

## Introduction

Hello. I'm Don McIntyre and I'd like to tell you about Expedition Ice-Bound. It's probably the most ambitious private expedition to Antarctica since Sir Douglas Mawson's 1911-1914 epic adventure. He spent two winters at Commonwealth Bay, Cape Denison and called the windiest place on earth. The wind can exceed 300 kilometres per hour and no one else has ever tried to spend at winter at this lonely outpost. He wrote a book about his experiences and called it "THE HOME OF THE BLIZZARD". This name has become a nickname for Commonwealth Bay,

### Expedition Ice-bound

I learned about Mawson when I was in school in Adelaide, South Australia. Mawson was from Adelaide too. He became a sort of hero to me and I always wanted to visit Antarctica. One day after I finished the 1990/91 BOC Challenge, a single-handed around the world yacht race, it dawned on me that I had a yacht that was strong enough to sail to Antarctica. I began planning a trip.

It took a lot of planning and a lot of savings but finally in January 1993 I was ready. I had a month's holiday. I found three guys who wanted to go with me.

On 2 January 1993 we sailed out of Sydney, Australia bound for Commonwealth Bay, 2,560 kilometres south of Hobart, Tasmania. We sailed through the "roaring forties," and through water filled with iceberg and growlers to 68 degrees south which is south of the Antarctic Circle. This is a really rough piece of water called The Southern Ocean.

We had 200 bears on board, teddy bears. These brave bears were with us to raise money for a local children's hospital and they were the first bears to make an expedition to Antarctica.

We only got to spend two weeks in Antarctica and the weather was so bad that we only got ashore for three days! We all enjoyed the time we had there and the bears posed for photos with the seals and penguins. It was a great trip and I knew then that I wanted to spend more time there.

Many people who have visited Antarctica get this special feeling about the place. It is almost as if something captures you and you feel the majesty of the last wilderness on earth. I knew I wanted to go back. When I got home and told my wife, Margie, about it and showed her the photographs. I was really happy when she agreed to come with me next time.

### Together Alone

So, here we are at the beginning of a year long expedition. It is going to be different and I want to share all that we see and hear and feel with you. I want to learn about the wildlife, the weather and the change of seasons.

I want to understand what Mawson and the other early explorers felt when they were alone facing the elements. I want to know what it is like to live alone in isolation, to film, to photograph and to write about what I experience.

### **Some Details About Expedition Icebound**

Seven of us are sailing "Spirit of Sydney," to Commonwealth Bay. The five crew members will help us set up our expedition survival hut and establish ourselves. They will then sail back to Australia leaving us "Together Alone" for all of 1995.

In 1996 "Spirit of Sydney" will be sailed by Ian Kiernan to collect us. Ian Kiernan started a campaign to clean up our environment. It began as "Clean Up the Harbour" in Sydney and now it is "Clean Up the World". We have worked with Ian over the past years and have a "nil environmental impact" attitude

ourselves. At the end of Expedition Ice-Bound when we leave Antarctica we will leave no trace of our year long stay. We will take ALL our waste material away with us. Yes, I mean all waste including human waste. We will filter our dishwashing water to remove all oils and food particles. We are very concerned about keeping Antarctica just as clean as we find it.

We plan to have some fun too. We have cross country skis, snow shoes, a sled and a tent with us and we plan to go on a camping holiday. We'll have the seals and penguins for neighbours and our satellite telephone to keep us in touch with the world. We will be able to write to you each week and maybe

even talk with you from Antarctica thanks to Telecom New Zealand.

Telecom New Zealand are very enthusiastic about Expedition Ice-Bound and are helping us to keep in touch with you.

I know that you have just come back to school and I hope that you will join me every week for details of life -- way, way down under! There aren't any corner shops in Antarctica so I have to go now and make sure that my special stash of chocolate bars and Milo is packed! Just think for a minute about what you'd want to take with you if you were going away for a whole year. My lists are endless and the space on "Spirit of Sydney" is really very limited.

Keep warm,

Don

Copyright © 1995-1996 Don and Margie McIntyre.

# Antarctica.Expedition Icebound: Weekly Diaries 1995

## ARRIVING IN ANTARCTIC

15 January 1995

"Spirit of Sydney" arrives in Antarctica at 6 am. on Sunday, 15 January. At sea the wind had been light, but ten miles from Commonwealth Bay the katabatic winds hit us. They are headwinds now as we approach Boat Harbour and they are blowing about 40 knots. I feel pretty confident about entering the little harbour because I've been here before. I sailed here in January 1993 with 200 teddy bears. We go in and drop our biggest anchor, a 75 pound fisherman and all the chain but then we get blown downwind and the boat hits the rocks. There is a lot of wind pushing us sideways but we are lucky, the hull of the boat isn't touching the rocks. We can hear and feel the keel grinding on the rocks. We have to get lines ashore and another anchor down so we can winch ourselves off these rocks. We try but we are really stuck, the wind is strong, about 35 knots and it is holding us against the rocks. The tide is falling which is making our situation worse. We are worried that the rocks will damage the hull and the rudder so we try and stabilise the boat. It's not a nice position to be in-- aground in Antarctica in a lot of wind. We are all worried but there is nothing we can do at this point except to wait for the tide to come back in. It has fallen about two feet since we first hit the rocks. Four hours later the tide has come back and the wind is dying. We crank on the winches and put great pressure on the lines we have ashore and the two anchors we have put down. We all feel relief when we move the boat off the rocks. Finally we are floating again. We notice that the sun has come out and the wind has died completely.

## THE PACK ICE

Everyone is really tired because we haven't had much sleep since we got to the pack ice a couple of days ago. When we arrived at the pack ice it was very thick but we decided to take a punt and try and get through it because there was no wind at all. When we looked out the window we could have been at the Barrier Reef in Queensland, the sea was flat calm. There were a couple of places where the ice was so thick that we had to sail around it and one section where we had to zigzag between big chunks. The space for the yacht between the pieces of ice got narrower and narrower. We had to send Jay, one of our crew members, up the mast to look for paths through the floating chunks of ice. We even had to push some of them out of our way. We never would have got through the pack ice if there had been any sort of breeze.

## UNLOADING "SPIRIT OF SYDNEY"

We are safely anchored now but we can't rest because we don't know how long this calm will last and we have to get our gear ashore. We work unloading all our food and provisions from "Spirit of Sydney" into the Avon dinghies and ferry them to the eastside of the bay. The survival hut panels are 2400 mm by 600 mm and if the wind comes back they will be very hard to transport to shore. As we stack them ashore we find that they are badly warped. We had some drama coming down when the acrylic popped out of the foredeck

hatch and lots of salt water got into the forward compartment. We hope when we put the hut together the panels will straighten out. Because this is the windiest place on earth we have to put ice screws into the hard frozen snow and tie everything down. We finally finish for the day and check out the time. It is midnight!

#### SOME INFORMATION ABOUT MARGIE AND ME

I'm Don McIntyre, I turned forty the day we sailed out of Hobart, 5 January. I started my own business, McIntyre Marine Services more than 10 years ago. I sell safety and survival gear for yachts. Things like desalinators that turn sea water into drinking water, emergency location devices, man overboard retrieval gear and high quality boat equipment. I also build boats. One of the boats I built I raced single-handed around the world in the 1990/91 BOC Challenge. Another boat that I built is sailing in the 1994/95 BOC Challenge right now. I was born in Adelaide and built my first boat on the front lawn of my parent's house in Clarence Gardens. I met Margie in Mooloolaba about 12 years ago. Margie McIntyre is 34 years old and she is from Greenslopes near Brisbane in Queensland. She trained as a nursing sister and worked at Royal North Shore Hospital in St. Leonards, New South Wales before joining me at McIntyre Marine Services. She's worked with me on all my projects including the Goodman Fielder Wattie Bi-centennial Around Australia Yacht Race (try answering the phone and saying that), and the BOC Challenge. Margie was my campaign manager and did all the logistical support for that event. She met me in every port and worked with me to get the yacht ready for each leg of the race. For those of you who haven't been following the BOC race, it starts in the United States. The end of the first leg is Cape Town, South Africa. Sydney is the halfway mark and the fourth leg begins in Punta del Este, Uruguay. The finish line was Newport, Rhode Island when I raced but this time it is Charleston, South Carolina.

#### TEDDY BEARS TO ANTARCTICA

We don't like to travel alone so we have an adventurous group of teddy bears with us. Each of their owners has sponsored them on this trip by sending a big donation to charity, Royal Alexandra Hospital for Children. This way we get to have teddies with us and we are helping sick children by raising money for the hospital. Many people don't realise that there are no bears in Antarctica. Polar bears live only in the Arctic, the North Pole. This is the first group of teddy bears to have a whole year's expedition to Antarctica. The teddies that came with me in January 1993 were the first teddy bears to form an expedition to Antarctica but we only stayed two weeks.

#### "SPIRIT OF SYDNEY"

"Spirit of Sydney" was designed by Australian Ben Lexan. It was launched by Bob Hawke for Ian Kiernan who sailed her in the 1986/87 BOC Challenge. She is 18.5 metres long and she's often referred to as "sixty feet" or a "sixty footer" because in the BOC Challenge, Class I is for boats from fifty to sixty feet long. Since "Spirit of Sydney" was designed for single-handed around the world racing her interior layout wasn't quite right for an expedition like Expedition Ice-Bound with seven people and all our gear. We took out her water ballast tanks and replaced them with bunks. We put on new rigging to be sure it was strong and safe. A ten year old boat needs to be carefully checked before it makes a voyage as serious as a trip to Antarctica. Her hull is aluminium and metal transfers the cold easily so we lined her with insulating foam for sailing in icy water.

SIGNING OFF I'm really looking forward sharing this adventure, Expedition Ice- Bound, with you. I know I'm going to learn a lot in the next few months and I'm glad to know that you are out there reading what I've got to say. When "Spirit of Sydney" leaves us, Margie and I will be all alone except for the local residents, seals and penguins.

It's nice to know you're out there.

Keep warm, Don

JAN16.html

## GETTING ESTABLISHED

16 January 1995

We look around where we are supposed to be putting the survival hut. There is hardly any snow over there and it is too far too trek with all the gear. We want to move the heavy generators by sled so we find a place just over the main ridge to the East of Boat Harbour just outside the historic area of Mawson's Hut. We have been given a license to erect our survival hut and one of the conditions is that it is not within the historic area.

The place we have chosen is good and it looks like it will be sheltered a bit from the winds. Today we have to move the generators across the ridge and then we'll start building the foundation for the hut. Some of the electrical equipment got wet and we're not sure that the inverter is going to work or if it is going to allow us to drill holes in the rock. We need to drill into the rock so we can tie down the hut with wire cables and chain. During the winter we expect winds more than 300 kilometres per hour and we don't want our shelter blown away. On the trip down from Hobart the radio on "Spirit of Sydney" was working okay but the conditions were not very good and we had trouble getting the radio signal out. I'm eager to try the satellite phone that COMSAT Mobile Communications lent me. I'm standing about fifteen feet from Mawson's Hut trying to shelter from the wind. It is blowing about 25 knots. The phone works! "Expedition Ice-Bound," I hear Mary Ann say. She works in our office in Warriewood, New South Wales. The phone connection is incredibly clear. Everyone smiles around me as I begin to tell Mary Ann all that we have been through.

The sun is shining and there's not a cloud in the sky. The crew has been fantastic even though every single one of us was seasick when we left Hobart. The weather was very rough the first few days. Slowly they all started to feel better and began eating. We had a few troubles on the trip. We thought we lost the foredeck hatch and lots of salt water got into the forward compartment but luckily it was only the acrylic that popped out of the metal surround of the hatch and we caught it before it got washed overboard. We burned out a bilge pump but Steve, the skipper of " Spirit of Sydney" was able to fix it while we were at sea by working head down in the engine room and replacing the impeller. Everyone stayed in good spirits and worked like a team. The tougher it got the more we laughed. The crew consists of Steve Corrigan, the skipper; Sue Barber, Jay Watson, David Ferrall, crew; Wade Fairley, photographer; and Margie, my wife.

I have a lot of work to do and I have to get back to it. Today we are going to put down a wooden foundation for the survival hut. We measured and cut all the timber in Sydney before we left so the job should be easy. It should just be a matter of lining up the holes

and bolting the pieces together. I'll let you know how it goes. Bye for now. Keep warm,  
Don

## ALONE WITH THE PENGUINS

29 JANUARY 1995"

Spirit of Sydney" and our crew left last night and we are totally alone except for the penguins. One penguin has adopted us. He stands near our hut all by himself. He looks young and lost. He acts like he wants to come into the hut. Margie won't let him. Penguins have some funny habits. One day before the hut was finished we were taking photos of the teddy bears. Some how one teddy was left ashore for the night. When we found him the next day the penguins had done an Antarctica hazing job on him. He was covered with penguin food. Penguin food that had been inside penguins. That's the way penguins behave if they are frightened. It's also the way they feel their young. They aren't housetrained either so Margie insists they stay outdoors. It's a fine day with no wind and our first day "Together Alone." We agree it's time for a rest and a roast dinner. Margie says we have to take baths before dinner while the day is warm. It's zero and that's warm. We haven't had a bath for thirteen days. Margie is counting. It's not like we were dirty or anything but she used to be a nurse and she's in charge of health and hygiene down here.

