

Newsletter #1,
30 March, 2002

Hello Everyone:

We finally made it to Alert. We were delayed for a day in Trenton, and we were also delayed a day in Thule. We think that the Trenton delay was because of the unavailability of the Hercules aircraft, and we know that the Thule delay was because of high winds.

As I am sure all of you know, we are here in Alert to do a series of experiments pertaining mostly to underwater acoustics. Most of the people associated with this exercise come from the Defence Research lab in Halifax (DRDC Atlantic – their brand new name). Some are from the sister lab in Ottawa and some are from the United States. There will be a few military people to help and observe, and one professor will be coming from the University of Victoria. Last and probably least is myself, recently retired from DREA (the previous name of DRDC Atlantic). I had an itch to go yet again to the Arctic, so I competed for a position they had available and got hired as a contractor.

Alert is on the north coast of Ellesmere Island in the High Arctic islands of Canada. It is at latitude 82 degrees, 30 minutes, and there is nothing between it and the north pole but water (covered with ice, of course). Alert is under that little brass disc that's on the top of your globe. As with most things, you can find out all sorts of information about Alert off the web. The following is from: <http://watserv1.uwaterloo.ca/~brobinso/alert.html>

by Bill Robinson, and the first paragraph is as follows.

“CFS Alert, located on the north coast of Ellesmere Island in Nunavut (formerly part of the Northwest Territories), is the "most northern permanently inhabited settlement in the world." [1] Established on an experimental basis by the RCAF in 1956, it was taken over by the RCCS in September 1958. In 1958, the station complement was only 29 personnel, but by 1959 it had grown to 92, by 1970 it had grown to "about 200," and by the late 1980s it had grown to "approximately 220" personnel. In 1994 the station's complement was reported to be "approximately 180 military positions." As many as 110 of those were members of the Communicator Research trade (intercept operators). [2] In February 1994, it was announced that Alert would be converted to remote operation by 1997-98. As of September 1998, the number of personnel at the station had been reduced to 74, including seven directly employed in operations. [3]”

There is more about Alert on that web site if you are interested.

Thule, on the other hand, is an American air base located about three quarters of the way up the west coast of Greenland. It is used by the Canadian military as a sort-of half-way station for Hercules aircraft flying people and freight into Alert. If you are interested in some of Thule's history 'before the airbase', you can find out more at:

http://hjem.get2net.dk/Jette_Falk/Greenland/green1-5.html

So far, there are 18 of us here. Nine arrived last week and nine more arrived today. For those of you who want to make sure that your husband or wife got here, I'll list those who are actually here:

From DRDC Atlantic (Halifax): Jim Milne, Dan Wile, Al Tremblay, Val Shepeta, Kevin Whalen, Gerry White, Garry Heard, Francine Desharnais, Jacques Rouleau, Don Mosher, Don Richard, Mike Haggarty and Ivan Bond.

From DRDC Ottawa (The sister lab): Janice Lang

Military Augmentees (helpers) Pte. Sophie Nantais and MS Bill Keeping

Contractors: Dorothy Edwards (Chef), Ron Verrall (Camp Manager/Science Consultant)

The nine people that came up last week have been working hard preparing our building and getting all the equipment up and running. They have also made some very good contacts with the people here at CFS Alert. The station has been very helpful, and they have offered equipment and people to help with the camp set-up.

After we (the newcomers) got settled in at the Station, Garry Heard, Francine Desharnais and I went out on the ice to look for a convenient place for a camp – a place where all the experiments will be done. Unfortunately we didn't have much luck. Unlike the last few years when nice, flat, reasonably thin ice was easy to find, the ice this year seems to be fairly rough everywhere. To be more precise, most of it seems to be two-year-old ice with sizeable chunks of ice frozen into it like plum pudding. We drilled through the ice in a couple of places that looked better than average and found thicknesses of seven ft. and nine ft. – too thick for annual ice but too thin for really old stuff.

So far, the only saving grace is that the snow is quite thick, which means that travelling by skidoo and hauling freight over the ice will be reasonably easy – once we find a decent spot.

