

Oral History Recording

Archive reference AD6/24/1/40.1

Recording date: 4 July 2009

N.B. This transcript is an edited version of this recording, and is suitable for virtually all reference purposes. While this version avoids many repetitions and stumbles in the original recording, the recording must remain the final arbiter.

Roy Bailey was an employee of the DSIR (Department of Scientific and Industrial Research) at Ditton Park, Slough. In charge of the manually-operated Ionospheric Research Station at Port Stanley in 1948, he was requested to visit the Antarctic Peninsula to ascertain if it would be possible to set up a research project at a FIDS Base, in order that results could be obtained from a site closer to the magnetic Pole.

Chris Eldon Lee: *This is Roy Bailey, interviewed at BAS HQ Cambridge, by Chris Eldon Lee on the 4th of July, 2009: Roy Bailey.*

Roy Bailey: Born in Longford in Kent, 10th March, 1922.¹

Chris Eldon Lee: (00.20) *And your name is?*

Roy Bailey: Roy Bailey...

Chris Eldon Lee: (00.23) Roy Bailey?

Roy Bailey: Yes, commonly known as Bill...

Chris Eldon Lee: (00.26) *Oh, I see...*

Roy Bailey: On account, presumably, of the song 'Won't you come home, Bill Bailey'

Chris Eldon Lee: (00.33) *And now you are eighty...?*

Roy Bailey: Well – Eighty-seven.

Chris Eldon Lee: (00.44) *Eighty-seven – Congratulations!*

Roy Bailey: Well, nothing to do with me – just a question of getting some useful ancestors, perhaps.

Chris Eldon Lee: (00.48) *What were you doing before you got involved in the Antarctic?*

¹ This transcript place of birth conflicts with the spoken place-name, but has been confirmed by Bailey's n.o.k.

Roy Bailey: Well, I was working at Radio Research Station, Slough developing Ionospheric measuring equipment. During the war, the Admiralty set up a number of Ionospheric stations around various parts of the world, and there was certainly one went down to Port Stanley.²

Now the Radio Research Station was co-ordinating observations, with a view to predicting ionospheric propagation conditions so, when the Admiralty gave it up, the powers-that-be of the Radio Research Board decided they would like to continue the observations from there because there was, I think, only one other ionospheric observation in the Southern Hemisphere at the time, which was in Australia, so they were quite keen to carry on measuring it; and since I'd been developing hardware for it they decided that I was perhaps useful to go, and I was willing to go and was quite intrigued with the possibility.

Chris Eldon Lee: (02.44) *Was this fairly new science in those days?*

Bill Bailey: Well I suppose it was, in a way, because the knowledge of the ionosphere was fairly rudimentary and Watson-Watt (who invented radar) was working on the use of the propagation of radio waves, and he noticed that aircraft reflected, and basically he went over to Bawdsey³ in the East Coast and that was the beginning of all of the Radar Chain.⁴

As far as the Radio Slough work that I was involved in, essentially was what amounted to the equivalent of a radar station; [it] sent a pulse up to the ionosphere, measured the delay as a function of frequency, and produced a graph which effectively showed reflection from the E and F layers; and eventually you saw the echo apparently penetrating by having longer and longer delays, until finally it didn't come back at all. And they were interested in using that sort of information, predictions, to advise people like the BBC as to when they should change frequencies. If they wanted to broadcast to India, they would obviously like to know what [were] the chances of it reflecting at a particular frequency, and they could choose their frequencies – insofar as they had any freedom – to get the best results as far as they were concerned.

Chris Eldon Lee: (04.47) *So it was important to know how the ionosphere was behaving.*

Roy Bailey: Yes.

Chris Eldon Lee: (04.50) *At various points around the globe...*

Roy Bailey: Ideally yes, but it also depends on the time of the day, the season of the year and the state of the sunspot cycle. So it was a very messy sort of correlation with the whole thing.

² Roy also states 'in various parts of the Antarctic', but then corrects himself, as shown above.

³ Such was the interest of Germany Intelligence in this early development work, the LZ 130 *Graf Zeppelin* flew up the coast and hovered there to observe, on 2 August 1939.

⁴ The 'Chain Home' system of radar antennae placed along the south and east coast of England.

