DOB: Today is the 23rd of September, 1999. I'm Dian Belanger and I'm speaking with Captain Ross Hatch about his experiences on the USS Glacier at the end of the IGY period.

Good evening, Ross, and thanks so much for talking with me.

RH: Good evening. It's interesting we had to come to St. Louis to get together and talk.

DOB: Right. Tell me just briefly something about your background: where you grew up, where you went to school, and how you would end up in the polar regions on an icebreaker.

RH: I was born in New York City, raised in the New York suburbs area, moved to New Orleans in 1950, entered the Naval Academy from Louisiana, graduated in 1956, and spent three years on a destroyer. In those years, the rotation was if you spent the first years in destroyers, you spent the next tour on auxiliaries or amphibious ships. So out of the blue one day I got orders to the icebreaker Glacier. I wasn't sure what to think of them. To get ahead of the story is when I completed two years on the Glacier, it turned out to be a very, very wonderful tour and I thoroughly enjoyed it.

DOB: Why?

RH: I think it was the idea of it was go and explore and do new things and different things that hadn't been done before. It was a less operationally structured environment than the normal naval operations. It was go to the Antarctic and break channel, or go to the Antarctic and explore this area where nobody's ever been before. That was about all the guidance you had because there wasn't any other guidance, and that's very unusual for military operations, and for good reason otherwise. So this made for a . . . there was a lot of "on your own" and "do your own thing" down there.

DOB: Who did you get your orders from?

RH: We had a commodore on board, and he worked for CTF-43.

DOB: Who was that at the time?

RH: I think it was Rear Admiral Tyree. But I know Captain Edwin McDonald was the commodore, and he rode us some of the time. Of course Glacier was the largest U.S. icebreaker, which was built in 1955. Up until that time, all icebreakers that the U.S. had had been built during the second world war. Some were given to Russia, and then some . . . a lesser number that came back from Russia, and I think three of them (Wind class) went to the Coast Guard and four of them stayed in the Navy. And the reason Glacier was number four was the one in the middle of it was number four and didn't come back, so there was an empty number was the way I understood it.
DOB: What does this mean, AGB-4?

RH: It stood for Auxiliary Ship, B probably for breaker and G was possibly a general auxiliary. I am not sure. AOs are oilers, AEs are ammunition ships and so on.

DOB: An auxiliary in this context means what?

RH: Rather than a combatant, combatants being destroyers and aircraft carriers and cruisers, so we were kind of a support ship. Glacier was built . . . there’s a lot of stories. Ben Koether has some others, but my understanding was Glacier was designed to be a convoy command ship to take ships, say up to Murmansk and things like that, to lead the convoy. So accordingly it had a very large combat information center (CIC) or operational control space. It didn’t have very many people in it. I think we had three radarmen. We had one on watch all the time, and he had a space that was probably forty by twenty aft of the bridge. But if the convoy commodore had been onboard, it was set up so he could run his operation from there.

As far as size, it was bigger than the Wind class. The diesel electric propulsion plant had the biggest single armature DC motors ever built. They were two decks high. The armature was actually the shaft, so you had instantaneous control as you changed the current in the field, so it was very maneuverable. Originally, I think, the early designs of icebreakers had a propeller forward that helped push you back off the ice. But they found out that it tended to break more props. I’m thinking back. I think the Wind class had it. The Glacier never did have such a screw. They took it off because they were too inefficient. I don’t know what the new Polar class are, whether they’re diesel electric or not.

DOB: How many engines?

RH: They had two shafts, and we had five diesel generators on each shaft. In the open sea, you could go up to about eighteen knots with five generators, and you’d go seventeen knots with three but you had the extra power for breaking ice. I mean we’d cruise with two or three engines on the line, and then when we were breaking ice, we’d have probably all five and they would kind of . . . sometimes one would overload and drop off the line and they were all going on and off all the time.

Glacier had an aloft conning station that was very interesting. The large mast was hollow on the inside. You could crawl up inside the mast till you got probably forty or fifty feet above the bridge, a hundred feet above the water, and enter a small box with window all around that projected out from the mast. It had a small console where you could steer the ship and directly control the engines. And it was a great place to break ice because you could see much better. But also being enclosed in there, it was warm, you had a radio that you could talk to people on if you had to, and you had a bucket with a line on it.
that you could lower down and get coffee and hoist it back up through the center, because four hours up there tended to be a long time.

*Glacier* is 310 feet long with a 74-foot beam, which is a relatively small ship, but weighed 8600 tons, which was about three-and-a-half, four times as much as a destroyer of the '50s of the same length because *Glacier* had very thick plating. It was probably an inch or inch-and-a-half steel in the hull so it could break ice.