## TAKING A BATH

Taking a bath sounds easy but it's not. Water - that means either melting snow and ice or trekking over the this little lake. We are using the lake because melting ice and snow uses up fuel and we must conserve fuel as much as we can. It isn't a long walk to the lake but the other day Margie took a bad fall between the hut and Boat Harbour. She fell into a mini crevasse about sixty centimetres deep and hurt her elbow, knee and hip. She has some real good colours coming out now and a lump on her elbow the size of an egg. Walking around on ice every day is strange for a woman from Queensland. She's only ever done it once before and that was in the Snowy Mountains last winter do some training for this expedition. Since the fall we wear our crampons every time we go out walking. (Crampons are mountaineering gear, they are like a set of nails that you strap on over your boots.) So, I was telling you about getting ready to take this bath. Trek to the lake, chop a hole in the ice. Scoop out water with a bucket, take it back to the hut, heat it up. Here comes the good part, go out into the annex, it's a little room sort of a back porch that is like our toilet/bathroom. It was zero degrees in the annex. Take off all our clothes, get into the shower (a big plastic bucket fitted with a shower curtain). One stands in the shower while the other pours warm water over you from a coffee mug. Let me tell you, baths are quick when it's zero degrees. CREW GOES EXPLORING The weather here is strange. It can blow really hard then just stop. The day before the crew left they wanted to go and have a look at some crevasses up on the ice plateau. So three of them went off, David, Jay and Wade. We were down here working and we watched them go. You can see for miles. Later on I noticed one figure coming down off the plateau. I'm a safety freak and I told them that they had to stay together. Anything can happen here and I'm the expedition leader. I'm responsible for them and their lives. So when I saw one coming back alone and running, I immediately thought there was an emergency. I remembered the chilling account in Mawson's diaries of the day they lost Ninnis. They were travelling with two sleds and dog teams. Mawson crossed a crevasse and warned Ninnis. When he turned around Ninnis was gone. Mawson

and Mertz went over near the crevasse. The snow had given away. Ninnis and his dog team were lost. I tried to stop thinking about that terrible accident. I couldn't. Seeing that lone figure running down the slope I felt worried. I imagined one crew must have fallen into a crevasse, the other was standing by and the third was coming back to get help. We started pulled out rescue stuff but then I saw the lone figure fall. Then he didn't get up for two or three minutes. I couldn't wait. I had my crampons on so off I went. It was David. He was coming back because he broke a crampon, the others were fine. I felt relieved.

#### ICEBREAKER ARRIVES WITH TOURISTS

On Saturday the 28th of January the 18,000 tonne Russian icebreaker, Kaptain Khlebnikov, arrived in Commonwealth Bay. The katabatics were blowing and we didn't think they'd be able to come ashore. But the wind died and one hundred tourists came ashore to see the penguins and to have a look at Mawson's Hut. We had asked the Kaptain Khlebnikov to transport some frozen meat for us and they had been unable to drop it off when they came by in early January. We had given up hope and were resigned to eating the food we brought along on "Spirit of Sydney." So it was a real treat to get the extra supplies. Our crew stayed and helped up unload and stow the cases of food. We buried them deep in the snow to keep them frozen.

#### OUR FIRST BLIZZARD 1 FEBRUARY 1995

Last night we got one hour of sleep. We are having a blizzard. It is serious. The wind is gusting to 200 kilometres per hour (110 knots). It started blowing on Sunday night and we noticed the walls on the back of the hut were flexing a bit so we bolted some timber on the outside on Monday but I didn't do it on the opposite wall, the one that faces southeast. Last night it flexed over three centimetres and almost five centimetres near the window. So I went just went out in the blizzard and got timbers. We have to put wedges and chocks in to stop this flexing. I hate think what we'd do if this hut...no I won't even think it. I saw up the timber and it's helping. When the wind stops we'll go outside and bolt some timbers on the outside. It's brutal out there now. I was only outside for about five minutes and I felt okay but my nose and my top lip weren't covered. Now that I'm back inside my nose and lip are burning hot. It's the beginning of frost bite. Margie is making us some nice warm Milo so I'll get back to you later.

Keep warm,

Don

#### THINGS WE NEVER THOUGHT ABOUT AT HOME

February 1995

Living alone in Antarctica is teaching me how many everyday conveniences I took for granted when I lived in a city. Water, showers, washing clothes, the toilet, electricity, rubbish collection, recycling paper, glass and plastic. My list gets longer and longer. Right now the biggest one seems to be electricity.

#### MAKING ELECTRICITY

Living in a city we just plugged into the socket on the wall. I think I took electricity for granted, sure we got a power bill every now and then but I never worried about where it came from. Sailing around the world I was conscious of electricity but after all I was on a

yacht. In our little "Gadget Hut" (We have given our survival hut this nickname because "Gadget" was a favorite husky dog with Mawson's men) we need electricity for lights, the radio, the CD player, the tape player, the telephone, the computer and the microwave. Generating electricity requires a source of energy. We can use the wind, the sun or fossil fuel as energy sources. We have equipment with us to use all three sources. Right now because it is still light for a good portion of the day we are using solar energy. We have Solarex panels on the side of our hut. The sun shines on them and they convert energy of the sun to electricity which is stored in batteries so we can use it when we need it.

#### TECHNICAL DETAILS OF SOLAR PANELS

If you are studying solar energy then these details may be of interest to you. I have two Solarex MSX-77 panels. They are 77 watt modules and have dual voltage capability. 36 semicrystalline solar cells are arranged in two 18 cell strings. Combined in series, these strings produce 12 volts. The strings terminate in a junction box and can be reconfigured in parallel, or on-site, to produce a 6 volt output. This arrangement also allows bypass diodes to be placed every 18 cells (2 per module) improving reliability and performance in higher voltage (24V and above) systems. This is the latest technology in polycrystalline silicon photovoltaics and the largest solar cells in commercial production. They also have the highest power and charging current (4.56 amps) of any 36 cell PV module on the market today. The Solarex company claims they have had no failures reported since the first module was delivered in 1987. That was a big reason why I chose to take them to Antarctica.

#### TECHNICAL DETAILS OF BATTERIES

I have three "dryfit Sport-Line" 90amp hour, 12 volt gel batteries. I used this brand of batteries on my yacht, "Buttercup" when I sailed single-handed around the world. They were great so I chose them for Expedition Ice-Bound. They are completely sealed and can work even in extreme situations like being upside down when "Buttercup" rolled degrees in the Southern Ocean near Cape Horn. "Dryfit Sport-Line" is the first sealed battery that uses the Sonnenschein technology of immobilised gel electrolyte. I like them because they can't leak acid and don't have to be filled with water from time to time. That could be a real problem down here.

#### THE RADIO AND THE MICROWAVE

The big excitement this week was hooking up our radio receiver. We really brought it along as an emergency transmitter but we thought it might be fun to get some news of the world. From about 11 p.m. until 4 a.m. it is sort of dark. The moon's out and we can see the stars. The night allows radio signals to reach areas far greater than what they can in the daytime. We heard stations in Sydney, Melbourne and Auckland, New Zealand. The New Zealand station was a talk-back show. It was just after midnight and the presenter gave his telephone number on air. I turned on the electricity and picked up my COMSAT phone in a briefcase (an Inmarsat M communications system) and gave him a call. At first he thought we were joking about being in Antarctica but eventually we convinced him that we were serious. He was quite impressed to have a live via satellite call from the windiest place on earth. We told him all about Telecom New Zealand and how they are bringing news of our adventure to New Zealand schools. The microwave sounds like a modern luxury for two people living in a survival hut but when you consider how much fuel you use in cooking

every day, especially baking bread you can see why it makes sense. We get the sun's energy to make electricity. The heavy, bulky liquid fossil fuel which we had to transport from Australia we are saving for when there is no sunshine. Using the microwave is quick, it uses sunshine and there's no pollution. Before we left Sydney we figured out the amount of fuel we would need to cook every day and compared it to using the microwave for a good part of our cooking. We still have a kerosene stove like I had on my yacht and we do use it but we really like the microwave.

#### WINTER AND THE CHANGES

We had another blizzard. For eight days we were stuck inside "Gadget Hut" with temperatures outside around -18 Celsius and 75 knots of wind. The visibility at times was only a few metres with drifting snow. We were getting low on water and decided to try and get out to the lake where we have been collecting water. The wind got down to 50 knots and the wind chill was -40 so tried it and we were able to get a bit of water. We did it as a training run more than anything else and we learned quite a lot. Mostly we learned that we'll only be able to get water from the lake for another week or two. Yesterday when the sun was shining we went back to the lake. The ice is now about 45 centimetres thick and I had to use a big mattock instead of the ice axe that I had been using to chop down through it. Today is the mildest it has been in almost two weeks. It was -8 Celsius outside when we woke up today. If you want to know what it's like in "Gadget Hut" look inside your freezer at home (unless you have a frost-free type). See how the frost extends out from the walls of the freezer--well everywhere there is aluminium inside our hut looks like that. The frost is almost 3 centimetres thick. The frost is even growing on the carpet we put near the bunk to insulate us from the frost. We are starting to get worried about what it is going to be like in winter when the temperature gets to -31 Celsius. We ripped all the carpet down and we've lined the inside all around our bunk with timber and high-density foam. We did that two days ago and it seems to be working.

#### ANOTHER WINTER WORRY

There is moisture under our mattress and we couldn't work out where it was coming from. We thought it might have been dampness from the trip down on "Spirit of Sydney." We took the mattress outside, took the cover off it and tried to dry it. The very next morning the moisture was back. We think it's condensation from our bodies going down through the mattress. We are wondering what is going to happen during the winter.

#### SEALS ARE ARRIVING, THE PENGUINS ARE LEAVING

When we arrived in January there were lots and lots of penguins down here, Adelle penguins. One penguin stayed near our hut for a few days when we first put it up but he eventually found a friend. They joined the rest of the penguin colony. Most of them have gone now but there are still a few around. Margie and I are a little concerned about three penguins who seem to be moulting. They hide behind some rocks about five metres from our hut. Every day they seem to lose more and more feathers. We're not sure what's happening to these three. You'd think that they would have finished moulting when all the others did. I'll keep you informed. There were a few seals here when we came but now there are about 115 seals in Boat Harbour. They are all Weddell Seals which are large seals up to about 3 metres and 500 kilograms. They just lounge around on the ice of Boat Harbour. We go over and have a look at them every day we can get out. A lot of them have

wounds and look like they've been fighting. Their mouths are bleeding too. We've seen them chomping on the ice.

#### THANKS FOR ALL THE E-MAIL

I haven't got enough electricity to answer all of you individually but I'll use this journal to answer as many questions as I can. I hope that you send e-mail back and forth between schools and make this Antarctic adventure something we all share. I'd like to say that I'm amazed that schools from North Rockhampton, Geelong, Hill End and Alice Springs School of the Air and reading ICEJOURNAL. Keep those electronic postcards coming. Miranda Public School asked some questions about electricity that I hope I've answered this week. Several schools including Clovelly Primary, Woolooware and Millthorpe asked about where we store our "waste." HERE IS THE ANSWER TO THIS POPULAR QUESTION. We have black plastic drums that are made for industrial hazardous waste. We have two of them in the small room that I mentioned a few weeks ago when I wrote about taking a shower (see ALONE WITH THE PENGUINS, Taking a bath). There is a board in the annex at sitting down height with two holes in it, one is labelled "pee" and the other "poo." Beneath each hole is a black drum. The penguins and seals don't take such care of the environment but we are the visitors and we care about their environment. We will take all the drums of solid waste back to Australia. The liquid waste will be put in the sea. The Antarctic treaty permits both types of waste to be put in the sea but we wouldn't want to do that. Our Antarctic bases don't do it either. If you ask a question and I don't answer it directly it may be because I've answered it in this journal or in a previous one. Or maybe the question is too hard and I don't know the answer yet. One school asked what I'm going to feel like when it's dark for ten weeks during the winter. The answer is....coming in the winter when I actually live through that darkness. Right now I'd just be guessing. I've read many books about explorers who lived in isolation. I wanted to experience it myself. I'll let you in on all the secrets. Keep reading ICEJOURNAL. Oh, I want to tell you about Mary Ann. She works in my office in Sydney. I've asked her to type up a list of my e-mail postcards and put them on ICEBOUND.BB so you can all see the schools and their electronic addresses. I'll get her to include PowerNet Keylink, Nexus and New Zealand schools. Soon we should be adding Japan and the United States to our e-mail ICEBOUND club.

Keep warm,  
Don

#### TALKING TO THE WORLD FROM ANTARCTICA

17 FEBRUARY 1995

This has been an amazing week for us. We don't feel lonely at all because of the wonder of modern technology. We have an Inmarsat M communications system that is now operating from inside our survival hut. Telecom New Zealand is going to put us in touch with thirty-five schools. We are looking forward to talking to you from Antarctica. On the 10th of February we spoke with students in the United States! Students assembled in three different states: Montana, New Jersey and Rhode Island for a teleconference. With just one telephone call we spoke to all of them at the same time. We were able to answer their questions and tell them all about life below the Antarctic Circle. Some of them asked questions that you be wondering about too.

## HOW DO WE WASH OUR CLOTHES?

It is a big job when you are more than 2,500 kilometres from the nearest washing machine. First we had to get water from the lake we can only scoop out a cupful at a time. The ice is getting thicker every day and it is harder to chop through it. Then we lug the big water container back to the hut and heat the water in pots on the kerosene stove. We used SUNLIGHT soap instead of detergent. Washed the clothes by hand and then had a real problem. We can't hang them out to dry. They freeze stiff and when they thaw, they are wet. We had to hang them in front of the heater a few at a time. It took FOUR DAYS to dry the laundry. We think it should be in the book of world records.

## GETTING RID OF THE WASHING WATER

The clothes are clean but now we have to get rid of the dirty water. Once we have filtered it we have to take it down to the tide crack (a place where the sea comes in between the rocks). It's about 120 metres to the sea.

## IN SUCH A TINY HUT WHERE DO YOU KEEP TWO YEARS' SUPPLY OF FOOD?

Margie told them we keep it in the "garbage truck." That's what she says the 'lean-to' we built looks like. We brought some sheets of plywood with us on "Spirit of Sydney" and have leaned them up against one side of the hut. It reminds Margie of the garbage trucks where we used to live near Manly in Sydney, Australia. The 'lean-to' was a great idea but we didn't realise that snow can get through tiny cracks. After our first blizzard there was heaps of snow on top of our supplies out in the 'lean-to.' We had to dig it all out so that it won't freeze solid when the really cold weather comes. We have just finished putting silicon sealant in all the cracks to keep the snow out.