Chris Eldon Lee: (05.10) *Does the ionosphere always stick to the rules – does it always behave in the same way?*

Roy Bailey: Oh no, you can get a variety of things, you can get (I've forgotten what you call it now) a sudden burst of radiation from the sun which can give a complete short-term blackout, which upsets the reflection properties.⁵ It's a long time; I never really did much theory on the nature of the ionosphere – as far as I was concerned it was a layer somewhere up there. I had to design a transmitter which sent a pulse up there and use a receiver at the other end to determine how long it took to come back and then just change the transmitter frequency and [that of] the corresponding receiver. That produced a graph and, towards the end of the time, the last thing that I did for Radio Research Slough was to develop the thing that became known as the Beastie, when it came down here.

Chris Eldon Lee: (06.29) *How did it get the name?*

Roy Bailey: I think mainly because it produced sufficient interference that it blotted out most of the radio communication within the immediate vicinity. When I went out to Stanley and set up a station there, I was most unpopular, because it went off most of the time once an hour, but sometimes every fifteen minutes, and it took about five or six minutes, I think – if I remember rightly – to sweep over the whole frequency band, so it came through everybody's local receiver with a nasty raspberry sort of noise [*Chuckles*] and I wasn't popular.⁶ [*Laughter*]

Chris Eldon Lee: (07.15) *But it was important work both for both military and domestic?*

Roy Bailey: Yes, I suppose it was, yes. Now the other thing which was relevant was that before I went my boss, a man by the name of Wilkins, said to me 'While you are in Stanley, we'd rather like to get some measurements from further south; would you make such enquiries as appropriate as you can, as to whether it would be possible to make measurements further south.' I took that as being authority to have a look. Anyway, we were mentored by the Met. Station and Gordon Howkins had been down in the Antarctic, [he] knew a bit about it.⁷

When the old wooden *Biscoe* was coming down [from England] I approached the Governor of the Falklands and said 'Look, can I hitch a lift down?' which he duly agreed to. So I did in fact hitch a lift on the old wooden *Biscoe*, which was going down to replenish – at that time we thought all the bases – and that was, from my point of view ideal, because obviously to put in an Ionospheric Station we'd have to put up some useful rhombic aerials which require a fair bit of space. So you needed really to have a look round the [local] area as well as the actual base itself to see whether it was feasible to put up usually three seventy-foot masts to hold up the aerials.

⁵ Solar 'wind' or storm.

⁶ Here Roy is referring to his manually controlled equipment. He did not see a Union Radio Company's production Beastie until 2001. Beastie Serial No 1 arrived at Stanley after he departed, and Frank Kift's agony when having to cope with this complex unit, earned it a nickname of 7 letters - *starting with B and ending with d!*

⁷ Howkins had served with Navy party 475 at Deception in 1944, then took charge of 'Stanley Met'.

Anyway, that's how I came to get on to the *Biscoe*, and when the *Biscoe* came in, there was a Radio Operator who was going down to Lockroy who had a personal interest in – you know – he was a radio Ham.

Chris Eldon Lee: (09.45) *This was George...*

Roy Bailey: George Barry.⁸

Chris Eldon Lee: (09.47) *Barry, yes.*

Roy Bailey: He was a radio Ham, and he was interested in long-distance communication. He heard we'd got a station up there, and he came up [for] just a social visit, to see what we were doing and he was obviously quite keen on it.

So, I decided we could probably raise enough equipment out of our supply of spares for Stanley, to give him a pile of bits and pieces; including two small RAF display units and other odds and ends. I gave him effectively a box of (as far as I was concerned) more or less junk. We gave him probably a couple of hour's instructions – I can't remember if it was a couple of hours, or even a day's instruction – on actually making measurements; really only promising to measure a thing called the Critical Frequency. That's the highest frequency that doesn't bounce; it goes straight through the ionosphere and, in the simplest case, you just measure that frequency at noon, the most useful piece of information.