And I guess that's probably a misnomer. Icebreakers don't really break thick ice. They have sort of a step bow that sweeps back underwater and then drops down. And so they kind of ride up on the ice, and the weight of the ship breaks the ice, not the physical hit to the ice. And the secret is when it starts to come down and break the ice, to have the ship starting to go astern or else the bow can fall into the snow and you can get stuck, and then you have to worry about how to get the ship unstuck by using heeling tanks which would move ten tons of water from one side of the ship to the other in, oh, a minute, which would tend to give you a roll, or by changing one propeller going astern and one ahead so you kind of swing yourself back and forth, and finally you'd break the grip of the snow and get off. But sometimes you'd get stuck for a good while.

**DOB:** How long is a good while?

**RH:** Oh, we were occasionally stuck for a couple of hours.

**DOB:** Where do you learn to do this?

**RH:** You learn by doing. There wasn't any school for icebreaking. When people first came aboard, luckily there were always a couple of people that had been in the ice before, which were what we call qualified ice OODs (officer of the deck), and you just watch them for a few days or several days and then you do it yourself. The old hands would be up there for a few more days and finally if they figured out you knew what you were doing, you'd become a qualified ice OOD.

Most Navy ships, I guess all Navy ships, their log every four hours says, "steaming as before." On an icebreaker it says, "breaking as before"—breaking ice as before. I don't know if that was legal or not, but that's the way we did it, because we figured steaming wasn't the right thing. We carried a lot of fuel—a million gallons of diesel oil.

**DOB:** Just to run it?

**RH:** Just to run it. But I mean that would keep you going for a long time. I'd have to look up in the Jane's the range of this, but it's a very long time because you'd be gone for three months and you'd never refuel, whereas a regular ship refuels every three or four days. That's not because they're about out of fuel. It's because they don't want them to get below a fairly high percentage. But *Glacier* still had very, very long range, carried a lot of fuel.
DOB: What was your particular duty?

RH: I was the operations officer on the ship. Basically there are four departments on the ship. There's the supply department which takes care of spare parts, pay, the barber shop, ship's store, and feeds the crew. There's an engineering department that is responsible for the main engines that make the ship go and the hotel services, the air conditioning or heat, fresh water, those sort of things. The first lieutenant heads the deck department; he was in charge of our weapons and deck seamanship and the boats and that sort of thing. The operations department worried about the overall operation and the planning of future operations. They were in charge of the radar and the communicators, the radio center, and the electronics technicians that repaired radars and radios and things like that. They were also in charge of a most important resource, the ham radio shack. So we were more and more the operational end rather than the mechanical end of the ship.

DOB: How big was the crew on an icebreaker?

RH: It seems to me the crew was two hundred fifty chiefs and enlisted, twenty-four officers, and twenty-four scientists and guests, but I think that's a little bit big. Maybe it was . . . I guess I'm having trouble . . . I don't have a good memory. Actually I've got that CTF-43 book. That's a listing of every guy that was on the ship, so I can go count it tonight and I'll give you a number tomorrow.

DOB: Okay.

RH: I was telling one of the bosun mates today, I said, "We didn't have many people." He said, "Oh no. We had three hundred." Well, I think we probably had two hundred twenty, two hundred forty. And then we had a helicopter detachment that would come down that was temporarily assigned to us. We had two helicopters—a clear-nosed reconnaissance helicopter and a larger helicopter that could carry supplies and things like that. We had a small detachment of oceanographers and aerographers.

DOB: Did you carry scientists?

RH: Glacier was kind of also unique. We had room in the officers' country for the twenty-four officers we had, plus twenty-four other people, which included scientists, newspaper reporters, people from, say, Coast and Geodetic Survey that helped us determine positions, and several foreign guests including the head of the Scott Polar Institute, Dr. Brian Roberts, an Argentinean and a South African, some of the old Antarctic veterans. So really, it turned out well.

After we got down on the ice, we'd end up having lectures periodically on the expertise of some of these people which was very, very interesting. We learned how to spot birds in the Antarctic from one of the prominent American ornithologists from the New York
Museum of Natural History, Dr. Murphy. So I learned birdwatching from a real expert. A National Geographic reporter.

**DOB:** What's different about working and living on an icebreaker compared to another ship?

**RH:** Icebreakers are made to live in the ice. The icebreaker has a very rounded hull, like think of the inside of a bathtub if that was the mold. When they originally built the ship, they put a strake down either side to kind of stabilize it. Well, you can imagine what happened the first time they went to the ice with that and they didn't have it anymore so they stopped doing that. So when we were in the open ocean, we rolled a lot. If you steam from New Zealand to the Antarctic, it's very, very bad . . . roaring forties and all of the bad weather where the waves go all the way around the world because there's no land to stop it. I think we rolled as much as forty-plus degrees.