## OTHER FOOD PROBLEMS

When the ice-breaker, Kaptain Khlebnikov, brought us our supply of frozen meat we buried it in the snow. After the blizzard we couldn't find it. It was under an snow drift more than two metres deep. We dug it out but now there is another problem. These giant birds, petrels, have been hanging around and attacking the young penguins. The penguins try to gang up on them and chase them away but they aren't always successful. The petrels are meat eaters. They must be able to smell our meat. This morning when we went outside we found big footprints, bigger than my hand all around the area where we have stashed our meat supply. We are wondering if they are going to figure out how to dig it out of the snow.

## WHAT'S THE COLDEST TEMPERATURE YOU HAVE HAD?

So far the coldest has been minus fifteen degrees celsius but it is still technically summer. When we wake up in the morning it is minus five in our hut. We turn on the kerosene heater and it gets really nice, twenty degrees, but then the ceiling starts to defrost and drip on our heads. Our mattress is moulding and we feel like we are living in a freezer. Margie wants to defrost it today so that is our project for now. Once we get all the ice out of here I'm going to go up on the flat roof and fill all the seams between the prefabricated panels with silicon sealant.

## THE WIND CHILL FACTOR

The temperature is just one part of how cold it feels down here. The wind has a big influence on how cold it is. The wind here is katabatic wind. Some times people describe katabatic wind as gravity wind but really it wind that blows downhill because the air higher

up the hill gets cooled. Commonwealth Bay is near the ice plateau and the shape of the surrounding area acts like a funnel--that's why this is the windiest place on earth. The wind was blowing at 60 knots the other day and even though it was only minus fifteen the wind chill made it minus forty.

#### THE WIND

It can blow up eighty knots for an hour and then within ten seconds it will die down to ten knots, then a big bullet of wind at it's back to seventy or eighty knots. The hut gives a lurch and rocks and groans. We sit here and wonder how much the hut can take. We've got twelve tie-downs to the rocks. The roof flexes and so do the walls as the hut moves in the wind. Once the snow comes and freezes around us we should be alright. These first few weeks are like taking a new yacht to sea. The first trip is called a "shake down cruise." You literally find out what is wrong during that trip and fix it before you go on a really big ocean trip. Well, we are here and we are having our "shake down" before winter and the real test of our hut.

#### FROST NIP

My left ear was uncovered a bit when I was out the other day. When I came in I said to Margie, "Gee my ears are freezing." Two days later she realised that I had blisters on my ears. That's frost nip. The wind-chill factor gets bad that you can get frost nip in a matter of seconds. The skin on the top of my fingers is starting to wear through. We wear gloves all the time when we're outside working in the snow but we still lose sensitivity a bit. Some of the outer layers of skin may be freezing a bit, we're not sure what is causing it.

#### WINTER IS ON ITS WAY ALREADY

Just two weeks ago we had one hour of darkness and this week we have almost three hours of darkness between one and four a.m. The harbour where "Spirit of Sydney" anchored is now frozen over. When it is windy and we go outside it looks like there's smoke from a bush fire. It is drift snow. It is as fine as icing sugar and it gets into everything. We even found it under Margie's pillow in the hut because there was a little crack in the wall. I've got a lot of silcon sealant and a lot of cracks to track down. I'll go and get busy. Keep warm, Don

#### SATELLITE COMMUNICATIONS

3 MARCH 1995

I have the coolest system in the world and I want to tell you all about it. It is an Inmarsat M Satphone, it's the way I communicate with the outside world. Mary Ann told you that I'm going to be on the radio and on the Today Show, well when you hear me talking I'm using the Inmarsat M Satphone. Here's how it works. It looks like a briefcase and inside there a phone. I connect the Satphone to a battery (I told you about solar energy and batteries last week when I wrote about generating electricity.) I have to connect it to the battery each time I'm going to make or receive a call. I don't have enough electricity to leave it on all the time. I have an antenna mounted on the roof of "Gadget Hut" which is connected to the Satphone. That is all I have to do, connect to a battery and turn it on. It is that simple. I'm ready to receive a phone call from a radio or television station. The station has to dial the telephone number which is just like your phone number at home. You're phone number is

longer than you realise because you have a country code that you don't have to use unless you are calling from outside your country. For example: Australia from the United States, Australia's country code is 61 and New Zealand's country code is 64. Satphones are mobile so they aren't assigned any particular country's code, they have one that covers a huge region of the earth. I'm in the area of the world that is covered by the Pacific Ocean Region satellite so my code is 872. The rest of my Satphone number is just like a telephone number. The radio station picks up their telephone and dials me. As long as I have connected to the battery and turned the telephone on, it will ring. There are four satellites stationed around the world near the equator. They are Atlantic Ocean East, Atlantic Ocean West, Pacific Ocean and Indian Ocean. Australia is overlapped by the Indian and Pacific Ocean satellite coverage. New Zealand is very nicely situated in the Pacific Ocean Region. When Sir Douglas Mawson was here at Commonwealth Bay from 1911 to 1914 he made the first radio contact from mainland Antarctica to Australia. His radio message was relayed by Macquarie Island. High technology has certainly changed the way an explorer or an adventurer keeps in touch. Do you know who else might need a Satphone? I can think of about ten or fifteen different users for Satphone other than adventurers.

#### WHAT I'VE BEEN DOING IN THE PAST WEEK

Margie and I celebrated talking to students in the United States and Japan by baking a chocolate cake in our kerosene oven. We toasted modern technology with glasses of pure Antarctic water from the lake. It hasn't been very windy lately. The highest wind speed was 62 knots. The coldest temperature was minus 18 Celsius. We have had another blizzard. It started with rain! It's only the second time it has rained since we have been here. I was warm only -2 and there was very little wind. It was about 10 o'clock at night and we heard this patter on the roof of "Gadget Hut." Margie said, "That's not snow, it can't be snow, it's not windy enough." It didn't last long. The next day it started to snow. It snowed heaps, it just kept snowing and snowing and everything got covered. There was not one thing showing anywhere in sight that wasn't covered in snow. We got about 30 to 45 centimetres of snow. It was really weird because it started off as lots of different crystals with six points in the morning. By the middle of the day it turned into little fluffs of cotton wool. It was so light we could pick it up by the handful and blow it into the air like dandelion fluff. The next day the wind came and blew all the snow away. So we're back to bare rocks again. I hope you saw what this area looks like on the Today Show.

#### GETTING READY FOR COMPANY

On the 27th of February we got a call from the ice- breaker, Kaptain Khlebinkov from 8 nautical miles offshore. We were really excited about getting visitors. Margie had a bath, I cleaned my teeth and we put the kettle on to give them a cup of tea. The wind was blowing about 20 or 30 knots all day but it was beautiful and sunny. We went up on a rocky outcrop here and held up the Australian flag but I don't think they could see it. We kept talking to them on the VHF radio but they couldn't get the ice-breaker into the bay. At the end of the day they decided to come ashore by helicopter. They have a really big one that can hold 20 passengers. I went over to Mawson's hut to make sure there was no wildlife around that would be disturbed by the landing of a helicopter. There is a big helipad there with crosses marked in the ice. Everything was ready and they said they'd be ashore in five minutes. We watched as they loaded everyone on the helicopter, revved up the engines and the rotor began to turn. The ice- breaker was rolling from side to side and then they turned off the

helicopter. We got the radio message. It wasn't going to be possible to get the helicopter safely ashore and then back onto the ice-breaker. We watched the Kaptain Khlebinkov motor away and thought about the people on board enjoying sauna, hot spas, shower, movies, libraries and lounge rooms. It made me feel just a little of what Mawson and his men must have felt when the Aurora had to leave them.

#### THE RETURN OF NIGHT

I mentioned last week that we can get radio now that the darkness is returning. Here are some amazing facts, in March will have 12 hours of daylight each day, April 8, May 4, June 0, July 2, August 7, September 11, October 15, November 19, December and January 24. I guess you know why that happens. It's time for me to turn on the radio and listen to your weather.

Keep warm,  
Don

#### SETTLING DOWN FOR WINTER

10 March 1995

Margie and I are starting to feel that we are here "Together Alone." The "Spirit of Sydney" has been gone for six weeks and we have put marks on the wall to count off the weeks. We have made up a few things that we are going to tell you each week. One is the best thing that happened this week: We went for a big walk wearing on crampons on Wednesday. We went up to the edge of the plateau behind Cape Denison. There is line of rocks that come out from the ice up there called the moraine line (an accumulation of boulders, rocks and debris carried and deposited by a glacier). We were hunting for meteorites. Any meteorite that falls on the ice of the plateau is slowly pushed down to the moraine line as the ice moves. We didn't find any but it was good fun having a look. Wednesday was fantastic after the blizzard on Monday and Tuesday. By 6 a.m. (we have kept our clock on Sydney Time--we just turned it back because Sydney went off daylight saving time last weekend) the sun was shining and wind had stopped. The sea started to freeze over. It was interesting to watch it, it doesn't take long but it only lasts while the wind is calm.

#### QUESTIONS FROM STUDENTS ABOUT ROCKS AND FOSSILS.

Students from Pahoia School in Tauranga, New Zealand asked questions this week about fossils in the rocks and about why Antarctica is now cold since they have been told that it was once warm. We haven't seen any fossils yet but we'll let you know if we find any in the rocks. The other question is an interesting one. I wanted to pack lots and lots of books but there was limited space and weight restrictions to consider when we packed our gear for Expedition Ice-Bound. The best answer I can give you is that Antarctica, the land buried under the ice was once part of Gondwanaland. Antarctica today is made up of two distinctly different natural areas. One is West Antarctica that is geologically known as the Andean Province and Greater Antarctica known as the Gondwana Province. I'll bet your teachers can help you find information about this subject in your school library or through the resources on your computer network which are unreal.

## WHAT WE ARE EATING - A WORLD WIDE INTEREST IN FOOD

Margie and I spoke to a school in Japan this week on our satphone and they wanted to know about what we are eating just like students from Pemberton High School in Australia and Pahoia School in N.Z. One student even mentioned "fat." They knew that penguins, seals and whales living in the cold waters of Antarctica have a thick layer of fat and wanted to know if we were planning to gain one too! We don't plan to get fat but we lost weight on the voyage down and during the setting up of Expedition Ice-Bound. We aren't as active now and we will probably gain weight since our favorite food is pizza. We had pizza again this week. It's not like pizza you might make at home. We use BUTTERCUP Oven Bake Rolls for pizza bases and tins of EDGELL'S peeled tomatoes which we smash up and EDGELL'S champignons (mushrooms) in pieces and stems, some herbs, and grated cheese on top. We bake them in the kerosene oven. We forgot the pepper grind so we are smashing peppercorns in a tea towel with a hammer. When the hot pizzas come out of the oven they get a sprinkle of this fresh pepper. They are the best pizzas for more than 100 kilometres. (Our nearest neighbours are the folks at the French base Dumont d'Urville. Maybe some day we will ring them and ask if they make pizzas.) We don't want to start eating our winter breakfast which is going to be porridge just yet so we have made a combination of oats, cut up dried fruit, nuts and dried coconut--homemade Antarctic muesli. continued next message We have frozen meat that we were keeping buried in the snow but we're afraid of losing it. This week we brought it into the "cold porch" which is inside the hut. We had steak and frozen broccoli one night and another night this week we had a "Shelf Stable Meal" of satay chicken. "Shelf Stable Meals" are prepared meals that haven't been frozen or freeze dried. We heard about them on television on the Beyond 2000 program. They are kept fresh by a new technique that uses cycles of intense flash heat. This technique uses no preservatives or additives and the nutritional content is the same as freshly cooked food. After we learned about "Shelf Stable Foods" we analysed the fuel consumption and volume of taking 'basics' and cooking like the early explorers versus the newer way of microwave and "Shelf Stable Foods." We figured out that the newer way would save on fuel so the bulk of our provisions is an assortment of precooked, just heat and eat "Shelf Stable" meals.

## SPEAKING OF FUEL -- SUNSHINE HOURS DECREASE

How about these facts for hours of sunshine per month. You might compare them with where you live. In Antarctica we can expect sunshine, not daylight we're talking about the sun shining. Some days are cloudy or blizzards! Sunshine hours in - February 244; March 154; April 65; May 57; June 10; July 35; August 50; September 226; October 251; November 310 and December 370. So you can see that we are going to be running the diesel generator from the end of this month. Remember I told you about making electricity (24 February).

## ANIMAL LIFE

Students from New Zealand asked about baby seals, penguins and whales. So far we have only seen baby penguins but that is one of the reasons we are here. We want to observe the seasonal cycle of life in Antarctica. We have seen small seals but they didn't look like babies, maybe next spring. Whales- -we saw killer whales from "Spirit of Sydney." They followed our boat. If you happened to see the Today Show last Monday, 6 March in Australia they showed the killer whales that we filmed! Killer whales eat meat, seals, other

whales and penguins... There are now eleven moulting penguin hanging around near a rocky outcrop about 8 metres away from the hut. We wonder if they will survive their moult since they seem out of phase with the rest of the penguin community. All the other penguins are gone from this area. We will miss them when they go, they are fun to watch. That reminds me about fat. I didn't finish what I started to say about fat keeping animals warm down here in Antarctica. We plan to keep warm with clothes instead of an internal layer of fat. We have some really good, modern protection from the cold. One of the best thing we have with us is our thermals. They are EVERWARM thermals from New Zealand. They are fantastic. Margie laughed after she washed hers and left them to dry when we went out one day. When we came back they were standing up, more than a metre high, all by themselves, frozen stiff inside our hut. We are also wearing modern sailing and mountaineering clothes that are very comfortable. I think of Mawson and his men. They had reindeer hide sleeping bags. I'll tell you more about our clothing next week.

Keep warm,  
Don

#### INSIDE "GADGET HUT" FOR 7 DAYS

16 March 1995

Blizzards and 80 knot winds have kept us inside "Gadget Hut" for 7 days. In the middle of the blizzards we had a heat wave. The temperature got up to one degree above zero Celsius. We had three days of this warm weather and we were worried about our meat defrosting. The wind was very strong and from the east instead of the south by south-east which is the usual direction. Yesterday the sun came out and we went over to the frozen lake where we collect water. The ice on top of the lake is now about 70 centimetres thick. We managed to get three drums of water. I think it won't be long before we are going to start melting ice on the stove to get water. I haven't taken a bath for fourteen days. I told Margie that I'm conserving water. She didn't let me get away with that excuse and now I've taken a bath. She thinks she is a lot cleaner, it was only nine days since her last bath. Our average water consumption so far is approximately six litres a day.