We gave him a background of information. I gave him the pile of junk, and I approached the Governor to see whether I could go down and have a look at possible sites for other stations, and he'd agreed. I'd also been in touch with 'Bunny' Fuchs and he'd agreed that I could come down on the old *Biscoe* and have a look round. Which was fine, we went down as far as Marguerite Bay; I don't think we called in anywhere on the way down, because we had heard at that time, [that] in addition to the Marguerite Bay FIDS Base, there was also an American expedition in the *City of Beaufort* was it?,⁹ another sister-ship of the old wooden *Biscoe* that they'd allowed to freeze in over winter and had established a base there. Anyway, that had been iced in and couldn't get out, so the Americans sent down a couple of icebreakers to get them out and, when Fuchs learned they were going in to Marguerite Bay Base, we were somewhere about Deception at the time. He suddenly diverted us down to try and catch up with the icebreakers.¹⁰

We went down and had an absolutely marvellous day just outside the ice over Marguerite Bay, waiting for the icebreakers to turn up; and I had a most marvellous day on the crows-nest of the *Biscoe* – it was one of those glorious days, when the whole scenery was absolutely crystal-clear – it was one of the nicest days I remember just sitting there looking, you could see a lot of the islands.

Anyway, the icebreakers turned up and took us in; it was the easiest base relief we'd ever done – because we were iced in, they just put up some planks and the new stores were just slid down to somebody (I can't remember if there were any dogs) but they

⁸ Incoming Base Leader and Wireless Operator/Mechanic for Port Lockroy.

⁹ *Port of Beaumont.*

¹⁰ The *Edisto* and the *Burton Island.*

were all duly hauled up to the hut. Anyway, we didn't stay there very long; as I understood it, the fact that they'd broken a channel for the *Biscoe* was strictly against the rules. I think their formal instructions stated that they shouldn't interfere or have anything to do with the FIDS outfit and I think the captain of the icebreaker took it upon himself to broach us [*Coughs*] so we could get in. Anyway it was obvious he didn't want to hang about very long, so they eventually took us back out and we headed back up north. Now I was hoping to see all the bases, so we called in at Argentine Islands and at Lockroy.

Now the plan at the time had been (I think on the way down they intended to go into Hope Bay, but the ice in Hope Bay didn't go out so they went – because of the icebreakers – straight down to Marguerite Bay) and, on the way back, they pulled in at Lockroy; they dropped me there. And the theory then was that they would go up to Hope Bay, which was going to take about a fortnight.

So I was dropped off, with thoughts that I should then help George Barry assemble the pile of junk that I'd left him, so that hopefully he would be able to use it in some useful fashion. Anyway, the *Biscoe* went off to Hope Bay and, in typical *Biscoe* fashion, developed engine trouble and beetled back towards Stanley.

Chris Eldon Lee: (11.52) *Leaving you stranded at Lockroy...*

Roy Bailey: Yes, stranded at Lockroy with the anticipation I was stuck there for a year. [*Chuckles.*]

Chris Eldon Lee: (12.05) *What were your feelings at that point?*

Roy Bailey: It struck me as rather a nice idea. Anyway, I sent a cable to my boss back at Radio Research saying, 'My return was somewhat delayed,' having said I was going down without specifying whether it was going to be a week or a year.

Anyway I said that as far as I was concerned, initially it looks as if it was going to be a year. I say it didn't really worry me at all. It was a bit tight because there were five of us on a four-man base and we hadn't really completed the replenishment of the stores, so five of us were on rather short rations.¹¹

Perhaps I should have said before that, at the time before the *Biscoe* arrived, the Chileans and the Argentines were being a bit awkward. Lockroy was vacant, and there was a fear that either Chileans or the Argentines would move in and would then have an international incident if we tried to throw them out. So they sent HMS *Snipe* from the West Indian station down to stabilise the situation; even suggested that we were sending over a heavy cruiser from Simonstown. [*Chuckles*] I never discovered whether they actually did, but certainly that was the...

Chris Eldon Lee: (13.46) *The rumour?*

Roy Bailey: That was the rumour.¹² Anyway, when HMS *Snipe* came down, the Governor picked up a couple of Falkland Islanders, Bill Richards (at that time an

¹¹ It should be pointed out that the Base had been stripped of food when it was abandoned a year previously.

¹² Cruiser HMS *Nigeria* and her support ships were sent to the Southern Ocean.

eighteen-year-old youth) and [*Mumbles*] John Blyth¹³ was the other man, and rushed them down to establish a presence at Lockroy, and they left them with about a fortnight's rations which included, amongst other things some yeast, which became important later. Anyway, in due course the *Fitzroy* landed me, and Ken Pawson and Bill Richards as the permanent staff, and left them with appropriate stores – at least, what we thought were appropriate stores.¹⁴

Chris Eldon Lee: (15.10) *And did you get to build your contraption?*

Roy Bailey: Oh yes, I built my contraption and we took, I think, the first ionospheric measurements actually done in Antarctica.¹⁵

Chris Eldon Lee: (15.21) *Were you taking measurements all summer, or just for a few days?*

Roy Bailey: I can't remember. Though no doubt it'll be in George Barry's report in BAS Archives, I'm sure.