Everybody'd get in his bunk, and then we'd go stand watch, eat sandwiches, and back in the bunk because you couldn't get any work done and couldn't do anything until you got to the ice, and the ice kind of calms the waves down and everything was fine.

When you break ice, oddly enough, there's a little bit of vibration because you're bouncing off all these little pieces of ice because you could be breaking ice as much as twenty feet thick. But you don't break very fast. You break heavy ice (ten to fifteen feet) at about a hundred yards an hour, because really you've got to hit about three places to make it wide enough so you can get ahead. If you just had one width, you'd get stuck in it.

**DOB:** Are the techniques different if you are leading a convoy of ships as opposed to just trying to get one ship through?

**RH:** I don't think you'd lead a convoy of ships through twenty feet of ice because they wouldn't . . . . We could stay pretty much at a modest speed through ice two or three or four feet thick. We could break channel that way, and that's kind of what I think they'd be more thinking about there.

We also had a towing winch with a big wire tension winch we could tow people if we had to. We had a notch in the stern where we could cinch a guy up in the notch and sort of drag him along behind us. We had interesting boats. We had a boat called the Greenland cruiser, which is made out of about two-inch oak. It was a neat little boat. It had bunks in it, a galley, and we'd put it in the water and go explore in little bays and things that you couldn't take the ship into. Some of the other boats we had were standard Navy types, motor whaleboats and LCVPs. The Greenland cruiser was kind of unique because it's the only place I'd ever seen one.

**DOB:** Why is it called that? Do you know?
RH: Probably it was designed for operations in Greenland. It couldn't break very much ice, but it would break skim ice. It would break ice maybe an inch or two thick, which was kind of interesting. This little wooden boat twenty-six feet long, popping along.

DOB: Tell me about ice. Two directions I'd like to go. One is just that there are many different kinds of ice, and I'd be interested in hearing about the most dangerous and the most . . . whatever. But also . . . well, go ahead. We'll do that first and then I'll go to something else. I know I've seen long lists of kinds of ice.

RH: I'm just trying to think. There's different sizes. There were bergy bits and growlers and all these neat little names, you know, and one's as big as a piano and another one's as big as a house, and that's between a bergy bit and a growler. But if you ask me exactly which one, I don't remember off the top of my head. And you could get icebergs. There was one down there when we were there that was like as big as the state of Connecticut.

The ice that was in the glaciers . . . in the icebergs was the ice that kind of broke off a glacier, which is very, very hard ice with a lot of oxygen or air entrapped in it. It's so hard it's blue, but if you put it in a drink, it kind of fizzes because the air comes out of it. The sea ice, which was what you were breaking, has a lot of plankton in the bottom. So when you turn it over, it's brown on the bottom because all the planktons and other little ocean life that the whales and seals eat sort of gets caught on the bottom of it so it looks all mushy like that.

I guess we were down there in the summer, so it was freezing but it wasn't terrible cold except when you have blizzards or those kind of things.

DOB: How early could you get down there?

RH: We left Boston, Mass., like in September, went through the Panama Canal, stopped in Pago Pago, American Samoa, went to New Zealand for about three days to get the briefing from the staff, and then went to the ice. So it was probably the end of October, sometime in October by the time we got down there. And we left . . . February, March, because in '61 when we got stuck in the ice, it was starting to get dark at night.

When you get down there, it's light twenty-four hours a day, and the ship got an extra amount of money so we could feed the crew four times a day. So we fed them every six hours. People got on their own rhythm. They were up for some . . . set of three meals was their working day. But for the first while, everybody just stayed up. Nobody would go to sleep because it was too light, even though there weren't any windows in most of the places people lived. It still was the idea it was light outside that kind of everybody had to get used to that.

Another interesting fact was that there are no germs in the Antarctic. So after you've been down there for a while, your body gets used to a germ-free environment, then when we went back to New Zealand to get new propeller blades, many people got respiratory
infections because the body hadn't seen any germs for so long. And we did have one researcher who had big butterfly nets, maybe five feet across and strung them all over the ship, on the signal lines and all, and I think he caught three bugs in three months. And one night in the rough weather, he lost one of them.

DOB: I have a question about pack ice, because I keep reading that the ship enters the pack, and in the case of the Glacier would be breaking ice and eventually would come through it. And then it seems like it's very common for there to be open water between the pack ice and the land.

RH: Polynyas.

DOB: Well, more than polynyas.

RH: That's true. I mean pack ice can form and then the wind and current moves pack ice away, moves in large sections leaving an open water space that could be quite large. You can be steaming along . . . along the Ross Ice Shelf there was usually an opening spot, as I remember. We just steamed along there like we didn't have to break any ice. So that's true. Whether that's because the ice shelf's moving out or it's melting and the mixture of the salt water and the fresh water . . . but that should make more ice though because fresh water freezes at a higher temperature than salt water. So I don't know what that was. I can remember in the pictures, there was a good mile-wide open spot, generally one at the base of the ice shelf.