This was Francine's first experience on a skidoo. We gave her a quick lesson and then took her off to work. She did marvelously well, especially considering that the ground was rough and the temperature was minus 30, or colder.

We'll be out looking again tomorrow. We'll keep you informed.

No pictures yet. Sorry! We'll probably have a few for the next newsletter.

We'd like to hear from you. However, we don't have much bandwidth available for email, so please, no attachments. Also, please use plain text – no HTML.

Best wishes,

Ron Verrall

Newsletter #2,

31 March, 2002 (Easter Sunday)

Hello Everyone:

Garry and I went hunting again this morning for a bit of ice real estate suitable for a camp. We took binoculars to a high bluff and studied the ice in all directions. It was quite obvious that pans of heavy old ice had been blown into the region last summer and fall. We could see their round shape and their slowly undulating surface. There are no sharp ridges of ice on old pans; anything sharp has been smoothed away by the hot sun of several summers. (The term 'hot' is relative, of course.) Between the pans the ice was very rough. This rough stuff was the thinner new-formed ice that had been crushed by the hammer-and-anvil action of neighbouring pans. (Two anvils, more like!) However, we thought we saw a smooth piece of ice on Jolliffe Bay, so we went down to have a look. Like many things, the ice looked better from a distance. Up close, it was almost surely another thick old pan. Just to be sure, we drilled a hole to measure its thickness. We never did get through; we quit after we were down 13 ft. We just wanted to verify that the ice was, indeed, too thick to be annual ice. We then had to hustle back to Alert for lunch.

By this time we were getting rather discouraged. The best piece of ice we had found (and it was by no means good) was way to the west - near Black Cliffs Bay. Transporting the whole camp (14 tents, all the flooring and all the scientific equipment) was not going to be easy. And it was definitely going to be slow across the rough, wind-hardened snow. Moreover, as Jim Milne reminded us, the weather in Black Cliffs Bay is notoriously foggy and windy, and it is not a place to go unless there is absolutely no other option. We were feeling rather frustrated and dejected.

There are a number of criteria that have to be satisfied for a successful experiment, and most of them this year seem to be mutually exclusive, and some seem to be completely unsatisfiable. In particular, the water depth has to be just right for the underwater acoustic experiments, and the depth has to be adequate over a distance of a kilometer or more. There can be no rapid change of depth in the near vicinity since this would cause a reverberation or an echo. The ice has to be reasonably smooth so that tents can be erected on it. It should be thin so that we don't waste days and days making holes through 25 or 30 ft of ice. Moreover, the camp should be reasonably close to Alert so that we don't waste an inordinate amount of time transporting the camp and equipment to the site and then back again.

In the afternoon the three of us (Francine had joined us) left to have another look. Our plan was to go over to Black Cliffs Bay again if we found nothing closer. We started by going up onto a high bluff and looking at the ice north of the runway. Of course we found nothing there since that ice is always rough, but on the other hand it didn't take us very long. We then started on the long trip over to Black Cliffs Bay. About a third of the way there - on the ice southeast of William Island - I drove across a piece of wind-blown, snow-free ice that was smooth and flat and (to me) obviously thin. I slid to a stop and went over to see Garry. He pulled out his GPS to find out where we were and then looked up the water depth on his chart. He decided that the location looked promising. So we drilled through the ice to verify that it was, indeed, annual ice. It was 6-ft thick, so that was good. We dropped a lead-line to check the water depth. The chart and the line agreed. We then walked the area to see the extent of the thin, annual ice. Of course the ice patch wasn't quite as large as we would have liked, but

it was adequate. During the walk we realized that the area was a piece of thin ice between two of the old pans. This geographical feature was not easy to see since the whole area was camouflaged and hidden by a thick blanket of snow. After realizing the relationship between the thin ice and the pans we went exploring and found more small pieces of thin ice (five to six ft. thick) between other old pans. These are approximately 500 to 600 metres apart. The existence of these other bits of thin ice is more than academically interesting since they are strategically placed for some of the experiments.