#### OUR MOULTING FRIENDS, THE ADELIE PENGUINS

Yesterday we spent some time sitting with the group of penguins right next to the hut. They aren't afraid of us and don't mind us being here at all. We think they are getting used to us because they have been watching us for so long. We sat about 30 centimetres from them and they seemed to be talking to us. The blizzard must have been rough on them, penguins rely on their curved feathers and down to protect them from the cold. They look very scruffy. All their feathers are falling out. We felt sorry for them. Their flippers were frozen to the sides of their bodies and they were all caked in ice. The few remaining feathers were full of snow and ice. There were two penguins in the group of sixteen that had half their faces frozen solid with ice. They couldn't even see out. Another one had his beak frozen closed. We watched him and it took him about half a day to get his mouth open. When this group of penguins arrived about ten days ago they were all nice and shiny with all their feathers. They had big fat tummies full of food. Then their feathers started falling out like crazy. We haven't seen them eat since they began moulting. Penguins also rely on a layer of fat to keep them warm. These penguins have lost their fat and they just seem to stand around

waiting for their feathers to finish dropping out. A student from Oamaru North School asked what type of penguins we have seen. There are eight types of penguins in the Antarctic region: Rockhopper, Royal, Macaronit, Chinstrap, Gentoo, King, Emperor and Adelie. So far the only type of penguin we have seen here this time is Adelie penguins. There was a huge breeding colony here when we arrived. In January 1993 I saw an Emperor penguin here all by himself. Emperor penguins are the only other type of penguin that breed on the Antarctic continent. There is a colony of Emperor penguins over near Dumont d'Urville I understand.

#### SEALS IN THE BLIZZARD

During the blizzard I have to go out to put our waste water into the sea. I've put timber stakes along the path that I take to the sea because the visibility is sometimes very bad. One day I could only see about three metres. I put the stakes 24 paces apart so I may be adding a few more. While I was out during the blizzard I looked around for the seals. There weren't very many. But yesterday when the sun came out all the seals were out basking in the sunshine. Last week before the blizzard we had a calm day and the seals were dozing on the ice that was floating around in Boat Harbour. The tide went out and took the seals sleeping on the ice with it. When they woke up I'll bet they were surprised. There's a lot of ice offshore now and the seals can rest on any of the ice floes. The sea is trying to freeze over. When it does the seals gnaw a breathing hole in the ice with their teeth. That's why they have the bloody mouths that I mentioned in my journal of 24 February. Margie and I keep thinking that when the sea freezes it will be a sign that winter is here. Once winter is here then it will soon be spring! We keep telling ourselves that when we look at the expected low temperatures for the next few months. These are the lowest temperatures in Celsius: March -25, April -24, May -35, June -34, July -33, August -34, September -30, October -20, November -19, December -9. January's not listed but never mind, we'll be leaving in January. We're using about ten litres of kerosene a week for the heater to keep us warm. Looking at these expected low temperatures I wonder if our consumption will stay about the same.

#### THE BEST THING THAT HAPPENED THIS WEEK:

Last night we saw a fantastic sight. There was a full moon coming up on the eastern horizon just as the sun was going down on the western horizon. Between the two horizons and reflected on the frozen and shiny sea the colours ranged from gray, to several shades of blue, navy blue and then yellow. The colour was dotted with ice bergs off shore and the entire picture can't be painted with words. It was impossible to photograph because the panorama was so big. It lasted for half an hour. It was a sight we'll never forget. If it were a painting by a really good artist Margie thinks it would have been worth about \$10 million dollars.

#### TALKING TO STUDENTS IN NEW ZEALAND

Our COMSAT phone is fantastic. It is our link with the outside world. We spoke with students in New Zealand this week. They had some interesting questions but the time got away from us. There were a few that we thought you might like to hear. About fishing: Students from Reporoa Primary School wanted to know what kinds of fish we will catch and eat while we are here. I really like fishing so I've been doing some reading about fishing in Antarctica. Before we left Australia, I applied for and received a fishing permit from the Australian Antarctic Division of the Department of the Environment, Sport and Territories. I

had to do this because of the Antarctic Marine Living Resources Conservation Act, 1981. I am now allow "to catch fish for recreational purposes -with respect to all species of fish." According to the books I've read there are four types of fish that I am likely to catch. They are Antarctic Cod, Crocodile fish, Icefish and Plunder fish. All these fish belong to one family, Nototheniidae. Their adaptation to the cold water here as given them some very interesting characteristics. Icefish, sometimes called white crocodile fish belong to the species Chaenichthyidae. They lack haemoglobin, the red blood pigment, which makes them almost colourless--so they got the nickname Icefish. The Antarctic Cod doesn't look very much like a cod fish from the pictures in books. They look more like Blennies. They are supposed to be delicious once skinned and filleted. They take bait from lines in shallow water. It is a curious thing that these fish don't freeze. Scientists have discovered that they have a sort of "anti-freeze" in their blood that is made of a protein-carbohydrate. The books say one other interesting thing about them. They are supposed to lie still after they are caught. No flipping around like regular fish for these guys. The books say it is because they dilate their spiny gill covers! I let you know if I find all these facts to be true when I catch some! About problems: Students from Rangitikei Girls' School wanted to know what we would do if we were separated from "Gadget Hut" in bad weather. That would be a life threatening situation and our plan is to avoid such situations. That's why I put the timber stakes out along the path I take to the sea. As I mentioned in my earlier journal (29 Jan. "The Crew Goes Exploring") I'm a bit of a safety freak. I don't believe in taking unnecessary risks. Margie and I plan to go camping in the spring and that will be a well planned and well equipped trip. I'll share all the details with you when I prepare for that little holiday. Oamaru North School asked if we have had any major problems so far. The flexing of the hut walls has been our major problem. Right now I'm getting ready to strengthen the roof. It has been flexing when the winds get over 70 knots. I've decided to put another support in the roof to stop the movement. It might not be necessary but I'd rather be safe than sorry. (I mentioned what I did to stop the walls flexing in the journal of 29 January under "Our First Blizzard, 1 Feb.") Several schools asked about our "mental attitude," for example how we felt when the crew left, have we prepared in our mind for the isolation, do we get on each others nerves, etc. I can tell you this so far. Margie and I are an exceptionally close couple. We worked together all day at McIntyre Marine Services in Sydney, we went home together, cooked dinner together, all that is different here is the weather and the scenery. The fantastic COMSAT phone is keeping us in touch with other people. All this might change over the next few months. I'll keep you informed. Maybe you'll notice changes in what I write about in my journal. It will be interesting over the next few months to see what happens. We've had poor radio reception this week. It's just a feature of Antarctica. Sir Douglas Mawson had the same problem more than 80 years ago. We have been getting some news from the outside world from Radio Australia and Radio America. One news story has made us worried. Harry Mitchell is sailing in the BOC Challenge, a single-handed around the world yacht race. I sailed in that race in 1990-91 and we know Harry. We learned on the radio that Harry's emergency locator beacon went off and they haven't heard from him. Fishing boats and a ship are looking for him in the Southern Ocean near Cape Horn. We are hoping that they find him soon or that he gets his radio working and let's the race organisers know that he is safe. We are missing a few things lately. Margie misses the beach and I miss my flying magazines. We are becoming amateur rock hounds to make up for these losses. Yesterday during our walk we found gold! It's probably not real gold but it looks good. There's mica ,

quartz, copper and lots of other interesting stuff. Still no meteorites or fossils but we are looking. Talk to you next week.

Keep warm,  
Don

## NATURE IS HARSH IN ANTARCTICA

24 MARCH 1995

The weather has kept us inside again this week. We've only been outside once for three hours. We've had another big blizzard. The lowest temperature inside the cabin has been minus 5 Celsius, the highest winds outside have been up around 81 knots (which is 148.6 kilometres per hour) and the lowest temperature outside got down to minus 16. One day we had a melt down, the temperature outside was minus 2 and all the ice inside the hut melted. We spent the day mopping up! E-MAIL QUESTIONS FROM STUDENTS Everyone asks about the weather and I think I've just given you a picture of what we are going through right now.

Another question that is often asked is, "What sort of shoes do you use?" from Gynea Technology High School and from Springbrook School in New Zealand, "When you are outside how do you get around on the ice?"

Here's the answer.

It is hard to get around outdoors in this weather. I try to get out everyday. I walk down to the sea which is about 120 metres away to get rid of our "gray" water: the water from washing dishes which has been filtered to remove any food particles and grease; and human waste water. I have a very fast downwind trip but when I come back I'm leaning about 45 degrees into the wind. Sometimes I have to squat down because the wind is knocking me around so much. I squat down to present a lower surface area to the wind. It has actually blown me over a few times and for the first time ever I've seen penguins getting blown over when they're walking. They've been trying to get out of this blizzard and the wind has knocked them down flat on their faces.

Nature didn't provide penguins with anything like crampons. CRAMPONS I've been wearing my crampons when I go out for the last few weeks. You put them on over your boots.

Crampons are used by mountaineers and ice climbers. They are a set of twelve spikes that are strapped over your boots. Ten of the spikes point downwards and the two at the front stick out forward at a 90 degree angle. The spikes are made of flat stainless steel shaped into sharp V shaped spikes. Mountaineers who are going to be walking on uneven surfaces like glaciers use crampons that have a hinge to give them some flexibility. I'm using this type. The other type is rigid and is used by ice climbers who are climbing up frozen waterfalls. Crampons are attached to your boots with neoprene or nylon straps. BOOTS I'm using Sorel boots.

Modern technology has done a lot to keep feet warm and dry. The Sorel boots are made in Canada and they developed them around field tests at the North Pole by Richard Weber and Mikhail Malakov. Temperatures up there frequently reach -60 degree F and the wind chill can take that down to -130 degree F. Moisture build up at these extreme temperatures can be fatal. So Sorel designed boots that are boots within boots. They have no fixed internal insulation. All the insulation is removable. This is great because we can take them apart and dry them out.

## HOW MODERN TECHNOLOGY KEEPS FEET WARM

Here's a brief run down on the theory of keeping feet warm. Trapped air is an excellent insulator. Insulation compresses under weight which reduces the trapped air. Soft foam compresses easily so it isn't as good as felt. Sorel boots use what they call a "Frostplug" insole in their boots which have the trademark name, ThermoPlus. The "Frostplug" is made of special felt absorbs perspiration and moisture. We remove the "Frostplugs" after we have been out to let them dry. Beneath the "Frostplug" is "The Furnace" which is 9mm of closed cell cross link foam that retains body heat for an extended period. It is also an excellent thermal barrier with the ground. Above the "Frostplug" is a 9mm outer liner of high density ThermoPlus felt and a 6mm inner liner. All of these liners are removable so we can dry them out. The boot is made of handcrafted natural rubber bottoms and Dacron uppers that can breath. Sorel named the style "Mukluk" which is an Eskimo name for footwear. We wear two pair of polypropylene socks, thin ones first then a thicker pair. Polypropylene wicks moisture away from the body. Amazing.

## MAWSON AND THE AUSTRALIAN ANTARCTIC EXPEDITION 1911

There is a list of clothing that was issued to Mawson and his men in a book that was left at this site probably by the Antarctic Division. The book is MAWSON'S ANTARCTIC DIARIES, edited by Fred Jacka and Eleanor Jacka that was published in 1988 by Allen & Unwin Australia Pty. Ltd. and the copyright belongs to the University of Adelaide and the source material belongs to the estate of Sir Douglas Mawson. This book may be available at your library. I noticed that Mawson and his men had leather boots and felt liners. He had wool gloves and wolf-skin gloves! The wolf- skin gloves were to be used on sledging trips. One curious note on the clothing list states, "After washing, clothing is never so warm. Important sledging journeys should therefore be begun in new clothing...Reserve as much new clothing as you can for the real work of the expedition. You have plenty of time at the hut to wash and mend...Any old clothes will do about the hut." I find that very interesting. I'll tell you about our clothing next week. Lots of you have asked us about that. DAYLIGHT, SUNSHINE -- ICE AND WIND It is getting dark around 7 p.m. and it doesn't get light again until about 7 a.m. We are getting just enough sunshine to keep our batteries charged from the Solarex solar panels but I think in another week or so we'll have to use the fossil fuel generator. The ice on our lake is now so thick that it's not worth the effort of chopping through it. We've started melting snow for water. I tie a 5 gallon bucket to myself so if the wind gets the bucket it won't blow away. With a spade or the shovel, I fill the bucket with clean snow and ice as close to the hut as I can. Then, inside the hut I fill up the saucepan and stand it on the heater. It takes about 20 minutes to melt one litre of snow. We had one tiny little calm this week. The wind dropped back to about 10 to 15 knots (18 to 27 kilometres per hour) but unfortunately we didn't get to go outdoors and enjoy it because it was between midnight and four o'clock in the morning. It woke us up. The relative lack of the noise was such a change that it woke us up. It screams inside the hut and we're trying to think of ways to decrease the noise. It might get a bit monotonous during winter. Margie says it's like living in a steam train. The roof isn't moving much since I put the strengthening beam in but it makes a loud cracking noise in the night. It is under a big strain with all this wind. OUR PENGUIN FRIENDS Nature is not being kind to our moulting penguin friends. I am sorry to report that two have died. The winds during this blizzard have been extremely strong and the penguins have to sit down. The snow covers them over and the heat loss from their bodies makes them freeze a bit into the snow. When they get up their feathers

are frozen into the icy snow and pull out. One penguin has been sheltering right beside the hut, underneath the hut and around the front door. His feathers are all over the place at the moment. THE BEST PART OF THIS WEEK Actually there were three best parts of this week: 1. Our Sunday evening chat-hour with family and friends. 2. Roast pork with crackling for dinner and 3. Our pictures appeared in THE NEW WEEKLY magazine with the cover date of 27 March. It was on sale this week. THE WORST THING THAT HAPPENED THIS WEEK I dropped by snow goggles, my wonderful Bolle snow goggles in the toilet bucket. On that nice thought I'll leave you until next week. Keep warm, Don

## SCHOOLS ARE KEEPING US HAPPY

31 MARCH 1995

We are getting a lot of e-mail from students and we think it is terrific. I look forward to writing this journal each week. It gives me the same good feeling that you get when you write a letter to an old friend. Dubbo High School, I get the message. You are really interested in Antarctica and what we are doing. Some of the questions were very good and I'll answer them in this journal because other students will be interested I'm sure.