DOB: It also seems that ice conditions are very changeable and sometimes quickly. Is that true?

RH: Yes. Well, two things. I mean there's good ice years and there's bad ice years. Whether ice forms, whether the wind's blowing in one direction or another so it tends to pile it up against a berg, against maybe some rocks under water, pretty soon it starts piling up on that.

When we went into the Bellingshausen, it was a good ice year. It was somewhat lighter . . . we were also bigger, but I think it was also a little bit lighter than it had been in some previous years.

DOB: That was in '61?

RH: Well, the first time we did it was in '60. It was January or February of '60, and then we went back again and did it again in '61.

When we got caught, which was in '61 which is beyond our scope, but it could happen anytime. There was open water and then the wind just blew large pieces of pack and pinched it together into really solid pack, and the wind blew it in and all of a sudden we were stuck. And some number of days later it blew again, and all of a sudden the cracks were back there. So yes, it changes.
DOB: How dangerous is it? Is that what you call being beset?

RH: I guess, yes. We thought we were beset for fifteen days, but with our hull shape I don't think we would've got in trouble over the winter. There was some debate whether we were going to stay over the winter because it was getting pretty late in the season, and it was getting dark by the time we got out. The Navy asked if we had enough food and fuel, and we figured if we evacuated about half the crew and shut the engines down except for heat, we probably could make it through till somebody could get something in to us. But it would've been an interesting experiment.

DOB: Well, in 1915, Ernest Shackleton got stuck in the ice in the Weddell Sea, and they just floated along with the pack for months and everything seemed to be okay. And then rather suddenly, I think, they got crushed. What happens there?

RH: Well, probably what happened was that the ice ahead and the ice behind was moving, so he just sort of drifted. All of a sudden this ice that's out in front of you fetches up on shallow water or an iceberg or something like that, then the ice in back of you is going to...and the wind keeps blowing from that direction's going to pile up and keep pushing that ice, and it's going to pile up, especially with a wooden hull ship. That's a difficulty, which is why it was crushed. I guess everything's a little bit dangerous.

DOB: You didn't worry about that.

RH: I didn't worry about that. As I think I said, when you're younger maybe you don't worry about things like that.

DOB: So you would've done all right to stay and spend the winter.

RH: I think the...it was kind of exciting to think about staying. [Laughs] That wasn't a concern, what would really happen, would you get squeezed. I think we had as good a chance as any not to get squeezed or not to get hurt, but maybe we would have.

DOB: How much damage could you expect a ship to encounter in a season in Antarctica?

RH: Our biggest damage were the tips of the propellers. Our propellers were made of a bronze alloy. They were like nine feet tall and weighed about 4,000 pounds. Each of the propellers had three propeller blades, which were bolted on a hub which was the shaft. So what they do is just ship down four or six extra blades every year, and after we broke channel...because what's happening is you're breaking ice up forward, now you've got this big chunk of ice that's moving aft around the ship. And as the propeller goes along, it tends to suck the piece of ice down, and when it gets trapped between the hull and the blade, after a while it can break it and pieces chip off. And it also causes the whole ship to vibrate while you're breaking ice, which eventually you get used to and it kind of puts you to sleep. But the first few days of it, you kind of "what is this?"
But other than that, really, we didn't have much damage, except for heavy weather when large objects broke loose. I always worried about how much ice you were going to get on the ship. But we didn't ever get much ice topside on the ship, even when we were going in the heavy seas, I guess it wasn't cold enough. But we had steam lances available topside to knock that ice off, but I don't remember we ever had to use them. And maybe that's more of an Arctic problem than an Antarctic problem.

DOB: Oh, the ships get iced up down there, too.

RH: We never got iced up to where you were worrying about the ship's stability because you had too much ice topside. I don't remember that.

Let's see. We got into the Bellingshausen . . . a couple of interesting stories, but I'll give you the best one. The first thing we got was congratulations from the Russians who wanted to know if we'd seen any whales. Well, we'd seen lots of very big whales, but we said, "No, we haven't seen any whales."

DOB: Why?

RH: Because I liked whales, and I didn't want them coming down there. And we also sent greetings to Prince Charles. Was he born in '59 or '60? Actually McDonald did it. I think we sent them from CTF 43 and the USS Glacier; congratulations on the birth of the new heir from the first ship to enter the Bellingshausen since Admiral Cook.

DOB: It would've been a younger prince born then.

RH: And we got an answer back. The Royal Family thanked us very much for our congratulations.