So, the water depth is good, and the horizontal extent of the good depths is adequate. The ice is thin and smooth, and its area, although not large, is adequate. Moreover, the site is as close to Alert as we could possibly hope for. We seem to have found a home.

This was a good year for Francine to be learning the secrets of the trade; one doesn't learn as much when everything falls neatly into place. She asked lots of good questions and several times commented that she was 'enjoying this' – in spite of the sore back, shoulders and arms, and in spite of cold fingers and face. I no longer travel at a nice sedate pace so that her skidoo can keep up; she's not far behind regardless of the speed.

Meanwhile everyone else beavered away down at our Spinnaker building repairing skidoos, generators and sleds, cleaning stoves (a dirty job) and preparing sled loads to go out to the camp. With any luck at all we will start building the camp tomorrow.

The first picture today was taken by Janice Lang in the Hercules coming north. It shows (from left to right) Ron Verrall, Mike Haggarty and Jacques Rouleau trying to sleep away the time in the aircraft.



The second picture was taken by Garry Heard during our hunt for the right piece of ice. It's a wolf print, and since there is no scale indicated I can tell you it is about six inches across. I suppose I could tell you it was bigger, but that wouldn't be honest.



Best wishes,
Ron Verrall

2 April.

PS. I've been having trouble getting the emails out. Whenever I try to send them to a fairly large number of addresses the computer hangs or the server hangs or something... I've wasted too much time fighting the email gods. Darryl Gittins, who used to come north with us and who now lives in Victoria has agreed to disseminate the Newsletters. This is why you are getting them from him. However, if you would like to reply or send notes to any of the people up her, please send them to (*addresss deleted*) either Jim or I can pass them to the recipient. This mechanism for getting emails in and out may be temporary, so keep tuned. In the meantime, I wish to thank Darryl very much.

Ron

Newsletter #3,

2 April, 2002

Hello Everyone:

The camp build-up began yesterday and continued today. We took six skidoo/sled loads yesterday and another nine today. Also, the station has lent us one of their BV-206s to help haul heavy freight. It brought out one heavy load yesterday and another two today – Gerry White driving. As I have said before, these BV's are track vehicles that are mainly personnel carriers. They can, however, pull a large trailer that can hold a lot of heavy freight – flooring, tents, etc. Each load probably represents about five or six skidoo loads. If you received the Newsletters of 2000 you will have seen pictures of them.

Kevin Whalen brought out our Positrack and used it to clear snow off the ice. The ice may be smooth and relatively thin, but the snow is rough, thick (in places) and very hard. Where the snow is thick you can see that the ice is significantly depressed from the weight it is holding up. We will be careful not to drill holes there. When Garry read this he said, 'They'll think the ice might break.' I'm sure you'll know the real reason.

Yesterday we had time to put up one Octagon (a smallish Arctic tent designed and built in-house at DREP), and today we put up two Octagons and a 32 x 14 – ft. tent. The big tent will be used as our main mess hall. Dorothy Edwards, our cook who has been with us several times in the past, came out and fed us a very nice hot lunch. She had to work out of the first Octagon; it was the only one with heat on, and her mess tent was nowhere near ready. The Octagon is pretty small, so she fed us in shifts of four. Dorothy is as keen as mustard to get out onto the ice and start living there. If there is anyone who likes these Arctic trips more than I do, it's Dorothy.

I'm afraid that these emails sometimes give the impression that the Arctic Trials are mostly fun and games. The truth is that we work very hard. We all came back exhausted yesterday evening; I was too tired even to attempt a Newsletter. Today was a little better for me – I get used to it after a couple of days. Don Mosher, looking at me through bleary eyes, commented, 'Man, you guys work hard. They have no idea back home. I don't think that many of the sailors would do this'. The irony is that the weather has been lovely – sunny and no wind at all. If the wind picks up to 10 or 15 knots and the temperature stays below minus 30, our Don will descend to another level of misery. Interestingly, morale is always good in spite of this hard work. In truth, I suspect the good morale is *because* of the hard work and the sense of steady progress. Luckily the camp build-up, which is the hardest part physically, lasts only for a week or so. Hopefully, Don and the other new people will have forgotten their exhaustion by the end of the trip and they will be ready and willing to come back next time.