## THE LEAN-TO VS. THE PHOTO OF A TIMBER STRUCTURE

The photograph that appeared in The New Weekly magazine and The Sunday Telegraph in Sydney had a timber structure in the background. That is Mawson's hut. It was built in 1912 and would be completely gone today if it weren't for the solid block of ice inside. The drift snow sifted through the timbers over the years. It melted and froze, melted and froze and now this block holds the structure in place. Our lean-to, the one that Margie called a "Manly garbage truck" is outside "Gadget Hut." It is made of sheets of plywood that the ice-breaker Kaptain Khlebnikov brought down for us. We took sheets of plywood and leaned them against the hut at a forty-five degree angle. We anchored them in place with bolts and used silicon sealant between the cracks to keep the drift snow out. Is that a clear picture? "Gadget Hut" looks like a freezer, it is white with aluminium strips between the panels and along one side is this plywood angled "lean-to." Next time you see a garbage truck think of us. You'll get the picture.

Keira Technology High School wants to know more about the structural details of "Gadget Hut." The dimensions are 2.4 by 3.6 metres and the height is 2.4 metres. It was constructed from panels 49mm thick, which are a sandwich-like construction of timber, styrofoam, and GRP (fibreglass reinforced plastic.) The timber side faces the interior and the GRP surface faces the elements on the exterior of the hut. Between each panel is an aluminium extrusion. We bought the extrusions in shapes like the capital letter H, J, U and a block sort of Y. It's hard to type a shape like the Y, it's like a square U with an L beneath it. Can you draw that? This "U L" that looks like a squarish Y is used for the 90 degree corners of the hut and for joining the walls to the floor and ceiling. The "H" goes between the wall panels, the floor panels and the ceiling panels. The "J" is for the door jamb; the "U" goes around the windows. The door of the hut is made of the same material and the handle is a commercial refrigerator handle. It is like a big lever that presses the door against a rubber gasket that lines the doorway. The gasket compresses giving us a seal, just like your refrigerator at home. Have a look next time you open your refrigerator and think of us. I'll bet your refrigerator door doesn't make your hand stick to it. Ours does. It has become such a

problem that I am going to wrap the handle with foam. Our hands stick to the handle because of the cold. The moisture in our hands freezes onto the metal or the warmth of our hand melts the frozen metal and instantly re-freezes, I'm not sure exact which it is. Any physicists reading this journal, please let us know.

The hut has a very small room when you enter from the outside. This is our bathroom, toilet and camera storage area. We keep the cameras out here so that the heat inside the hut doesn't get them so warm that when we go out into the cold they fog up.

After the small room you enter our living space. Standing in the doorway you can see the dining table and settees, sort of caravan or yacht style. Beneath the settees on either side of the table is storage area. When we are seated at the table behind both of us are shelves. They are really timber crates that we used to transport food in but now they serve as shelves.

Our wonderful COMSAT Mobile Communications Inmarsat M sits on the shelf next to books, CD, French lessons, a model of Captain Cook's "Endeavour" that I plan to build and heaps more stuff. Our bed is above us when we are sitting at the dining table. It is close to the roof. I have put extra timber inside across the roof for extra support. The roof was creaking and the strain on it is incredible when the wind is howling which it always does. Since I added the extra timber our space is reduced. The walls freeze, I've written about the "defrosting" in previous journals, now our breath is starting to freeze. When we wake up our sleeping bags have frost and icy edges from our breath during the night! The temperature in the hut is very low in the morning when we wake up. It was minus nine one morning this week.

#### COPING WITH FROZEN FOOD

Several students asked about food, freezing and thawing. I'll tell you what happened this week. The cheese froze. When we thawed it out, it was all crumbly. We have to thaw out our fruit juice on the heater every morning so we can drink it. I nearly blew up a can of sardines when I put it on the heater and forgot about it. It got red hot and was nearly ready to explode. I caught it just in time and stuck it outside in the snow to cool it down quickly. We have Birdseye frozen vegetable and fresh meat buried in the snow outside. They won't last all year. We really enjoy them when we have them. One student asked if the penguins were after our meat. No, it's not the penguins. It is the Skuas or Giant Petrels. I found bird footprints as big as my hand near our meat stash. Margie made our first loaf of bread this week. The ingredients kept freezing so we had to put them in front of the heater to keep them warm. We sat the dough on top of the heater so it could rise. For her first go, she tried white bread and baked it in "Bart's bread tin." ("Bart" is girlfriend of Margie's from Queensland. They went to nursing school together.) It was really quite amazing--it was just like what you'd buy at the bakery. It had a crust and we actually had toast for breakfast.

#### THE BEST MEAL OF THE WEEK:

We used the crumbly cheese and made toasted cheese sandwiches in the frying pan. I can hardly wait until next Sunday when she bakes bread again.

#### WHAT DO YOU DO WITH YOUR RUBBISH?

Save it. We save every single bit of rubbish no matter how small. We do not burn it. We will bring it back to Australia with us. We have a "nil environmental impact" approach to this entire expedition. It is surprising how small you can make your rubbish if you really try.

Burning it would pollute the air. We know that our kerosene fumes are bad. We couldn't figure out a non-polluting way to heat the hut. The katabatic winds have probably sent our kerosene fumes half way across the Indian Ocean by now.

#### HEALTH, FITNESS AND BEAUTY

Margie was feeling a bit sick this week but I kept her eating even though she wasn't interested in food. She's all better now. She's taking a few extra vitamins. I had a cut on my head that has just healed. It took almost four weeks to heal. My ear is still red and still sensitive from the frost nip I got about 8 weeks ago. I put lanoline on it everyday. It is a good reminder that we don't want to get involved with frost bite! I was thinking of this the other day when I was digging in the snow to collect drinking water. (Sounds a bit crazy doesn't it.) My hands got very cold even though I was wearing gloves. I had to windmill my arms around to get blood going down into my hands. Later in the hut they went bright, bright red. Interesting? In the strong winds our ears are popping inside the hut. The increase and decrease in pressure as the wind gusts blast past makes a turbulence. It sucks the air out and then all of a sudden it'll blow it back in. We had one period of 12 hours where we were quite uncomfortable with our ears. We could feel the pressure going up and down. For those of you who have seen me this might sound a bit strange but I need a haircut and I'm getting worried. There isn't a barber within several hundred kilometres. I'm not worried about how my hair is going to look, it is the cheeky grin on Margie's face that has me worried. (For those of you who haven't seen me, I'm very sparse on top!)

#### THE BEST PART OF THE WEEK:

Last Saturday, 25 March, we went out for a walk in a blizzard. It was blowing 40 to 50 knots (about 75 to 90 kilometres per hour) with light drift snow. We put on our full blizzard kit and crampons and went out for a couple of hours. We walked a mile or so. It was a good training exercise. It was also exciting to be out in a blizzard walking around. We'll probably do it once a week now to get the experience for our trek. Later this year we are planning a trek up onto the plateau. One thing we are both very aware of from reading Mawson's journals. Getting lost in a blizzard. Visibility can change quickly during a blizzard. One of Mawson's men got lost for a few hours just outside their hut. They searched for him and couldn't find him. He finally found his way back to the hut but they were quite worried about him for a while.

#### HISTORY AND HIGH TECHNOLOGY

I am constantly thinking of Mawson and how it must have been for him and his men. In noticed in his journals that he got electric lighting this week in 1912! We started using our kerosene lamp this week. Mawson got modern the same week that we went back to basics! The kerosene lamp is what we call the "friendly lamp" compared to the 12 volt light that we've got. Those of you who have been camping know what I'm talking about. We've been using the kerosene lamps at night. We're both a little jealous of one thing that Mawson had, well two things. The one I was going to say was St. Elmo's Fire. (It is light from atmospheric electricity which looks like a bluish electrical glow. Sailors see it on masts at sea.) We haven't seen much of it and Mawson talks about it all the time in his journal. Margie saw it one night and said it was interesting. The other thing Mawson had that we're a bit jealous of is dogs. I have been reading about how the dogs with Mawson coped with the cold. During this week Mawson had to put a dog down because he suffered terrible injuries when the

other dogs turned on him. I guess it is best that we just have the native wildlife nowadays. I'm sure you all know that the last huskies left Antarctica about two years ago. They went to live in northern Minnesota in the U.S. I understand that the first time they saw a tree they had the exact same reaction as all dogs, they watered it just like they had seen trees all their lives. Speaking of trees and plants...a student asked if we have seen any. The answer is no. Ice, rocks and snow. That is all we can see.

Keep warm,  
Don

## NO PEACE AND QUIET IN THE WILDERNESS

8 April 1995

There was a big blizzard last Friday with 90 knot winds and a very high barometer of 1017 millibars. That's high for down here. The temperature was minus 20 Celsius. The wind absolutely screamed and the sun was shining. It seemed wrong to be so nice and sunny with such fierce wind. It made us feel a bit down. The noise was incredible. It was the first time the noise had been so loud. We must do something about it. We're thinking of rigging curtains down the side of the hut to muffle the sound. We aren't worried about "Gadget Hut" blowing away any more. She seems very secure in the wind. It is the noise of the wind that seems to be our main concern right now.

Well, after that not-so-nice Friday we had a perfect weekend. Saturday and Sunday were probably the most fantastic days we have had. Maybe it's because Friday seemed so terrible. Anyway, it was beautiful on Saturday with a very light wind. We went out for a walk and...well I should be telling you this now with my fingers crossed. Margie said she saw a Polar bear with a cub! She said they were travelling fast over near Cape Denison, about 500 metres away. I'm not so sure I believe her. Margie doesn't tell lies... We really did see some penguins, there were about ten scattered around Cape Denison. Forty seals were out basking in the sunshine and some of the skuas came back. We thought that all the birds disappeared. We counted 11 skuas.

## MAWSON'S HUT

We had a good look at Mawson's Hut. The snow has piled up on two sides of the hut so that we can walk by at roof level. So we had a good look at the roof which is quite deteriorated. I don't know what the government is going to do about restoring the hut. It looks in a sorry state, but let's hope they do something. Later on in the year we will be making a complete photographic survey of the hut. It will be the first time in ten years that a survey has been done. This will provide those concerned with the preservation of the hut with a way of determining the rate of deterioration of the timber. They will compare the photographs from 1985 with the ones that we take.

## THE CRYSTALS AND THE AURORA

Walking near Boat Harbour was like walking in a crystal garden. The wind blows on the salt water and freezes it into beautifully shaped crystals. There were stalagmites and stalactites sticking up against the wind and some were quite spectacular. We felt like vandals in a china shop because just by walking around we were crushing beautiful works of art.

To finish off a beautiful day we had a fantastic display of the aurora australis Saturday night. The whole sky lit up. Picture a rainbow, three rainbows arching across the horizon. They are all yellow and green and falling down in between like a waterfall. The water is the line and it's rolling down. They are alive and moving. Can you imagine it? It was really quite good.

#### SEA ICE AND PENGUINS

It was calm on Sunday, even nicer than Saturday weather-wise and the sea was freezing over again. We think it is about 10 cm thick now. We saw a couple of penguins out walking on the sea ice. They must have been out feeding on krill. We notice a whole flock of them about 30 over in one corner of the harbour. We were surprised to see them back and we wonder how long they will stick around. We've been looking at the sea ice freezing over and thinking, "Wouldn't it be fantastic if it did freeze completely over during winter. We could go for long walks on the sea ice and check out the big cliffs to the west and east of us." But it won't because totally freeze over because the wind blows it away all the time.

#### BATHS ON MONDAY

The weather was so nice on the weekend that we put off taking a bath. Saturday is supposed to be bath day but we didn't get around to until Monday. I had to wash my hair and I only used two and a half cups of water! Of course I probably have less hair than you do but I think that's pretty good water conservation. You'd conserve water too if you had to melt ice to get it!

#### THE "FRIENDLY LAMP"

I mentioned in a previous journal that we call our kerosene lamp, the "friendly lamp" because it is so nice compared to the harsh fluorescent lamp. Well it proved to be a very good friend this week. I noticed that the amount of light it was giving off was getting a bit low. I thought it was running out of fuel. I shook it and it was full. So I tried turning up the wick. I turned it way up and there was a lot of wick sticking out but still only a little bit of flame. Suddenly it dawned on me. Can you guess what was happening?

We were running out of oxygen! We opened the hut right up and the "friendly lamp" started to glow. The light got nice and bright. We really have to be careful about the oxygen in the hut. When we investigated why we had had such a problem we found that the vents on the roof were icing up. We played chimney sweep with a long piece of timber and banged all the ice out of the vent. We'll check that on a regular basis from now on.

#### QUESTIONS THIS WEEK

The best question of the week came from a New Zealand student. The question was, "What will you do if you run out of fuel?" Running out of fuel would mean dying of thirst. We wouldn't be able to get any water to drink. So to survive we'd have to kill a seal. Their layer of fat, blubber, can be used like fuel. We'd have to use blubber as fuel to melt the snow and ice. That's how we would survive but we won't run out of fuel. We have planned carefully and so far we are consuming fuel at a slower rate than we had planned.

Another good question came from Miranda Public School during our telephone conversation this week. I used my Inmarsat M satphone and called Miranda Public School because I wanted to congratulate them. They held a "Great Hairy Bear Fair" and raised

funds for the local children's' hospital. I also wanted to hear about the bears that won prizes. Those Miranda teddies are a fine bunch.

The students asked about windows in "Gadget Hut." I'd like to say that I should have mentioned windows before. I forget that you haven't all seen pictures of the hut. We have four windows in the hut and they are 400 mm square. Three are in our main living area, one near the stove, one near our bed and one near our dinette. The other window is in the bathroom, cold porch room. The windows are covered in ice so we can't really see out of them. We also have a hatch on the roof just in case the snow gets really deep. If we couldn't open the door because of the snow, we'd climb out through the hatch in the roof.