But you can get stuck. While we were down there, Sir Vivian Fuchs, who just a couple of years before with Sir Edmund Hillary crossed the Antarctic and wrote a very nice book, got stuck in the Danish motor vessel Kista Dan, and we helped pull them and get them out into open water. That was in '60. That was in the first year we were down there. And the Argentine icebreaker San Martin also got . . . but they had a fuel problem or a water problem, too. The Kista Dan was just stuck (beset), but it was a very small, almost a coastal transport. It was ice-strengthened, but it wasn't going to break its way through any ice. And I think as you said, what happened was it got in when the ice was open and the ice closed and now they were . . . I think they were getting worried that the end of the season was fast approaching and if they didn't get some help, they might not be in too good shape.

DOB: What else did you do besides break ice? For example, oceanography was part of the mission.
RH: We had oceanographers. We did BT stops, we did Nansen sample bottle drops, we did aerography or weather kind of things. We were a weather station. We had a photo lab, we had the bug man, we had a geologist from Coast and Geodetic Survey. We would go out on the land maybe two or three times each year and do surveying, a sort of benchmark and put a block in, positioning things in areas where people hadn't been to help us put maps together. So we'd take theodolite sights, sunlines every hour, and there were some guys that would then reduce those with corrections I'd never heard of. I mean I'd been a navigator, and they were making corrections to improve accuracy. Now you can do it all with GPS, but back then you did it with sunlines and they claimed they were really quite accurate.

That was kind of an adventure. A fun thing to do was to go out on the ice . . . if you want to know what lonely is, put yourself a place on the ice and then have the helicopter and ship sail over the horizon and you don't have a radio, because we didn't have any portable radios then. That's really lonely.

DOB: It must be quiet.

RH: It's very quiet. And you just hope they can remember where they left you so they can come back and get you the next day. But it was fun. It was a challenge. People used to try to do those kind of things because it's different and there's not a whole lot to do.

DOB: How do you keep yourself busy and warm?

RH: Right. Well, the ship was really warm, very comfortable.

DOB: But when you're out on the ice?

RH: Oh, when you're on the ice you just dressed warmly and hoped. We had some National Science Foundation camping gear and clothing because Navy ships weren't too well equipped to do that. It seemed like pretty good gear. We learned a lesson. You ought to learn how to put up the tent before you go ashore instead of waiting until you get ashore and there's nobody else there and then you can't find instructions.

DOB: How good were the nautical charts for Antarctica?

RH: Some were prepared from British hydrographic data of 1873, or something like that. And one time we had an Argentinean officer onboard. We were going up an inland sea by one of the islands going up Palmer Peninsula, and they're asking something about the chart. I don't remember the details, but this Argentinean said, "Well, I made that chart. I made that chart three years ago." Lieutenant somebody.

And sometimes, like when we went into Bellingshausen, there weren't any charts. We made our own charts. We made charts and sent them back, and it was subsequently
figured out that Thurston Peninsula wasn't a peninsula, it was really an island. We didn't do that. But we got in there and started a lot more exploration over that. But that was probably in the mid-'60s by the time they really decided it was an island.

DOB: Tell me about breaking a channel into McMurdo Sound at the beginning of the season. From the very beginning, some years they had difficulty getting close to Hut Point.

RH: Right. The heavy ice would extend maybe twenty miles, I'd say on the average at least twenty miles out to sea. So depending upon all the conditions, how you're going . . . you're going to break your way in through twenty miles. Maybe if you are lucky, you can do a mile a day.

If the temperature turns bad, you've got the problem of the channel . . . you're breaking a channel that's maybe three ship-widths wide and the ice astern of you can freeze up. If the wind is say from the north, it's going to blow all the ice that you're breaking back up in the channel which makes it hard. If there's no place for the ice to go, it's hard to break ice.

Sometimes we'd break it by ourselves and then every few hours we'd have to stop and run up and down. And other times one of the Navy icebreakers or one of the Coast Guard icebreakers, we'd break it as a pair. One ship would break the main channel, and the other ship would try to keep it clear and try to sort of suck the ice out and get it flowing out. But it's a combination probably of temperature and wind because that ice got pretty thick.

DOB: Well, at the end when you approached McMurdo Sound, they also had an ice runway.

RH: I think the ice runway was back further up the bay.

DOB: Was it? So that wasn't the problem?

RH: No. I think as I remember now, because I walked from the channel . . . I snowshoed from the channel over to Mt. Erebus, and I didn't cross any airfield, which turned out to be a lot further than it looked from the ship for a guy that never snowshoed.

DOB: How long did it take you?

RH: It took six or seven hours, and I thought it was only two or three miles. It turned out it was probably five or six miles back and five or six miles each way, so it was a lot longer. Ollie, our dog musher, kind of took us on a nature thing, too. "Here's a seal and this is what kind of seal that is," and "let's go look at that seal and let's go look down in that crevasse," so it was kind of an interesting walk.

