes. They asked us to delay the sailing on that vessel as much as we could possibly do it.

Q Why was that?

A Apparently the first vessel, the Massachusetts was supposed to come out. And about that time there was a bill in congress that said -- I think it was the oil imports to the United States were supposed to be -- I think, about 5% were supposed to be carried in American bottoms.

Well, if that would have passed that tanker would have quadrupled in value. And so when they had those three tankers built, the last two were supposed to have charters, but the first one was supposed to be sold at speculation to pay for the next two tankers.

Q So basically they wanted to stall so they could make more money.

A Well, what happened was that the...

MR. CHALOS: Your Honor, I don't know what relevancy that has to this case.

MS. HENRY: I'll withdraw the question, Your Honor.

Q Now, during the time that you were doing the Valdez runs, what kind of work schedule did you have?

A You mean myself on a daily basis?

Q Yes, as a master -- no, as far as through the year.

A It was six months on and six months off.

Q You worked six months straight?

A Yes.

Q And then you would have six months off?

A Yeah. Our company tried to make it that way. We tried to get it four on and four off, but they said, no, we gotta pay an extra man's air fare ticket. So six months on and six months off. They tried to enforce that.

Q All right. And the company you are referring to here is Inter-Ocean Management Corporation?

A In 1977, yes.

Q All right. Now, you last sailed out of Valdez in 1985?

A October of 1985.

Q And how much money were you making per year at that point?

A At that point...

MR. CHALOS: Your Honor, I object. What relevance is that to this case?

THE COURT: You were going to tie this up somehow to prove something that's relevant?

MS. HENRY: No, Your Honor. I'll withdraw the question.

Q The resume that you gave me last evening, who

wrote that resume?

A I did.

Q You did personally?

A Yes, ma'am.

Q And you wrote the last paragraph of it, too, is that right?

A Yes, ma'am.

Q Now, you've told us that you were hired to talk about -- or, I guess critique, is that...

A Yes.

Q Critique what Captain Hazelwood did from the Port of Valdez out to Bligh Reef, is that correct?

A From the time he boarded the vessel until the time it went aground, yes.

Q Now, as part of your last job, I guess, why you were hired. Did you ever try to plot the course of the Exxon Valdez yourself?

A Yes, I did.

Q And did you actually draw it on a navigational chart?

A Yes. Mr. Chalos bought a chart for me and when I took it home I plotted according to the Bell Book and as much information as I had available. I tried to reproduce exactly what

they had done.

Q Okay. And when did you do that?

A It was about the middle of September -- last September.

Q Did you also rely on the tracks, I guess, that were charted by CAOR?

A Not at that one point in time, and not on the chart at all.

Q Did you rely on anything from CAOR?

A The information that Mike gave me -- Mr. Chalos gave me from CAOR, I took and separately plotted on a piece of tracing paper the coordinates starting at zero, and I used zero as Busby Island. Every minute, or two minute positions according to the data that CAOR -- see, CAOR just gave us numbers, and that was meaningless -- totally meaningless to me, unless I could see exactly...

Q CAOR just gave you numbers?

A Yes, ma'am.

Q You didn't get any of the charts from CAOR?

A No.

Q Mr. Chalos didn't provide those to you?

A No, it was just numbers.

Q What I would like to talk about for a couple

of minutes is pilotage. And now I think your testimony -- well, I don't know if you did tell us. Did you have pilotage for Prince William Sound?

A Yes. From 1979 on.

Q So you had pilotage endorsement, is that what it's called, and it's on your license?

A Yes.

Q Now, you got that when?

A Some time in 1979.

Q So you had been going in and out of Prince William Sound for a couple of years before you got your pilotage, is that right?

A Approximately one year. I think one -- I was off one tour of duty on a foreign trip in that period. I think '78 was kind of a foreign year for me.

Q Okay. Well, let's back up a minute. You started going into Valdez what year?

A In August of '77.

Q All right.

A And I spent six months on that trade at that time. Then a six month vacation. Now we come back in '78. And about the middle of '78 I think I went on a foreign trip that, again, lasted six

months. So by the time I get back on to the Valdez trade it's '79 again.