Chris Eldon Lee: (15.35) *Did the equipment work fine?*

Roy Bailey: Well it worked. [*Laughter*] [Recording] was stopped at – I can't remember just when. It was just valve equipment in those days, I think I've got probably one or two pictures, assembled on (it hadn't got any metal working) a wooden chassis; just valve-holders, and just wired up.

Chris Eldon Lee: (16.10) *How big was it?*

Roy Bailey: Ooh – well we had a conventional communications receiver¹⁶ which was this sort of size, but the thing itself is again, that sort of size.

Chris Eldon Lee: (16.20) *Like a large radiogram – medium size radiogram?*

Bill Bailey: Medium size. I think I've probably got a photograph of it, if you want to see it.

Chris Eldon Lee: (16.34) *And that went out to the aerials, which were...*

Roy Bailey: Yes, went out.

Chris Eldon Lee: (16.38) *And the signal was received by the same aerials or...*

Roy Bailey: Yes, I might have had a pair of aerials, but they were on the same masts, anyway.¹⁷

¹³ Who had previously been recruited to replace Ken Blair of Naval Party 475 at Lockroy in 1944, and then served at Hope Bay during the following winter.

¹⁴ HMS *Snipe* disembarked Richards and Blyth on 23 January 1948; the *Biscoe* delivered Barry, Pawson and Roy Bailey on 26 February 1948. At this time, the *Fitzroy* was not involved. No other yeast was supplied for 1948...

¹⁵ The first Antarctic FoF2 reading was taken at Port Lockroy by R Bailey on 9 March 1948 at 12:00 local time. Amazingly, on this auspicious occasion he managed to achieve this when utilising a jury-rigged indoor antenna.

¹⁶ Royal Navy version B28 of the Marconi CR 100, modified by grounding the a.g.c in the IF circuit.

¹⁷ A pair of external aerials were used for routine measurements in 1948. One of his masts is still standing.

Chris Eldon Lee: (16.47) *And so you were able to take measurements, you took measurements over a period of time.*

Roy Bailey: Yes, and I left it with George continuing to take some.

Chris Eldon Lee: (16.55) *Right. So, was that all you were doing at Port Lockroy, or were you also on cooking and cleaning rotas or anything...?*

Roy Bailey: Well, I don't remember having much to do with [that,] other than going down to the shore and bringing back ice-blocks for drinking water, and that sort of thing.

Chris Eldon Lee: (17.21) *So you were a Fid for a while?*

Roy Bailey: Yes, I suppose you could call me a Fid [*Chuckles*] a supernumerary Fid, probably.

Chris Eldon Lee: (17.33) *How were you relieved?*

Roy Bailey: [*Coughing*] Well, eventually, the *Biscoe* being out of action they sent, because I think one of the reasons anyway was that Lockroy hadn't been fully re-supplied, they sent the old *Fitzroy* down – did you know the *Fitzroy*?

Chris Eldon Lee: (17.59) *I've heard of it.*

Roy Bailey: It's the little coastal steamer; with I think 1/8th-inch thick steel plates where they've rusted. Anyway, it came down and picked me up. I don't know whether you've come across Ken Pawson's book, about his time in the Antarctic?¹⁸

Chris Eldon Lee: (18.21) *Which book?*

Roy Bailey: Pawson's – Ken Pawson. He did a year at Lockroy and also a year at Admiralty Bay, I think it was. He's still alive and successful in British Columbia.

Chris Eldon Lee: (18.43) *Oh right, OK. So, you left the equipment running when you left Port Lockroy...*

Roy Bailey: The only generators we had were two Chore Horses, which I think had been well and truly abused – they were very second-hand – because in those days FIDS didn't have any organisation really to produce a decent generator, so we spent a lot of our time taking it to bits...¹⁹

Chris Eldon Lee: (19.19) *And putting it together...*

Roy Bailey...and throwing it together again, to get it to fire up.

Chris Eldon Lee: (19.21) *But you got results that were worthwhile...*

¹⁸ Ken Pawson – “*Antarctica – to a lonely land I know*” ISBN 0-9681675-1-9, Wipoorwill Press, Canada.