DOB: What did you know about Antarctica before you went there?
RH: Very little. But when I found out I was going, I read a lot. But when I went there, I found I really knew very little about it.

But the history of the Antarctic is fantastic, and I think that was a neat thing down at McMurdo. I don't know how it is now, but you could walk into Shackleton's hut and you could walk into Scott's and other huts down there. They looked like the guy had just gone out for lunch, and I mean he'd been gone fifty years and it was just like he just left. It was unbelievable. I felt good when they said they're going to make these national preserves, because I'm afraid that as the numbers of people going down there increased and increased and increased, that I'm not sure what would've been left from souvenir hunters. I don't know how much is around now, but it was really neat.

By then I'd read about Scott and I'd read about Shackleton, and I'd think, gee whiz! This is where this guy really was! I think it tends to make you want... I mean it's such a... awesome's an over-used word, but it's such an awesome place, it makes you want to find out more about it. And books were cheap in New Zealand. I've still got a whole bunch of Antarctic books I bought down there... Scott's journals and all those.

DOB: Were you surprised at anything that you saw there or was it pretty much like you expected it to be?

RH: I was probably surprised at everything. I guess one of the biggest things that surprised me was the phenomenon of temperature inversions where you could see mountaintops... you could see a mountain 120 miles away. You could see a mountain maybe eighty miles away that looked upside-down because it inverted once. And then you get a double inversion when it's even further away. It looked like the mountain was right on the edge of the horizon. Well, it was, except the horizon you're looking at was a long, long, long ways away. You knew where you were and looked at the chart, and tried to find where's the first mountain that looks anything like that, you'd find out it was over a hundred miles away.

I think the grandeur... and I'm sure everybody that goes down there talks about just the grandeur of the Antarctic, the flora and fauna, going out on the ice and... we'd go help the ornithologists go and band penguins. So you got to do neat sort of things that you just... you don't even think about. We're going to take this observation today, or we're going to go over to the penguin rookery and do this today, or we're going to band penguins. We did that in the Falklands. We went out and banded emperor penguins.

DOB: Were you ever truly scared?

RH: No.

DOB: Should you have been?
RH: I don't think so. I don't think we ever got in a condition that was really critical. I wished the ship would stop rocking sometimes. Forty degrees over a couple of days gets pretty stressful. You get tired.

Let me tell a funny story. There was a very expensive, very accurate Fathometer that would measure water depth, and it was sitting on the bridge in this big, big, big rack, and it was very accurate. It also was very good in very deep water because we were going through one of the big trenches—South Sandwich Trench or one of those—so we could sound in 6,000 feet of water or 10,000 feet of water.

Well, one of these rough nights, it jumped up out of its rack and it must've weighed two or three hundred pounds and it started sliding back and forth across the bridge. Now the inside of the bridge house is probably fifty feet wide, so now you've got a hundred, a hundred and fifty pounds maybe of weight sliding back and forth from one side to the other across the bridge. Because you were going to get those rolls, you had a couple of wire cables in the overhead so you could hold on. Well, when that happened, everybody's holding on, lifting their feet up, the thing would go by back and forth. When the ship stopped rolling to get ready to shift, it would be up against a bulkhead then, and everybody tried to jump on it in the corner and hold it down.

That's probably not such a great story, but it comes to mind as a funny thing. We finally wrestled it and got it in one corner and tied it down, but I don't think it ever worked very well again after that.

DOB: What are you proudest of from that experience?

RH: I think getting into Bellingshausen. I mean it was sort of like nobody's ever done this, go see if you can do it, and we went off and did it. I just felt proud that the United States had been able to do that, that we had the guts to send people down there and go do it and we succeeded, and that was a good thing.

DOB: Tell me more specifically about that. Where did you go in the Bellingshausen Sea and how far south—

RH: We went in there on 18 February 1960, made landfall at Thurston Island (~103° West, 72° South). Nobody had ever gotten into where they thought the land started. The closest had been within about thirty or fifty miles of it. I'm not sure of the number, but a long distance. The Navy just said the second half of our cruise both years was, "Go explore it." And the orders were to go in this area and see what you can find and see if you can penetrate the Bellingshausen Sea. Okay. So we went and did it.

It was kind of neat, too, to see because even then there were a lot of countries working together down there. I guess I don't remember the details of the convention, but people were working well together anyhow, as far as I could see. I mean we'd stop, especially as you go up the Palmer Peninsula, we'd stop in the stations and talk to people. They'd tell
us what they were doing and we told them what we're doing, and we'd give them some food or bring them out for a hot shower, and did the same thing several years later in Vietnam, too. Bring the Army guys out and give them a shower.