I have a question for you if you live in New Zealand.

"What is the trout fishing like in New Zealand?"

I would like to hear from the student who has caught the biggest trout since the 2nd of April. Not the first of April since the 2nd. We are planning to talk to lots of Australian students and we are working of the details with Mary Ann in the office. I hope we will be announcing some good news soon. In the meantime send your questions in on e-mail to ICEBOUND Mailbox.

The best meal of the week: Pizza! The bests thing that happened this week is that I beat Margie five straight games of checkers or draughts if you call them draughts. The worst part of the week was when Margie beat me at dominoes! Margie has been sewing while I'm writing this journal and she is telling me that her surprise is finished. Oh, no! (Laugh, laugh, laugh.) It is a new hat with a homemade teddy bear's head on the front. It has triple thick ear flaps. Triple thick, that will stop the noise of the wind. Come on you next blizzard, I'm ready for you now. I'll let you know how it works next week.

Keep warm,  
Don

## EXPLORING THE LOCAL AREA

13 April 1995

This week we have been out and about quite a bit. The weather has been exceptionally good. We've been able to get out virtually once a day. The average wind strengths have been way down and there's been a lot of sunshine. Margie and I have often discussed what happens to all the egg shells when the penguins are born. We haven't seen any egg shells and thousands of penguins were born here. On a walk we found a frozen egg which hadn't hatched for whatever reason. There were no penguins around and all the baby penguins from this season have already grown up. We felt certain it was an abandoned egg, so we smashed it open just to have a look inside. There was a yolk and it was frozen too. Margie's glad it wasn't a partially developed frozen baby penguin.

We took a big walk from Lands End in the west over to John O'Groats on the eastern side of Cape Denison. If you have a really big map of the area of Commonwealth Bay you'll be able to locate these areas but for those of you who don't, I'll explain. Cape Denison is shaped almost like your left hand. Extend your arm with your palm facing the floor. Your arm would be south and your finger tips would be north. Boat Harbour is in the area between your little finger and your ring finger. Lands End (the west) would be where the

knuckle of your little finger joins your hand and John O'Groats is where your thumb knuckle is. The moraine line runs across the most of the area between Lands End and John O'Groats, sort of like your knuckles. As we were walking across the moraine line where the glacier deposits the rocks it has scoured off the plateau we found a bamboo pole. It was frozen into the ice. We doubt that Mawson would have put it in such a location. If he did put it there more than 80 years ago it certainly wouldn't still be there. So we're guessing here but we think it was a "depot" pole which could have been 5 to 7 kilometres inland. Mawson and his men put caches of food up on the ice plateau as emergency provisions and marked them with poles. We are going to take a lot of photos of it and try and figure out what may have caused it to be where we found it.

During this big walk, Margie fell. We were using and trying out our new climbing boots with super sharp crampons. We are going to use them when we go up onto the plateau later this year. Because we were climbing over rocks at the time, we took off our crampons. We were coming down the hill without them and Margie put one foot wrong. She slid 20 metres down a very steep ice slippery dip. Fortunately it levelled out instead of stopping abruptly. She lost her ice axe on the slide and didn't get seriously hurt. She bruised her bum and bent her little fingernail back.

#### THE BIG FRIGHT

On one of our other walks we were over at Boat Harbour. We were just standing there at the edge of the ice looking at the way it turns slushy and starts to freeze when "bang." We heard a gunshot. It frightened us both. Suddenly the ice we were standing collapsed into the sea. We had to jump. It was only a little gap but it was certainly frightening. Once back on the land we discussed what had happened. I thought the gunshot noise was the scariest part of what happened and Margie thought the ice breaking off was the worst. It wasn't very windy so the ice wouldn't have blown out to sea. That would have been dangerous. So what we had was just an interesting experience! Boat Harbour is finally frozen solid. It is just like a big ice skating rink. It happened in one night. The temperature went down to -23 degrees Celsius, the coldest temperature we have had so far. We got up the next morning and Boat Harbour was a skating rink with slight snow drifts decorating the edges.

#### WE LOST WEATHER DATA AND FILM

Our weather recording system has to be downloaded into the computer. We are keeping as much data on the weather as we can and we had a mini-disaster this week. We lost the week's weather. Right now we feel bad about losing the data. Earlier this week we were feeling bad about a roll of film that we ruined. It hadn't been rewound in the camera correctly. It was one of those beautiful sunny days and the photos would have been great. We have the memories so we aren't feeling all that bad.

#### PENGUINS AND SEAL REPORT

There are absolutely no penguins now on Cape Denison. They have all gone. We walked about 7 kilometres and checked every little nook and cranny. We didn't see a single one. It is funny that what I read in Mawson's journal seems to happen to us. He said all the penguins were gone on the 10th of April. That is almost the exact day that we saw our last penguin. According to Mawson they will be back on the 12th of October. I'll let you know! During April Mawson wrote about petrels visiting. We had the same experience. There were five snow petrels out in front of "Gadget Hut." They seemed to be eating krill from the

slushy surface of the ice. Snow petrels are pure white with black eyes and bill. The bird book says they have black underdown beneath the white which may help them keep warm by absorbing radiation which has penetrated their feathers. The seals are getting scarcer now. There were only half a dozen when it was sunny the other day. Maybe it is just a temporary thing and they'll be back. There were hundreds just a few weeks ago. About those "polar bears:" The Saturday that Margie said she saw a polar bear and cub that Saturday was April Fool's Day. I tried to warn you. There aren't any bears in Antarctica. The early explorers brought rifles down here to protect themselves but they never had to use them except maybe to kill seals to feed the huskies. Highlights of the week: This morning we noticed that a huge iceberg had broken off to the west of Cape Denison which is unusual. We haven't seen an iceberg drop off since February.

There is a full moon now and it makes a great sight shimmering over the sea at night time. The best meal of the week was from Shelf Stable Foods: Chicken Provencale (chicken with tomato and garlic.)

We have already had 58 hours of sunlight so far this month. That is all Mawson had for the entire month of April.

Keep warm,  
Don

## EASTER IN ANTARCTICA

20 APRIL 1995

We're getting out in stronger winds mainly through necessity, otherwise we'd be stuck inside all the time. We had a reasonable day on Easter Monday, it was only blowing 60 to 70 knots (110 - 128 kilometres per hour). There was no drift snow and it was quite clear. We went out to battle the wind. It was a bit like flying, we put our arms out to the sides and lean into the wind. We'd be angled over about 45 degrees. Margie got knocked around all over the place. It was challenging and fun. We had a big snow fall with heavy drift for a couple of days this week. There were drift lines up to a metre thick. It was very hard to walk around in that. It was like trying to walk in talcum powder. We have been studying the snow. There are lots of different types of snow crystals. When it isn't really cold and windy the snow flakes are large and hexagonal. They have all kinds of different patterns. Sometimes the snow is so light we can blow it away. If it has been cold and really windy the snow looks like grains of sand.

We have tried to make a snow man but the snow is so dry it doesn't stick and we can't form snowballs. When I was out getting snow to melt for water, two fingers on my right hand turned into wooden stumps, they froze. I couldn't feel them at all. It only took about five minutes to happen and I didn't notice it until I came in the door. I was wiping snow from the door ledge and it was just like using two bits of wood. When my fingers were thawing out there was incredible pain. It lasted for about 5 minutes until the blood started to circulate in the fingers.

## THE MELT DOWN IN "GADGET HUT"

We had two days of really high temperatures again this week. It was almost warm, minus 3.5 degrees Celsius. It caused a melt-down inside the hut. All the ice inside was melting and we got water all over the place. Some of our books got wet and we had to use a

boating technique to dry them. We took a roll of our precious toilet paper and placed a sheet between every page. I first used this technique in 1993 when I dropped a book in the ocean. I thought it was ruined but a yachtie showed me this toilet paper trick and it works. Margie got an ice axe and chipped the ice off the inside of our windows. So for the first time in a very long time we can see out.

#### ABOUT BOAT HARBOUR

I reported that Boat Harbour had finally frozen over but I was wrong. It is back to water again! There was an intense low pressure system offshore which created a big swell. We haven't seen any big seas in this area for six or seven weeks. We think it's mainly because the sea is frozen for quite a way off shore which acts like a big breakwater. The big seas here make me think that it has broken up off shore, out at sea. Anyway, we had a very big tide at Easter and the combination of the big seas and tide smashed all the ice out of Boat Harbour. There was a full moon during Easter and on a clear night we looked out at the moon over the water with thousands of stars, it was an amazing Antarctic night time scene. It reminded us of home where we have the moon coming up over the water.

#### CLEAN PANTS

I changed my outer pants for the first time in three months. That sounds terrible but there isn't much dirt down here. I've now got a pair of Mont fibre- pile outer pants on. I've changed mine but Margie's still wearing the same pair of pants she has been wearing for the last three months. I also shaved. It is the second time I've shaved since we have been here. We've just finished using our second bar of soap since we've been here. One bar of soap we use for our hands and the other bar we use for our baths. So we have used two bars in three months which is pretty amazing. We don't use much water and that's probably why we aren't using up much soap.

#### NO EASTER EGGS

We had strawberry creams for Easter which were nicely gift wrapped in paper with rabbits on it. It was an Easter present packed in our gear by a friend. There were no Easter eggs probably because the package was wrapped before Christmas and there were no Easter eggs in the shops. Hope you had a chance to hear us on the Today Show on Easter Monday. We really like talking on the satellite phone. We are hoping that some Australian company will help us make phone calls to 100 Australian schools soon. We talk to New Zealand students once a week because Telecom New Zealand is sponsoring Expedition Ice-Bound for New Zealand.

#### THE DISAPPEARING DAYLIGHT

It gets light at 8 o'clock in the morning now and by 5 o'clock in the evening it is dark. We had a total of seven hours of sunlight this week. It all came in one day. Our batteries were getting quite low so we had turn on the generator for the first time this week. The best meal of the week: Tinned lambs tongue with vegies. They were unreal. Funnily enough, Mawson fed his men lambs tongues too.

Keep warm,  
Don

MORE ABOUT SNOW!

27 APRIL 1995

Last Friday and Friday night it snowed heaps. We went out on Saturday and tried to walk around without our snowshoes. It was tough going because the fine powder snow was up to our waists! It was an overcast day and there were no shadows, so quite often we fell over because we couldn't see any distinction between the hard snow and the soft snow. Some of our blizzard poles that mark the path to the water have been buried by the snow. We have replaced them. The snow is like a moving sand hill! There was a fantastic sunset on Saturday night. The clouds lifted on the horizon and it was like a big bushfire with brilliant yellows, oranges, and pinks. It lit up the edge of the icebergs offshore and on their sunny sides they all went red! It was quite fantastic.

#### CAN A SONG CREATE AN ICEBERG?

In the middle of all this beauty Margie stood on the rocks beside the hut and began singing. The last song she sang was "Ave Maria" and she hit some really high notes. While she was singing and the sun was going down there were lots of birds flying around and coming right up to her, about 3 or 4 feet away. Just as she finished the song with some really high notes there was about three seconds of thunder which was really eerie. It was as if she had upset the gods or something but we knew what it really was. It was another iceberg falling off. We couldn't see it that evening but the next day we saw it. It was about 2 kilometres long and it broke off only about 5 kilometres from us. It is really quite large and it is now floating out to sea very slowly. We have been watching it all week and it has barely moved. It may be dragging on the bottom of the sea. It was a spooky occasion.

#### STRANGE FOOTPRINTS IN THE SNOW

With all the snow we had on Friday we took a walk over the Mawson's hut. We were taking photographs of the hut and we noticed what looked like footprints near the skylight on the roof. The "footprint" marks were in the clean snow and it looked like someone was living in the hut. It was really quite weird and all we could figure out was that it must have been a bird. A bird who was resting or moving around near the skylight, maybe looking for a way in to nest or trying to hide something. We just don't know. It was spooky occasion number two.

#### CELEBRATING EARTH DAY

Last Sunday in Antarctica, which was Saturday the 22nd in the United States we had a bit of fun. It was World Earth Day and we spoke to the Birmingham, Alabama Zoo. They broadcasted our satellite phone call to all the people at the zoo. The people asked us questions. They asked us about polar bears! They had just had a phone call from the Arctic. The people in the Arctic had polar bears all around them! We reported that we only see polar bears on the 1st of April, April Fools' Day, here in Antarctica.

#### DIRTY FUEL HURT OUR HEATER

We've had some fuel contamination in our heater which has created some problems. We haven't been able to get our heater up to "high." The flame has been flickering and there may be water in the fuel. It could be a bit of snow or it could be that the container wasn't perfectly clean in Sydney when we filled it. We had a combination of smoking as well as a lack of flame. We flushed everything through and it seems to be going okay now. I would like to tell you that we haven't spilled one drop of fuel since we have been in Antarctica. We

are very happy that we haven't had an accidental spill. We always fill the tanks inside the hut so that if we did spill any fuel it would only fall onto the timber floor. We could cope with fuel on the floor but we are glad that we haven't had to.

#### FUEL CONSUMPTION

We are currently consuming 10 litres of fuel a week which is still relatively low. We budgeted for 20 litres a week. It is not just plain old kerosene, it is ATK (aviation turbine kerosene). Can you guess why? I'll tell you why at the end of this journal. The sun is so low on the horizon that it's not putting much power in the solar panels. We have had to use the generator again this week. The daylight arrives around 8:30 in the morning and is getting dark around 4 p.m. We have had a total of four hours of sunshine this week. The rest of the time it was overcast. For those of you with technical interest, we are running the generator for two sessions a week for approximately three hours. This gives us our battery 50 amp hours each time we run the generator.