¹⁹ War surplus Canadian units, that only produced 240 Watts of mains power.

Roy Bailey: I hope so!

Chris Eldon Lee: (19.24) *And, did you establish any other bases, or was Port Lockroy the only...*

Roy Bailey: That was the only base...

Chris Eldon Lee: (19.29) *With a Beastie.*

Roy Bailey: Well, that wasn't the Beastie. No, the Beastie was a later thing; I built the original prototype of the Beastie before I went down, and it was then taken over by Union Radio, who made half-a-dozen, I think, which eventually became known as the Beastie.²⁰

Chris Eldon Lee: (19.56) *This is a little Beastie that you took...*

Roy Bailey: Yes I suppose you could –

Chris Eldon Lee: (20.01) *A wee Beastie...*

Roy Bailey: The wee Beastie, yeah, [*Chuckles*] the crawling one.

Chris Eldon Lee: (20.06) *And that was it, really, and did you ever go down to the Antarctic again?*

Roy Bailey: I went down again in 2005 when the Fids organised a trip down. I thoroughly enjoyed that; it was very unfortunate I couldn't get into Lockroy. This was on the *Polar Star*; the *Polar Star* had got into Port Lockroy, and I was due to go ashore on the first Zodiac that was going ashore. Unfortunately I was at that time using a stick – I'd forgotten to bring it and I missed the first Zodiac that was going ashore. But anyway, when they came back for the second Zodiac they got a nasty [adiabatic²¹] gale coming down off the hill, and though they kitted me out with all the wet weather gear, eventually when they tried getting their most experienced Zodiac drivers with a view to taking me ashore, they eventually decided it was just too risky – I never got ashore again.

Chris Eldon Lee: (21.30) *You saw it?*

Roy Bailey: I saw it, yes. So that was the end of my...

Chris Eldon Lee: (21.37) *So, was this one trip to the Antarctic in 1947 –*

Roy Bailey: 47-48.

Chris Eldon Lee: (21.44) *Was that a springboard to a career?*

²⁰ The Union Radio Co of Croydon made a total of 37 Beasties – 28 of the Mark II version and 9 of the Mark IIa version. They had started building serial No 38 before they ceased trading in 1973. Beastie serial No 3 arrived at Port Lockroy on 21 March 1953. It was installed at Halley Bay after Lockroy closed. It remains there, buried in ice.

²¹ On the recording, Roy says 'diabetic.' Adiabatic winds were the local predominant winds, due to the topography.

Roy Bailey: Not really, no. What did I do? I came back – I'd been running the measurements at Stanley, and when that finished I came back to the UK, and back to the government department. At the time, before I went down I was a very humble Assistant, Grade 3, which was basically, [not] a scientific post at all, it was basically an A-Level posting. Anyway, when they wanted me to go down to Stanley, I said 'All very well, I don't mind going down to Stanley, but it's an Assistant 2 Post, and unless you are going to raise me to an Assistant 2 Grade, I'm not going.' So they agreed to do that, but the day I got back to England they promptly reverted me to Assistant 3, so I said 'Well, you can keep your job!'

Chris Eldon Lee: (23.09) *Oh, I see...*

Roy Bailey: So I went and found myself another job, which actually was with the Corporation of Trinity House, looking at radio for lighthouses. After that I went and worked for Vickers Research. I don't remember doing anything very useful there. In fact one reason I left there – someone came to me and said 'What's the value of what you are doing?' I felt I was on a loser, I couldn't really...

Chris Eldon Lee: (23.08) *You were struggling for answers?*

Roy Bailey: Yes, I couldn't really, it was looking at surveying equipment; tellurometers had really just been invented, and they were sort of making noises [that] I should provide the equivalent of it. But I didn't see any point when there was perfectly good equipment already. I didn't feel it was a worthwhile job so I pulled out and went to Vickers Research – no, wait a minute, I certainly went to Vickers Research...²²

Chris Eldon Lee: (24.37) *So, were you working mainly in the radio field?*

Roy Bailey: Yes. And the electronics field, anyway.

Chris Eldon Lee: (24.44) *And that summer in the Antarctic is clearly quite crystal-clear in your memory, so it must have been important to you.*

Roy Bailey: It was, yes. You know, a unique sort of experience, and I thoroughly enjoyed it and, well, I was really pleased to have the opportunity of going back in 2005 to see it again – and I'd quite cheerfully go down again!