But that was kind of neat, having been exposed to a lot of these experts in the field and the international guys that were riding the ships. So that was a very useful program. Somebody might say that it didn't gain anything. Well, it gained a lot of goodwill and I think for us on the ship it gained us a lot of satisfaction. It made us appreciate what was going on better.

And they were all neat people. I mean it was hard to find a guy you didn't like down there. Maybe everybody down there figured they had to get along because if you didn't get along, it was going to be really tough.

DOB: Was there somebody in particular that you met that you were just really glad to have there?

RH: No, I guess I couldn't . . . I guess Dr. Brian Roberts of the Scott Polar Institute. I wasn't on the group that he saved.

DOB: Tell me what year it was.

RH: I think it was '61.

DOB: Okay.

RH: The perils of this idea of going surveying is we sent one party in and they went in about probably fifty or sixty miles inland, and for some reason, it might have been because of the high winds, they couldn't bring as many people. They had them take two loads and there were let's say five people, but they brought the first half of them in and they were setting up the tent, and then they brought the second group in, and the first group of them was making tea for them to be good hosts when the second group got there.

Well, about the time the helicopter left, the tent caught on fire. They had no tent, or maybe one tent, maybe only one tent for the six guys, and that would've probably been all right. But then that night a blizzard came up, and I mean the winds got up to about 150 knots sweeping down from the Pole. I think it was the Burton Island and the Glacier, we were making turns for about eight knots just to hold our bows up on the ice. We pointed towards the South Pole and made the engines go around so it just leaned on the ice. We tied each other together, but the lines parted, the wind was blowing us around so badly. So this went on for about . . . and I say, it was around 150. I think the anemometer stopped registering at 120 or 130, and obviously it was getting very cold, and
obviously we just knew we got to go get these guys that are inland because the tent probably blew away, is all we knew. You can't fly a helicopter in that kind of wind.

So about the second day, after about forty-eight hours of this blizzard, the wind got down somewhat, and I don't remember what the number was, but the helicopter pilot said, "Well, it's a little bit on the ragged edge, but I'll try it. We'll go see if we can go."

So we went up and got those guys, brought them back on the ship, heard their story about the fire, found out that Dr. Roberts, who in his youth—at this time he was probably fifty when he came with us—so in his youth thirty years before in the '20s, '30s, he'd gone down to the Antarctic in a wooden boat and spent a year kind of just floating in the pack around the Antarctic. He took charge and showed them how to build an igloo-type thing using pieces of canvas and some snow, and they made the igloo not quite to spec because one guy—they had to take turns—one guy had to keep his legs out because there was only room for five-and-a-half.

The helicopter crew brought them back, and it turned out they were all fine. None of them had any bad frostbite. They hadn't eaten by that point in about twenty-four hours, and everybody was ready to give up the ghost. They figured they were good for another twelve hours or so. But miraculously, they all came out of it super. Maybe the enthusiasm of going on survey parties waned a little bit after that.

DOB: Well, how much survival training were you given?

RH: None. I was a Boy Scout. But I mean there wasn't any organized training.

DOB: That wasn't part of the military training?

RH: That wasn't part of the military training. I'm trying to think who went. Let's see. The one that I went on, there was a lieutenant commander who was the meteorologist for the staff, there was the dentist, myself, and I forget if there was a fourth guy or not. The lieutenant commander that was taking the sights must've had some sort of training to take the readings. And we knew how to navigate. We knew how to take sights so that wasn't a big deal. But how to live on the ice, you'd better read your manual. I've still got it at home. A little Arctic handbook tells you about how to take care of yourself. But we had good mukluks and good equipment.

DOB: You mentioned scientists from several countries all working there together, and as we talked earlier, the Antarctic Treaty in 1959 institutionalized that idea and made it possible for all of this internationalism and cooperative science to go on. Do you think that's going to go on indefinitely?

RH: I guess what always worried me was if they were going to find some valuable natural resource, be it oil, gold, I guess there's coal. They know there's coal down there, but that's not economically feasible yet. But I guess that's what kind of worries me is . . . would it
survive if there was some really large economic gain to be made by somebody. I think the treaty's a good thing, if we can just keep people living up to it. But can we? I'm not sure . . . it's almost like the whaling treaties. Some people observe them and some people don't, some people interpret them the way they want. I'm not sure you couldn't do this . . . I mean outright economic exploitation I'm sure is pretty clear-cut, but there's probably some ways you can fiddle-faddle it. I wouldn't be surprised now, and I would hope not.

You can ask me about tourism, and I'm of two minds with tourism. I think too much tourism might destroy it, but on the other hand, I think it's wonderful for people to see it. Now how can you make those two work? The thing I really wanted to do is be able to take my wife back down and see the Antarctic.

DOB: Would she like to go?