#### ICE AND MELT-DOWNS

Yesterday Margie had a big defrost of the hut. There was 10 cms (4 inches) of ice under the table! We chipped it off and it filled a bucket. We had been wondering why our feet were always cold down under the table. When the hut temperature gets really warm, up to 15 or 20 degrees the temperature under the table stays around 3 or 4 degrees Celsius. You know hot air rises and the hut is warmest near the roof. Since we took the ice away, our feet will probably be a bit warmer. Last night because of the relatively warm weather we have had over the past few weeks the bunk was really wet. The water came through to the top of the mattress. It went through both of our sleeping bags. We noticed it the night before and we just thought that we must have been sweating during the night. Our normal body heat sends moisture through the top of the sleeping bags which makes them damp. With wet from below things were getting a bit much. So we are trying to dry out the sleeping bags, the mattress and all the rest of our gear which is really difficult. We are going to have to cut the mattress in half because it is too big to put over the heater. Waking up on a soggy mattress is not a lot of fun.

#### SCHOOL NEWS AND BIRD NEWS

This week I'd like to say hello to Maryborough High School and Kyogle High School. Margie's brother teaches at Maryborough High School and we're glad that they have joined us, welcome to everyone at Maryborough. Hello Kyogle High School we are glad to be of help with your project. We'll start next week. Kyogle High has asked us to monitor any animal life seen around lunch time and dinner time. We can't see much at dinner time because it is getting dark so early. Mostly we see birds right now. The penguins are gone and the seals aren't around very much. There are lots of birds here right now mainly Snow Petrels and Cape Petrels. Snow Petrels are the prettiest birds I've ever seen in my life. They are small, about the size of a pigeon and they're brilliant white with pitch black eyes and a pitch black beak. They fly around and come right up to us. We feel as though we can just reach out and touch them. They're interested in the movement and the bright clothing we're wearing we think. When we are outside they come over and check us out. "Every Snow Petrel is a little chip off the frozen environment that moulds it," Keith Shackleton said in his book WILDLIFE AND WILDERNESS AN ARTIST'S WORLD.

#### OUR BEST MEAL OF THE WEEK:

Spaghetti Bolognaise.

#### OUR WORST PROBLEM THIS WEEK:

No radio at night. There must be a lot of solar activity because we haven't been able to get Australian or New Zealand radio stations which we really enjoy listening to.

#### THE BEST PART OF THE WEEK: 1.

The sunset with Margie singing. 2. The amazing sound of no sound. When the wind stops and there's not a sound, our ears ring. The silence is absolute. It's like nothing we have ever experienced.

THE REASON WHY WE HAVE ATK INSTEAD OF KEROSENE -- ATK FREEZES AT A LOWER TEMPERATURE THAN KEROSENE. That is a problem I hope we never have to face-- frozen fuel!

Keep warm,  
Don

#### MAWSON'S BIRTHDAY

5 MAY 1995

Sir Douglas Mawson was born on 5 May 1882 in West Yorkshire, England. When he celebrated his birthday in Antarctica in 1912 they gave him silk handkerchiefs and a book. The cook prepared a special meal and the men sang and dressed up to make the evening a celebration. He had winds gusting up to almost 150 knots. Two blizzards in a row, one on Friday and one on Saturday, made this week memorable for us. We had constant winds for more than 12 hours going from 70 knots to 100 knots.

The low temperatures now are averaging around minus 20 degrees Celsius outside. Inside the hut when we wake up in the morning it is usually between minus 10 and minus 8 so we very quickly turn on the heater. We're running the heater more now and trying to maintain the temperature between 15 and 18 degrees. We put the lights on inside the hut as early as 3 o'clock in the afternoon. The sun is very low on the horizon at midday. It's quite glary and getting lower each week. There is an appreciable difference each week so we're definitely losing the sun. Dawn and dusk are becoming tinted with strange colours even when the actual sun is hidden behind the clouds and drift snow.

The fierce cold is taking its toll on our equipment. Margie was very upset this week when she destroyed our "pee" toilet bucket. It was minus 15 degrees and she was emptying the bucket when it shattered due to the cold. We collected all the pieces so we didn't litter Antarctica but we are now down to only two "pee" buckets left to last us for the rest of the year. This was our disaster for the week!

#### ANIMAL LIFE, BIRDS AND MAMMALS

We attempted to do some observations of animals feeding at different times of the day. This is an interesting project and we thought that many of you would be like to how what we observed. Your science teachers can explain some of this material to you if I explain too briefly. When scientists plan an animal observation project, the first thing they do is learn a lot about the subject they are attempting to observe. So if you go to the library and look up

the animals of Antarctica you will find that there are only two types of animals in Antarctica: birds and mammals.

### THE BIRDS

The birds consist of many types of gulls, petrels, albatrosses, prions, shearwaters, cormorants, skuas, terns and seven types of penguins. Not all the penguins live on the Antarctic continent. Many of them live on the islands that surround Antarctica. On the Antarctic continent and the Antarctic peninsula only four of the seven types of penguin are seen. So a scientist would learn all this before he or she attempted to put together an observation project. The four types of penguins that visit the Antarctic continent and peninsula are the Emperor, the Adelie, the Chinstrap and the Gentoo. The Chinstrap and the Gentoo are only seen on the Antarctic peninsula which is the narrow 'tail' of Antarctica that extends toward South America. I mentioned in an earlier journal that the last of the penguins have left the area. Mawson and the text books agree that the penguins will not be back until mid-October. So there are no penguins for us to observe just now.

### THE MAMMALS - WHALES AND SEALS

The other group of animals that live in Antarctica are the mammals: whales and seals. There are two types of whales, baleen and toothed. All of these whales feed off shore so we don't get a chance to observe them feeding from the land. The baleen whales are larger than the toothed whales, except for the sperm whale which has teeth and is about 16 metres long. The big baleen whales use their unusual strainer-like, fringed, fibrous "teeth" to filter the tiny plankton from the sea water. They spend a lot of time feeding near the surface of the ocean. The baleen whales found in Antarctica are the Blue Whale about 24 metres long; the Fin whale, 20 metres; the Sei whale, 16 metres; the Southern Right whale, 20 metres; the Humpback whale, 18 metres; and the Minke whale, 9 metres. The toothed whale family has the Sperm whale, 16 metres; the Killer whale, 9 metres; the Bottlenosed whale, 10 metres; Southern Bottlenosed whale, 7 metres; the Blackfish, 4 metres; and three types of dolphin, the Dusky dolphin, 2.5 metres; the Cruciger dolphin, 2 metres; and the Spectacled porpoise, 2 metres. The toothed whales dive deep to find their prey but like all mammals they must breathe air so they have to return to the surface regularly. The seals, there are six types in Antarctica. The Elephant seal, 6 metres; the Leopard seal, 3.5 metres; Weddell seals, 3 metres; Crabeater seals, 2.5 metres; Ross seals, 2.5 metres; and Fur seals, 1.8 metres. The seals have learned to co-exist by dividing up their feeding areas to eliminate most of the competition for food. Sometimes several species of seals will chase an abundant prey and feed side by side! Seals eat fish, squid, krill and penguins. If we wanted to observe these animals feeding then we would need a boat and scuba gear to see them feed. We haven't seen any seals at all this week. So Kyogle High, we have to postpone our observations for you. This is why we came to spend a year in Antarctica. We wanted to learn all about the seasonal changes in this strange and unfamiliar land. The spring in Antarctica should offer us a lot of opportunities for animal observations.

### STATIC ELECTRICITY

Mawson talked about St. Elmo's Fire and we have hardly seen any. We are finding out a lot about static electricity. Margie and I are both getting substantial shock from various items in and around the hut. The VHF radio aerial which is on top of the hut is transmitting an electric charge down through the aerial cable into the hut. We can make the spark jump up

to 10 or 12 mm like a spark plug! We lost another week of weather data and we have concluded that the huge amount of static electricity must be creating problems. We are leaving the cable connected to the computer and leaving the computer out instead of stowing it away when we are finished with it. We hope this will solve the problem. On the subject of electricity, the generator which our power was running for five hours this week. The actual generator is in the "lean-to" not in our living space. Well, after five hours, there was a melt-down in the "lean-to" from the heat that the generator made.

#### MARGIE'S ICEBERG

The ice berg that broke off during Margie's song is stuck on rocks about 4 kilometres to the east of the hut. (See 'Can a Song Create an Iceberg,' 27 April's journal.) It is really big and spectacular. It will be very interesting to see if it does manage to head on out to sea or whether it will remain grounded for the rest of the year.

#### HOUSEKEEPING AND BATHS

The soggy mattress that I wrote about last week has finally been dried and put into plastic bags. It was quite a scene in here when we were drying it and the sleeping bags. We couldn't hang the mattress up so we wound up standing around while it dried. It took hours. We lost the cuff of a thermal top this week. We were drying it above the heater and it melted! It turned solid and we had to cut it off. We had our bath on Tuesday. We've settled into a routine. Margie has a bath once a week and I have a bath every two weeks. I think it is fine! UFO'S IN AUSTRALIA We have been hearing about the east coast of Australia sighting UFO's this week. It was quite weird thinking about 'them' coming down to Antarctica. It is a very lonely place down here. Margie is getting very homesick. I am trying to cheer her up but only two hundred and sixty more days doesn't sound very cheery. Sighting a UFO would give us something interesting to talk about.

Keep warm,  
Don

#### WIND CHILL MINUS 60 DEGREES

11 MAY 1995

It was very cold this week. The temperature inside "Gadget Hut" got down to minus 15 degrees Celsius. The heater is on all day now and we are struggling to keep the cabin temperature at 10 degree Celsius during the day. We wear our gloves inside all the time. Margie's face cream is frozen in the morning when we wake up. It is really hard to get out of bed in the morning when it is so cold and dark. We stay up at night until about 10 p.m. and usually get up when the sun comes up but one morning we stayed in bed until 11 AM.

#### GOING OUTDOORS IN THE COLD

We have to wear a full face neoprene masks as well as our balaclavas, hats and goggles to stop any frost nip. Margie and I have had two occasions when we have thought that our cheeks were freezing. The wind chill has made the temperature equal to minus 60 degrees. The temperatures have been below what Mawson recording during this time period. Collecting ice to melt into water is amazing. It is like smashing glass. It is so cold that the snow squeaks under our feet as we walk around with our crampons. We are trying to figure out which job is harder, going out to empty our "gray water" bucket when it is minus 60 or

rushing to the toilet when it is minus 23 degrees out in the cold porch/bathroom. What has made us laugh is considering that we have the coldest toilet in Australia. Believe me you don't want to spend an extra minute out there right now.

#### DISAPPEARING ANIMALS

There is a lot of sea ice on the horizon and there haven't been any seals around lately. We think it's because the sea ice is preventing them from making their way to Commonwealth Bay. Perhaps they have place to rest further out on the sea ice. We might not see any more seals for a while. The birds seem to have disappeared too. It seems very lonely here with just the two of us.

#### KEEPING OURSELVES ENTERTAINED

Last Friday was Sir Douglas Mawson's Birthday and we celebrated the occasion. We sang "Happy Birthday" to him and had a party in his honour. Sometimes we look at his hut and pretend that he is just out exploring. We tell each other that there is "still no one home." I guess it is a good thing that we are alone here or people might think we are being silly. We are looking forward to giving our mums satellite telephone calls on Mothers' Day. Margie no doubt will be telling her mum that she beat me three times at draughts this week. I'll be telling my mum that I beat her seven times. For real fun and games we might be moving our batteries inside "Gadget Hut." The batteries have been frozen down to minus 20 degrees. It's difficult to charge them when this happens. We ran the generator for five hours and only managed to put 48 amps into them. That is enough to give us about five hours of electricity for the telephone. It is less than half of what we were able to do a few weeks ago when the temperatures were a lot milder. We had a hard time starting the generator in this cold too. We had to put a blow torch under the casing to heat up the oil to get the motor to start. While I had the blow torch out we starting talking about the windows which are iced up again. I waved the blow torch over the windows to melt the ice. It was very effective so we have christened the technique, "Antarctic window cleaning." It is much easier than chipping the ice off the windows but neither way works for very long. The ice came right back on the windows so we tried putting olive oil on them. It doesn't work, the oil freezes. We are constantly chipping ice away inside the hut. Our pillows are freezing to the walls during the night. Our sleeping bags are damp on the top from the moisture given off by our bodies every night so we have to dry them every day. Another fun project to keep us busy is de-icing the air vents up on the roof of "Gadget Hut." We had to do that again this week.

#### WEATHER DATA

The Antarctic high pressure system has moved out over the coast. This has created a steady barometer and relatively clear blue skies. We have seen some great sunsets and some really big auroras. We down-loaded the weather into the computer successfully this week. We think our leaving the cable in place has solved the problem. We hope that we will have a continuous weather record for the rest of the year.

#### WALKING ON WATER

The sea is freezing over very thickly. I'm looking forward to going for a walk on the ocean. The katabatic winds are about 60 knots during the night and down to only 20 or 30 knots during the day. The problem with the wind is that it can blow the ice away. That is exactly what happened the other night, the wind gusted up to 70 knots and the ice went away.

Boat Harbour is frozen solid now for one-third of its length. It is quite thick, approximately 45 centimetres. We have walked over part of Boat Harbour.

#### THE WORST PART OF THE WEEK;

We went out for a walk the other day and were looking forward to getting warm when we returned to "Gadget Hut." While we were away the temperature inside sunk to minus 6 degrees.

Keep warm,  
Don

#### WIND CHILL MINUS 60 DEGREES

19 MAY 1995

It seems like I spend all my time telling you about the weather. It is the dominant force in our lives right now and affects everything we do. Neither of us have had a lot of experience with snow and ice. Students who live in colder countries than Australia are going to laugh but we have had some big surprises this week. Let's just say that we are learning about ice the hard way, by trial and error.

**LEARNING ABOUT ICE** The first thing that surprised us this week was an incredibly high tide. We've never seen anything like it. It answered one of our nagging questions. There is an area of ice that Mawson called a "lake." We haven't been able to understand why until this big tide. On Monday we walked over the hill towards Mawson's Hut and there it was, a great big lake where no lake had been before. The sea water had flowed over the area and frozen into an ice lake. We started walking out on it, not realising the consequences and all of a sudden we were breaking through the ice. Our legs were in water about 60 cm deep. It was quite a funny scene. Every step we took on the ice we broke through. We had to go the last 12 metres back to the shore with very wet and soggy feet. Thank goodness it was only 60 cm deep!