Q And that's when you got your endorsement?

A Right.

Q So you probably only sailed into Valdez that six month period of the first year.

A Just enough to get six trips.

Q Now, why is it that you got pilotage endorsement?

A The company required me to have it.

Q Did you disagree with their decision to have you get it?

A No.

Q That was fine with you?

A That was fine with me.

Q You didn't resent the fact that they were requiring you to get it?

A No.

Q All right. Now, from back when you did have pilotage and you were travelling in and out of Prince William Sound, from Rocky Point to Cape Hinchinbrook you were -- and you were the master on a pilotage vessel and you had the pilotage endorsement -- you were personally required to be on the bridge during that transit, is that

correct?

A At that time, under those rules, yes.

Q All right. And that's where I assume you would be, is that correct?

A That's where I was, yes. Except for one time.

Q Except for one time?

A Yeah.

Q Did you have someone else on the bridge that had pilotage endorsement?

A No, I didn't.

Q How long were you off the bridge?

A About 14 hours.

Q Was that due to an illness or an injury?

A No. Here's another long story. I departed Hinchinbrook; checked out of the VTS System. And, again, to set the scene, I had been up approximately -- about 50 hours at that point in time. Very, very tired.

We set our course and about an hour had gone by. I got a call from the third mate, so he said to come on up on the bridge. So I came up on the bridge and I saw exactly what he saw. We're not making any headway. The weather was extremely rough. We were actually going sideways instead of ahead.

Q You're trying to get in now?

A No, leaving.

Q Oh, you're leaving.

A I'm leaving. And to the southwest of the Entrance is a group of rocks called Wessel's Reef. And it appeared to me that we were setting down on Wessel's Reef.

I had several options that I could have done...

Q Perhaps to make it short...

A Brief. Okay. We turned around.

Q Okay.

A The final thing, we turned around -- I turned the ship around and brought it back into the Port of Valdez. And I called the Coast Guard and said, "I'm coming back in."

They said, "No, you can't do that."

I said, "Why not?"

He said, "Well, you've already checked out of the system."

I said, "Well, I'm coming back in, I don't care what you say."

"Well, we gotta check with Washington."

I said, "You can call anybody you want..."

Q All right. Again, sir, if you could make your

story shorter so we're not here all day.

A All right. We argued back and forth. I said, "I'm coming in anyway." So, okay.

Q Did you go in?

A Yes, I came in.

Q So, despite what they said, you were going to get in?

A You bet.

Q And you did?

A Yes. So we came in there and I got about in the middle of the sound. You don't have a large chart here. But in the middle of the sound, a lot further south than this is a big wide area in the thing. We got up in there and the Coast Guard tried to make me anchor but the weather was too rough, as far as I was concerned. It was better off drifting around.

So what I did was, I drew a box on the chart -- just a square box, and I told the mates -- I said, "Don't get out of the box. Stay in the box."

And the Coast Guard was making them report their position every 10 minutes. So I went down below and told the radio operator -- I said, "I need a weather report and the next one is in two

hours. Now, I'm gonna lay down on my settee. Now make sure you call me." And he acknowledged that. And I went back and I laid down on the settee and the next thing I knew, like, 14 hours had gone by.

Q They let you sleep in?

A Well, he didn't wake me up. There's a hook on my door. He just put it in the door and walked away. Well, about 4:00 in the morning I woke up, and, "Oh, my God, what..."

Q Okay. End of story?

A End of story.

Q All right.

THE COURT: End of trial day, too. We'll recess until Monday morning. Same instructions. Pay particular attention to avoid media information about the case. And be safe. Don't discuss the case with anybody at all, and don't form or express any opinions concerning it. I will see you back 8:15 a.m. on Monday, and we're still on the 8:30 to 1:30 schedule next week as well.

Anything I could take up with counsel?

MR. CHALOS: No, Your Honor.

MS. HENRY: No, Your Honor.

THE COURT: We're in recess.

THE CLERK: Please rise. This court stands in recess subject to call.

(Off record - 1:30 p.m.)

CONTINUED