RH: Oh yes. She's a Ph.D. in biology and a science teacher in high school for twenty-five years. She'd love to go. I've never been up the inland passageway going to Alaska, but from the pictures I've seen, the inland passageway going to Alaska and the inland passageway going up the western side of the Palmer Peninsula looks almost exactly the same. Maybe there's a little bit more ice in the Palmer Peninsula, but they look very, very similar.

DOB: There's trees in the Inland Passage.

RH: That's right. As I remember, at the very northern end there were some. That was another interesting . . . you stop at some other place like Deception Island. This was a whaling station forty years ago, and they just left. And the whaling stations there had kind of fallen down, but there were whale bones and carcasses and ribs and some whale boats that were run aground when they came into the little harbor.

DOB: Have you been back?

RH: No.

DOB: Would you go back?

RH: Yes.

DOB: For a long period?

RH: I thought really seriously a lot of times about going back and wintering over and I wasn't sure what I could do. I mean how would I fit in and that kind of thing anyhow. I don't know that I'd go back for a long time because I guess I'm not sure what I'd do.
DOB: Paul Siple wrote that people who go to the Antarctic are changed—their character and personality are affected by this. Do you agree with that and were you changed by being there?

RH: I think I probably was. Now if you say how, I'm not sure how. But it might give you a different outlook in . . . and maybe there's where I started thinking differently about whales, for instance. I mean I probably didn't think much about whales one way or the other, but now I'm convinced there should not be killing of whales and those sort of things. It's so big . . . the grandeur of the thing probably changes your outlook on things somewhat. When you stop doing that, your memories keep on. I was on missile ships all the rest of my career, which is a whole different kind of world. So I always wondered, gee, how do you get back? I think it turned me into more of an ecological supporter. Well, I guess I always liked animals and ecology and the environment, but I think I really liked it even more when I came back.

DOB: I've asked people that if they were . . . if you were an artist and if you could paint on one canvas the essence of Antarctica for you, what would you put in your picture?

RH: Well, the first thought that came to mind was off McMurdo where you're starting in the channel, and a long sweep of ice going up to Mt. Erebus and the smoke and the blue in the background. Then I think, maybe it's the ice shelf or maybe it's just the big barren peninsula with a little tent on it. And to be fair, you ought to put the big seas because the big seas aren't right at the Antarctic, but the big seas are what those guys had to fight back in the early days when people first went down there. It just must have been unimaginable in a small wooden boat. I mean it must've been really scary.

The little penguins . . . penguins decide to jump in the water by all gathering together at the edge till one guy falls in. Then if that guy doesn't get eaten, then the rest of them all jump in.

DOB: Is that why they wait for each other?

RH: Yes. They're all just left standing by the edge and eventually everybody pushes and one guy falls in. If the killer whale doesn't get them or the sea leopard doesn't get them, then they say it's okay and everybody jumps in. But nobody wants to be first.

One thing is a misconception. I got to believe down there from reading that the killer whales were bad, and then I went out and spent two summers doing Earth Watches with killer whales and decided they weren't bad. But they just had a bad rap in the ice.

DOB: They were very feared, were they not?

RH: Yes, well, the story was they were . . . but I mean it could be that they had a behavior pattern because the shadow of a human on an ice floe looks like the same shadow as a
penguin, and we know what they do is lift ice floes up with their noses so the penguins fall off, that they did that and people fell off and got eaten.

On Earth Watch I was with people who have been studying them for years and years, and we went out and took pictures of them in little rubber boats, and they swam around and swam around the boat. But this was a different group. These orcas ate salmon and another group ate seals. The researchers all knew them by number. I never mastered it, but the guys were really good. We took pictures and then we'd go figure out who it was from the fin patterns.

But that's behavioral. The same way as penguins don't have any enemies on the ice, except maybe the sea leopard. If you walk up to some penguins, they do what their behavior patterns say and they peck each other. So you learn why is that. That's an interesting . . . limited behavior patterns. Penguins weren't afraid of people, so we'd go out on the ice and play football, the penguins would come and play. We'd give them a beer and we'd have a beer, and we'd go about our ways.

I don't know. All these memories sort of flood back, you know, it's forty years ago. But all these memories come flying back. I was going to paint a picture, but I'd probably go with Mt. Erebus.

DOB: Okay. What haven't I asked you that you wish I would?

RH: At the moment, nothing comes to mind. I've been talking it seems like forever. I guess I'm sorry because of budgetary limitations that the Navy and the Coast Guard have had to cut back on their participation. There are only three Coast Guard icebreakers I know of. Flying in people and supplies seems to take some of the adventure and excitement away from it.

DOB: The science program is bigger than ever.

RH: So they're flying everything in I guess nowadays.

DOB: Well, thanks so much for talking with me, Ross. It's been a pleasure.

RH: Thank you.

[End of interview]