I don't have any pictures of the camp yet from Janice Lang, so I'll just include one she took at Thule as we were boarding the Hercules aircraft. Looks cold, doesn't it?



Best wishes, Ron

Newsletter #4,

5 April, 2002 (Friday at 10:00)

Hello Everyone:

On Wednesday and Thursday we continued hauling out freight and setting up tents, and we are now almost finished. We have put up five octagons, a large kitchen tent, an accommodation tent (12x28), a science tent (12x28) and a warehouse tent for the food. We also set up (temporarily) our ever popular Hurritent as a biffy. More on its fate later. Still to be built are the battery tent, the workshop tent, another octagon for a 'remote' science tent and a Phantom tent. (The Phantom tent really exists; 'Phantom' refers to an underwater vehicle.)

Several of us have moved out to the ice camp more-or-less permanently, which means that we have spent one night out here. Dorothy and Sophie Nantais, who is helping her, are together in one Octagon; the two Dons are in another; Al and Val are in a third, Francine is in a fourth (Nicole and Janice will join her), and Garry and I are in the fifth.

Yesterday the regular 'Rotator' Hercules came to Alert bringing another contingent of our people. Gordon Ebbeson and Nicole Collison came from DRDC Atlantic (DREA); Mike Vinnins, Lloyd Gallop, Red Apps and Mike Boyle came from DRDC Ottawa (DREO), and (Captain) Richard Van Der Pryt was loaned to us from MP&EU (Maritime Patrol and Evaluation Unit). A couple of them came out to the ice camp and paid us a visit yesterday afternoon, but none has moved out permanently.

The reason that no one has come out again is our big news of the moment. We have a storm/blizzard in progress. (It's 10:00 right now.) The wind picked up yesterday afternoon and continued all night. We had a short break at about 0100, but the winds have increased pretty steadily ever since. A storm of this nature in Alert in April is quite unusual. The only other strong wind I've experience at Alert (several years ago) lasted for only a few hours. The new folks, of course, are having trouble believing us, and I'm sure some are thinking, at least tentatively, about taking the next BV back to Alert. Right now I'm writing this in the kitchen tent. The fabric is snapping and flogging, and the metal arch frames are bending in the wind. The amount of noise is impressive. However, the tents are all well tied down to the ice, so we shouldn't be sailing off anywhere. The visibility has deteriorated to between 30 and 100 ft in driving snow. Moreover, it is very hard to look into the sharp snow particles, so when we are walking around we can barely see one tent from another.

We refueled all the stoves this morning before the wind got too bad – but it was bad enough. I was driving the skidoo, which was pulling the barrel of fuel, and I couldn't see well enough to keep from running into drifts. Don Mosher and Garry, who were holding the barrel, had to fight struggle to keep it from falling off the sled. They were not amused. Since then we have spent our time looking after tents – propping up Octagon porches and so on. Don, Garry and Sophie have some interesting stories to tell about that.

1300: We just come in from rescuing Francine's octagon. The wind had blown all the snow off one of the snow flaps and it had lifted, letting the wind and snow into the tent. We rushed out, stood on the flap and weighted it down with freight and lots of snow. There was some snow inside the tent but no other damage. We will rescue our equipment and anchor the tent more professionally after the storm quits. After fixing Francine's tent we inspected all the

others, and they all needed snow on the snow flaps. The high winds do take it away quickly, particularly since there hasn't been enough time for the snow to set into a solid lump.

The litany of problems related to the wind began yesterday evening. We were cleaning up around the camp – putting everything into piles and rows so that nothing would get lost under the drifting snow when I heard a rustle of plastic. I looked up and saw the Hurritent sail over the warehouse tent and then over my head. Don Mosher, who was a little downwind, saw it coming, made a mad grab for it and snagged one end of the frame. The two of them lay on the ground – the tent twisting and struggling to get away and Don holding on for dear life. Val Shepeta, who was quite close, launched himself onto the body of the tent and the fight was over. The tent was pinned. For some reason this all seemed quite funny – or perhaps it was the relief – but all three of us laughed uncontrollably for about a minute. Luckily no-one was using the Hurritent when it decided to become airborne. It would have been a frigid moment. We have never lost a Hurritent in this fashion before. Perhaps we just don't plan for winds like these. We usually just pile snow on the snow flaps, but when it goes back up I'm sure everyone will insist that it be guyed properly.

