In November 1996 I returned Antarctica with the construction team to complete the Sanae 4 base. We left earlier, hoping that we would get through the ice, in an attempt to have more time to complete the work.

Here the Agulhas is ready to sail.

The departure board.

The team members embark.

Visitors see them off.

The curved bow of the Agulhas.

Departure is delayed as we wait for the pilot.

The pilot finally arrives.

The Outeniqua is berthed ahead of us.

An American research vessel.

The pilot descends to his boat.

And here we are stuck in the ice. Leaving earlier did not pay off and we arrived about the same time we would have done had we left on 1 December as usual.

A lot of pushing backwards and forwards.

Note the ice re-freezing in the ship's wake.

Adelie penguins.

A seal. This one came quite close.

The Outeniqua joins us and we follow.
An iceberg locked in the pack ice.

The helicopters offload.

The Outeniqua had trouble with its fresh water plant and was also low on fuel and food. They come alongside for us to supply them.

We are back at Vesles, making biltong. Because of the dryness of the air this can be accomplished in 3 days.

Mike is holding a sparking radio aerial caused by static electricity generated by wind friction during a storm.

Having a meal from emergency rations during a 4 days storm.

Rations were low so I ventured to the kitchen block. If the chef had also made it there, one could get a meal and takeaways for the other cabin members. We took turns to go. The catwalk had been enclosed, but the door had been left open with this result.

The return journey.

The kitchen block seen from the catwalk of the sleeping quarters. The rope is in use as others make the trip across.

See the feet disappearing down the hole.

The electrical installation was made modular. Here my electricians assemble modules for the socket outlets.

The buildings are not yet heated and one can't do this sort of work wearing gloves. A small heater just warms their hands.

Some finished modules ready to install in the power skirting.

The socket outlets in the labs required some plugs on uninterruptible supply, hence the two sets of trunking.
The same concept for the lights.

00:12:59:19
The plugs in B-Block only required normal power.

00:13:07:05
It is Christmas.
The red suits were easily obtained by wearing their Antarctic clothing inside out.
We received our chocolate rations at this time.

00:13:30:08
The Norwegians visit. This year we had a lot of visitors.

00:13:59:09
A sun dog.

00:14:07:21
Digging out cable drums from the depot. These ones had been there for 2 years, but were not too deep down.

00:14:25:15
The Canadians from Polar Logistics visit us.

00:10:19:00
Vesles International Airport. The Cat just dragged a beam across the snow to smooth a runway.

00:15:22:22
Opening the cable drum. Snow gets through the tiniest cracks and has to be cleaned out.

00:15:45:00
Laying the outside cables. This cable weighs 100 kg/m and would normally require a gang workers to carry it out over ground. Here it just slides down the ice slope with one person guiding the end.

00:16:06:11
Emerging from our cabins after another storm.

00:16:25:04
This time the door was closed

00:16:42:04
Note that it is difficult to see the mounds. The white reflection cancels out the shadows.

00:16:52:14
The base was officially opened this year and there were visiting politicians, department heads and press.
In all, about 200 people at the opening ceremony. My camera battery gave in so this is all I have of it.

00:17:09:13
The moon, low on the horizon.

00:17:18:24
The new base at night. There are various lights outside, lighting up the road, pathways, snow melter, entrances to buildings and the fuel bunkers. The temperature this night was -40.
The generating plant at last operational.

The control panel. It is all automatic, starting up and synchronising another generator when required.

There are 3 generators: one operating, the second to help if the load increases beyond the capacity of one and the third is a backup. Here only one set is running and connected.

These engines are water cooled. The heat from them as well as the exhaust is taken to a heat exchanger to provide heating for the base.

The cylinder in the foreground is the exhaust heat exchanger.

Finishing touches in A-block. The passage is carpeted, there is lighting and a ceiling.

The radio room is being equipped.

The doctor's rooms.

The lower floor lab.

The toilets in A-block.

The upper floor passage. The washing machine is waiting to be installed in the laundry alongside.

One of the bedrooms for the overwintering team.

The upper floor lab.

The uninterruptible power supply and battery pack.

The holes in the roof are for cameras to record the aurora.

The completed stairwell.
The distribution boards in the link.

I test the telephone exchange.

An outside view panning across down the hill.

The line of poles are to support the water pipe from the snow melter.

The Cat clears away the snow from the last storm.

The nearly completed base from the far lobe of the mountain.

The temporary aerial has been removed.

The permanent aerials can be seen on the near side of A-Block.

A crevasse

A type of lichen that grows on the rocks.

The outside of the base in the early evening.

C-Block. The sewerage plant. The water is purified and pumped over the cliff.

The solids are collected each year and returned to SA.

The completed generator room.

The hangar. The green tanks are for the water pumped up from the snow melter. There is enough to last 3 months, but it is not recommended that they leave it that long before topping up.

A scientific experiment for counting subatomic particles. These ones are filled with wax.

Another one. These are filled with lead.
B-Block The bar/ lounge area.

One of the food stores.

And the other, still to be painted.

The kitchen.

The dining room. The ceiling is still to be put in.

B-Block passage.

A-B link. The completed telephone exchange.

A-Block. The darkroom.

The doctor equips her office.

This was the first woman overwintering team member at Sanae.

The dentist chair and equipment. The doctor doubles as the dentist.

The operating theatre and equipment.

The operating table.

The X-ray machine.

The anaesthetic gasses.

The electronics lab.

Fibre optics for the LAN.

An overwintering team member has brought his bike.
The lower floor lab. Note all the PC's, the reason for all those socket outlets.

Filling the new snow melter.

The equipment is below.

The pipeline to the water tanks.

A scientific experiment called a Riometer. We called it the "hoenderhok" as it looked like one, each chicken having its own TV.

The HF Radar experiment.

Note the bollard lights to light the way at night or in a storm.

Last view of the base as we fly back to the ship.

The ice shelf.

The bay ice broken up and drifting out to sea.

The ship in sight ahead.

Some whales.

The ship sails back. No ice and no rough weather.

And that was the end of my Antarctic trips.