<TEXT ENDS>

Point of Interest

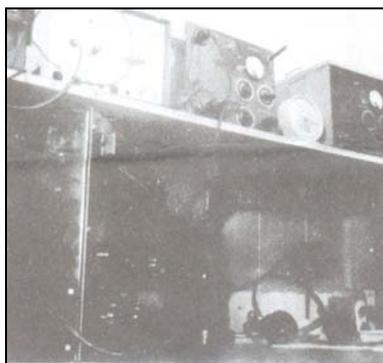
Base 'A' at Port Lockroy was established in 1944 by Naval Party 475 as a product of circumstances beyond their control; this base should have been at Hope Bay. By early 1947 Base 'A' was closed and abandoned after the accommodation hut had been stripped bare and the bunkhouse had been demolished along with nearly all the internal partition walls. The salvaged timber was removed to build a small hut on the

²² He then joined Racal for almost 40 years, becoming a director of a subsidiary Racal Company, and he was seconded to GCHQ for some years before retirement.

Argentine Islands, after it had been discovered that the super-tsunami of April 1946 had carried away the old BGLE hut. The incoming four men assigned to re-open Port Lockroy found virtually nothing on site when they arrived. Ice conditions further south, coupled with engine problems on the *John Biscoe* in early 1948 meant yet another case of unforeseen circumstances impacting upon the history of Base 'A'.



Bailey, Blyth, Barry and Richards in the decimated base.
Photographed by Ken Pawson in early 1948



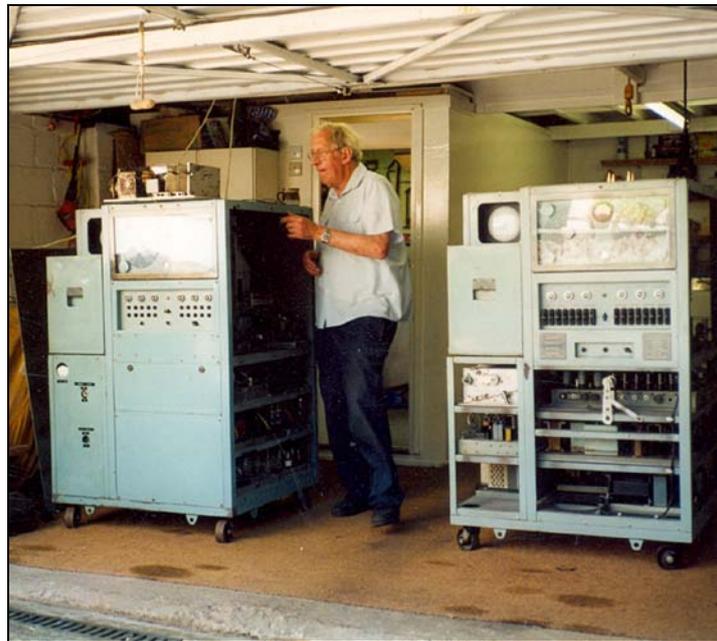
1948 Manual Ionospheric gear.
Photo: Roy Bailey

The Base had no value for further land survey and sledging work, being such a small island, it was cut off from the peninsula by the ice-free Gerlache Strait; furthermore, the site was useless for synoptic weather reporting. Roy Bailey had been unwittingly forced to set up the initial Ionospheric recording station here, and despite the Base being later abandoned for the winters of 1949 and 1951, the justification for re-opening it once more in 1952 was based on two needs; the opportunity to set up further ionospheric research, and to maintain a political presence.

At last an in-house scientific regime had got under way. In 1957, having done five years of continuous ionospheric soundings, the Base was fully-rigged and equipped for the intense scientific programme of the IGY, and it continued operational until early 1962, when the discipline was moved to Base 'F.' Much later than common sense might have dictated, the eventual closing of the Base meant that the hut was in a suitable state for restoration by the UKAHT in 1996. Roy Bailey's 'abandonment by chance' at Port Lockroy in 1948 laid the foundation that made it what it is today.



Roy Bailey, 'Father of the Beastie' on the Polar Star, 2005
Photograph by Brigid Wainwright.



A Mark II and a Mark IIa Beastie, undergoing restoration in 2001.
These were the first production versions that Roy Bailey had seen.