18:00 Morale is much better now. The winds are going down; the visibility is much better, and, perhaps most importantly, supper is almost ready. Most people had a nap this afternoon to make up for the very disrupted night they had last night. I knew that the storm was dying when Garry's snores drowned out the sounds of the wind.

6 April, 2002, 0930

The wind has gone down to 15 to 20 knots, a mere zephyr of what it was. Everyone is busy working outside finding and repairing equipment. I'm going to take a floppy with this newsletter back to Alert so Jim Milne can send it off. I'm sorry that there are no pictures.

Cheers,

Ron Verrall

Newsletter #5,

6 April, 2002 (Saturday)

Today the weather returned to its 'usual' state: calm, sunny and not too cold – in short, quite beautiful. Our view of hills and mountains to the west has returned, too. The new people are beginning to believe that life on Jolliffe Bay might be bearable after all. We couldn't convince them that snow storms and blizzards weren't the norm (still can't in the case of Don Mosher). We spent the morning, which was still a little windy, repairing Octagons and other tents. We knew we were going to get an influx of new people, so we had to take our 'biffy' out of the accommodation tent – preferably in time to give the tent a good airing. This meant that we had to set up the runaway Hurritent. The wind was still blowing about 15 knots, so we approached the problem with a little trepidation. However, we overpowered the tent with sheer numbers, and then we anchored it to the ice in three places and more-or-less buried it in snow. It's not going anywhere. We also aired the accommodation tent.

Around noon the people from Ottawa came out by BV and skidoo and had a good look-around. Happily for them they arrived just in time for one of Dorothy's lunches. Lloyd

Gallop and Nicole Collison are staying out at the camp, but the rest of them went back to Alert. Stan Dosso stayed for supper but went back to Alert after supper.



While a gang of people put up yet another tent (the battery tent), Lloyd, Stan, Nicole and I went out a fair distance from the camp and froze a pulley arrangement into the ice. This pulley will allow us to use a skidoo to help raise and lower a kytoon, which is a cross between a kite and a balloon. We also practised finding thin ice amongst all the old ice and rubble.

8 April (Monday morning)

Time passes and I still haven't finished this newsletter.

We've been busy.

Yesterday the rest of the people from DREO, Mike Vinnins, Mike Boyle, Lloyd Gallop, Red Apps,

Mike Boyle, Boban Jovic and Pierre Richer came out to the camp, and they brought the DREA kytoon with them. The first photo shows the kytoon being pulled across the countryside by a BV. The second shows the kytoon in position at the experimental site. I think everyone is clustered around discussing last-minute adjustments to the 'plan'.

The background for this experiment is roughly as follows.

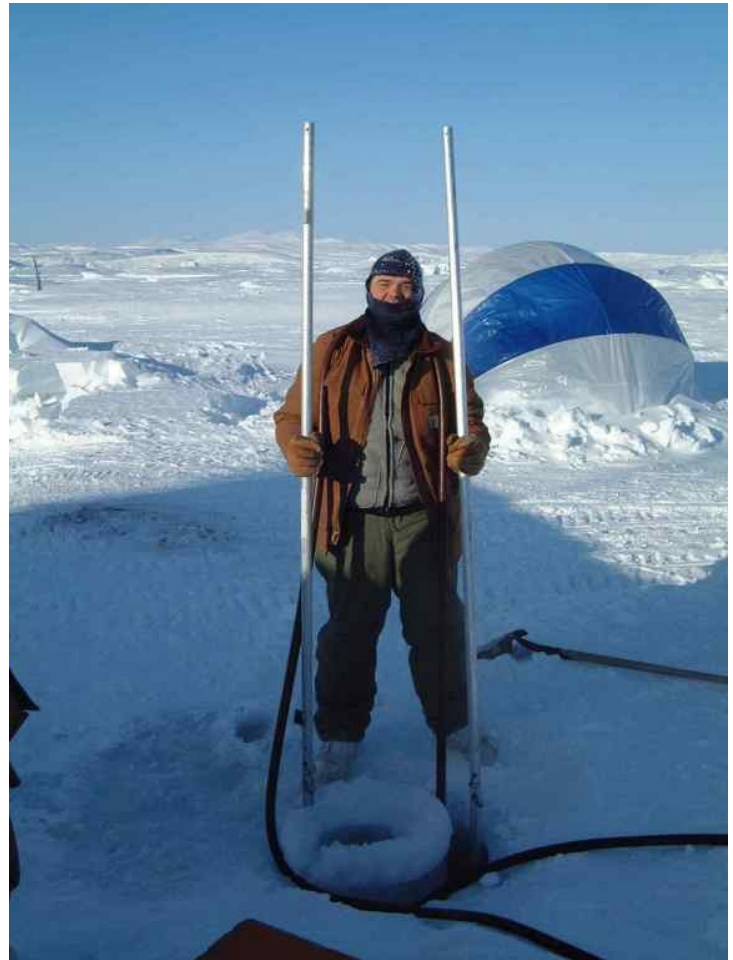
'Icepicks' are devices similar to sonobuoys for detecting submarines, except that sonobuoys are dropped into water and Icepicks are dropped onto the ice. The Icepicks pick up sound vibrations in the ice with geophones –



similar to those that pick up seismic vibrations in the earth. These Icepicks are generally dropped from military aircraft and hit the ice hard enough to stick into the ice 12 to 18 inches. DREA are doing some modifications to these devices, and in order to test them realistically they have to drop them onto the ice from a height that will get the picks up to a speed that is nearly its terminal velocity. Helicopters could be used for this, but they are very expensive, and they can't hit a target terribly accurately. Enter the Kytoon. It is a tethered helium-filled balloon that actually has extra lift if there is a wind. Thus, it is a cross between a kite and a balloon.

Yesterday afternoon (during a flat calm) the kytoon was used to hoist the Icepicks to a height of 700 ft, at which point a radio signal released the pick. This was repeated for a total of 10 Icepicks. Between each drop the kytoon was hauled down by skidoo. A rope ran from the kytoon down to a pulley that was anchored in the ice. From the pulley the rope ran to the skidoo. Hauling down the kytoon was quick and effortless. By the time they had done 10 drops the crew was getting very efficient. They had good luck, too, since all ten landing points were clustered quite closely together. This means that all picks can be reached by cable from the small recording tent (Octagon) that was erected right after all the drops. Only one drop was a failure in that the pick did not stick. It 'corkscrewed' as it fell, and so it hit the ice at an angle and bounced out.

The other two pictures today (all compliments of Garry Heard) show us drilling a 2-ft-diameter hole with our hot-water drill. The first shows Val Shepeta holding the circular ‘cookie cutter’ over the ice core that he has just cut out. The second shows Val, Ron and Francine going over some esoteric aspect of the hot water heater. Although we actually needed the hole (to test out a large salt-water battery, amongst other things), the main reason for the exercise was to train Val and Francine in the use of the drill. They did just fine, but practice will continue today.



Don Mosher has worked very hard setting up (and fixing) our heating stoves. They were originally designed for small boats, and so are very simple (which is good). However, they are very cantankerous and need a lot of TLC before they work reliably (and this is bad). Following the practice at CFS Alert, Don was named BFurnO (base furnace officer) since he was spending so much time on stoves. After a very hot stove melted some of the inside-wall plastic on the small battery tent he was renamed BInfernO. (Very little harm done.)

The weather has been beautiful the last couple of days. The new people are starting to believe that this (rather than snow, storms and fog) is the norm.

I’ve been writing at this for days. Must get it off.

Best wishes,
Ron Verrall