The big tide and high winds did just what we expected them to do to the ice in Boat Harbour. It took it all away again. We walked on that water just one week ago.

#### WATER IN OUR BOOTS

We checked our Sorel boots and rewaxed them after the splashing around in the lake. Boy did we get a surprise when we took the innersoles and inner liners out of the boots. They weren't just wet, they were full of ice! We thought our feet were cold when we put our boots on because we have been leaving them in the cold porch/bathroom area. We have been putting on boots with innersoles and liners half frozen! So after removing the ice and drying the innersoles and liners we have nice warm boots to put on.

#### A HEAT WAVE AND A BROWN ICEBERG

We had a huge blizzard last weekend with winds up to 115 knots. It lasted almost 18 hours and seemed very vicious. "Gadget Hut" survived very well and strangely enough Margie and I were relatively relaxed inside. There was very thick drift and a rapid increase in the temperature. The temperature had been hovering around the minus 25 mark all last week and it shot up to minus 4 degrees Celsius. The barometer went off the scale at 948 millibars. It was as low as it could record and it just stopped. It could go no further.

The high temperatures caused yet another melt down inside the hut. Water was everywhere and we collected nearly one litre of water off the space blanket that we have put above our bunk. We cover the bunk with space blankets now all the time. This week the temperature averaged minus 10. Our weather data disappeared going into the computer. We are convinced that the static electricity is causing the problem. We see sparks of electricity more than a centimetre long and can hear a "crack" with the spark. It is quite surprising. We don't have to worry about petrol fumes being ignited by these sparks since we have a diesel generator!

After the blizzard cleared we checked on Margie's iceberg. It had split and bits had fallen away. We could see the interior of the iceberg and it was brown! It was obviously dirt that it had picked up coming along the Antarctic plateau for hundreds of kilometres before it turned into an iceberg. It was interesting to see our white iceberg turn brown!

We went for a walk when the wind died down. Mawson's Hut is now covered with snow. Margie had a lot of trouble walking around and she fell over about six times. It is really a bit of comedy to see us falling over in the snow and it gave us a good laugh.

#### MOONLIGHT ON SNOW

We had one fantastic night this week. A full moon, not a breath of wind and 10 cm of new snow created a spectacular landscape. We were so inspired we went out walking for the first time at night. The moonlight reflecting on the snow made it almost like daylight. It was a very special occasion. I don't know if I'll ever see anything like it again.

It would be nice to have more daylight since we are down to about only 5 hours a day now. Very soon now we will be in total darkness for ten weeks.

#### PLANNING A PARTY

To celebrate mid-winter we are planning a party. It will be on the 21st of June. It would really be great if every class that is following Expedition Ice-Bound were to send us a "Happy Mid-Winter" card in the mail to P.O. Box 778, Mona Vale, NSW 2103, AUSTRALIA. We believe there are thousands of you but we are not sure. We are wondering if there are really only a hundred, so IF YOU ARE FOLLOWING ICEJOURNAL AND YOU REALLY LIKE IT, COULD YOU PLEASE SEND US A MID-WINTER'S CARD. IT IS GOING TO BE A BIG DAY FOR US AND YOUR CARDS WILL GIVE US A WARM AND FRIENDLY FEELING DURING OUR CELEBRATION.

We are planning the food and events for our mid-winter celebration and thought we better service the stove for the first time. The stove is a pressure kerosene stove that was made by Broadwater Stoves in Ballina, New South Wales. Most people who by these terrific stoves use them in yachts. We took it all apart and cleaned it. The whole job took several hours. I made a little mistake with one of the burners and had to do it all over again but I'm glad to say it is now back together and working just fine.

#### HIGHLIGHTS OF THE WEEK

We had the chance to speak with students from Roseville College in Roseville NSW on Wednesday. More than 200 girls from years 5, 7 and 12 assembled in their school hall. IBM provided a technician and equipment so that the phone call could be heard by everyone

assembled in the hall. The quality was so good that I think the girls had a hard time believing that we were really calling from Antarctica.

One student asked what we do all day. Margie explained that everything we do takes time. Just washing the clothes is a major project. At home you can drop your laundry into the washing machine. We have to step back in time to an era similar to Mawson's time down here. Think for a minute about all the things you take for granted that are really connected to electricity.

The best meal of the week: Last week's spaghetti bolognese! We are still eating the batch that we cooked last week.

The funniest thing that we did this week was trying to walk on thin ice.

The strangest thing that happened was a 30 second burst of wind. It was blowing about 25 knots, then from nowhere a gust of 79 knots that lasted only 30 seconds, then it was back to 25 knots.

The best part of the week was checking our Eveready battery stocks. They are still high. We use our CD's and tapes all the time and we still have plenty of batteries left thanks to the support Eveready has given Expedition Ice-Bound.

I'll be looking forward to receiving your cards. Until next week...

Keep warm,

Don

#### STUDENTS QUESTIONS ON EMAIL

26 MAY 1995

Many of you have been following Expedition IceBound since my first journal and I am really glad that you are out there. Last week I told you that we were planning a party and that we would like you to send us a card to our office:

Expedition IceBound, P.O. Box 778, Mona Vale, NSW, AUSTRALIA.

We have already received cards! Thank you very much. Mary Ann is collecting them all and will be reading them to us. We would like to know where your school is, what your teacher's name is and what year your class is, and how many students are in your class. Would you include these details and your email address when you send us a card, please. I owe many of you answers and I don't have enough electricity to answer every email letter individually. I have answered many of your questions in my journals already and I'll just give you a list so if you want to look up some details you will know where to find them: Animals: see journal 5 May, Mawson's Birthday, almost every journal mentions animals.

The penguins are gone now and won't be back until mid October. The seals cruise by now and then and most of the birds have gone.

Communications: 3 March, Satellite Communications Doing laundry: 17 February, Talking to the World Electricity: 24 February, Things We Never... Fishing: 16 March, Inside Gadget Hut Footwear: 24 March, Nature is Harsh Our home: 31 March, Schools are Keeping...

Taking a bath: 29 January, Alone in Antarctica Television: We do not have television.  
Weather: Every journal covers the weather. Its windy and cold. We have blizzards and snow.

#### WHAT DO WE DO TO ENTERTAIN OURSELVES?

This is a popular question. We don't have television. We listen to the radio. It is our second greatest source of entertainment. This week we had a great time with Philip Satchell of 5AN radio in Adelaide which is 891 on the AM dial. Philip had the grandson of Sir Douglas Mawson, Alun Thomas; the Director of the South Australia Museum, Chris Anderson; and one of the editors of MAWSON'S ANTARCTIC DIARIES, Eleanor Jacka on the program this week and I joined them on air for a discussion that lasted forty five minutes. It was very interesting for me and I was pleased to learn that in August the South Australian Museum will have an exhibition related to Mawson and Antarctica. They are planning a permanent "Mawson Gallery" that will be finished in late 1996.

#### OUR GREATEST SOURCE OF ENTERTAINMENT COMSAT

Mobile Communications loaned us the most entertaining piece of equipment we have with us here in Antarctica, the Inmarsat M satellite telephone in a briefcase. We really enjoy talking on the satphone and answering questions from students all over the world. We have spoken with students in the United States, Japan, Australia and New Zealand. We have been able to talk to New Zealand schools the most because Telecom New Zealand is sponsoring Expedition IceBound for New Zealand schools. Margie and I are both amazed that we haven't yet found an Australian company to bring satphone calls to schools. We have been doing what we can with our own resources.

#### AAP TO LAUNCH "ELECTRONIC FIELD TRIPS TO ANTARCTICA

" This week we are pleased to announce that the AAP Group will help us launch our Australian schools program of "electronic field trips to Antarctica." With our COMSAT Mobile Communications satphone we are able to give you a telephone call. The only things we have to worry about are having enough electricity and enough funds to reach as many schools as possible. Now that AAP is helping us other Australian companies may decide to help us too. AAP has been providing news to the Australian bases in Antarctica for more than 30 years. AAP (Australian Associated Press) began 60 years ago. It has developed over the years into a group of companies. AAP Information Services provides news, information and communication services to media, government, business and financial markets. AAP Communications Services is a leader in communications networking and satellite and microwave services. AAP Telecommunications is Australia's third largest long distance telephone company. Expedition IceBound is glad to welcome the AAP Group as our first sponsor of the Australian schools program and hope that many other companies will join them in bringing telephone calls from Antarctica to you.

#### COMPUTER GAMES, FRENCH LESSON AND A MODEL OF THE "ENDEAVOUR"

Schools, radio, then computer games... on Tuesday I flew a Cessna 182 under the Sydney Harbour Bridge which was quite an experience. Of course it was only on my flight simulator on the computer but I had a great time making believe it was real. I did do something similar in real life. I flew with Dick Smith under the Harbour Bridge in his helicopter in 1992. I had those memories while I was using the flight simulator and it was fun. The computer beat me at draughts this week. I could almost consider this the worst part of the week. In

addition to computer games we enjoy reading and music. The French lesson are still sitting on the shelf next to the replica of Captain Cook's "Endeavour" that I want to build this winter. Margie spends her time giving birth to bears. I haven't been telling you about that. I want Margie to write to you when we lose the sun.

#### CONSTANT STORMS AND STRONG WINDS

I have mentioned MAWSON'S ANTARCTIC DIARIES before. I have a copy with me and I read what Mawson experienced every day. It is remarkable how similar our experiences have been to his. On the same day that we had a big blizzard, Saturday, Mawson had one in 1912. Mawson worried that the hut roof was going to get blown off. The blizzard on Saturday was a dandy. For 24 hours the wind averaged 70 to 80 knots and was gusting to over 110 knots. 110 knots is more than 200 kilometres per hour! The wind is violent, there is no other way to describe it. The katabatics this week were bad too, they aren't part of the blizzards, the katabatics are the winds that sweep down off the ice cap. They blew around 95 knots, stopped for a few seconds, then back to 95 knots. It was extremely rough. It felt like the hut was actually bouncing around in between the bullets of wind.

Jamison High School asked about the howling of the wind. Yes, it howls, it screams, it roars. It gets on your nerves and you don't even realise what is making you feel uneasy. During the blizzard we were bombarded with small stones, lumps of ice and hard snow breaking off and hitting "Gadget Hut. We watched some great auroras this week. Each one is different and spectacular. We'd be glad to sit outside and watch them but it is too cold. We go out to our cold porch / bathroom where the satphone antenna goes out a window. From this window we watch the auroras. It isn't heated out there and the temperature can be minus 25. The windows ice up and we are constantly clearing them as much as possible. When the ice build up on the windows it blocks out the light.

#### SUNSETS IN ANTARCTICA

A student from Gynea High School asked us, "How long do sunsets last?" This is a very good question. The answer may be more complicated than what seems obvious. The shape of the earth and the angle of the sun have a lot to do with it. Twice this week we had fantastic sunrises. Beautiful clear days without a cloud in the sky. The sunsets last for more than an hour right now and they are very colourful. The sun is very low on the horizon. According to the Nautical Almanac we lose the sun completely on the 10th of June. We enjoyed ten and a half hours of sunshine this week. That's sunshine, not daylight. The Nautical Almanac says that we had 3.3 hours of daylight on 25 May. We will miss the sun and I guess the ice on the windows won't matter after the sun goes away.

#### BITTER COLD AND FROZEN BATTERIES

The temperature has dropped back into the minus twenties. It is minus 23 degree Celsius in our bathroom. It is absolutely freezing and we have to be quick when we use the facilities. Margie jumps back into the warm part of the hut really fast. The severe cold is making it hard to charge the batteries. When we start the generator we have to push it towards the wall and extend the exhaust pipe out through a hole in the wall. We jam the generator in position and it seems to work well. We have no fumes at all coming back into the hut. I ran the generator from 8:30 p.m. until midnight last Friday night. The batteries took a complete charge before they froze, so that was great. Today, the sea is frozen over again and this morning we had a period of no wind. I went down to the water's edge and saw a seal about

100 metres offshore. He was in a slight crack in the ice and coming up for air. He bobbed up and down about ten times. Each time he bobbed up quite high and took a look around. Then he disappeared again under the ice.

#### DOES IT SMELL IN ANTARCTICA? DOES SNOW SMELL?

Several students from different schools have asked similar questions about odours. When we first arrived in Antarctica the crew complained about the smell from all the penguin and seal droppings. After two or three days we stopped noticing the odour. Snow has no odour. This week we got a real smelly surprise. The wind went north westerly for about 15 minutes and we could smell a very strong sulphur odour which is quite weird. We're trying to guess where it came from. There is certainly no volcanic activity anywhere near us as far as we know. Mount Erebus is the nearest volcano. Perhaps we will never know where the smell came from.

The best part of the week: The stove tune up we did last week means the oven is working and we had pizza and carrot cake this week. Good news: We are now confident that our toilet paper will last until the end of the year. We were worried for a while that we were going to run out but it will last, just until the end of the year! Frost nip report:

Both Margie and I have experienced some slight frost nip on our cheeks this week. It's from being outside. It is nothing serious but it reminds us about how careful we have to be.

#### LACK OF OXYGEN

Speaking of being careful, we suffered from lack of oxygen when the heater was going this week. We felt fine but it was obvious there was no oxygen because I used six matches before I could light our kerosene lamp. The oxygen level was so low that as soon as I lit a match it went out. I thought it was a bad bunch of matches at first but then I realised it was a lack of oxygen. We opened the hut up and fixed the problem. It was an interesting experience and surprising that we both felt okay. Send us a Mid Winter's card, we would love to hear from you.

Keep warm,  
Don

#### CONTINUOUS SUNRISE AND SUNSET

2 JUNE 1995

The days are so short now that the very few times we can see the sun it's a continuous sunrise, sunset scenario. The days are only a few hours long. In fact today we've only had one hour without the lights on inside. We put the lights on in the morning when we get up. We turn them off for a short while and turn them back on around 1:00 o'clock in the afternoon. Wednesday was the first time we got out in about 10 days. The wind dropped off and we had 2 hours of sunlight and about 8 hours of low wind. The sea is frozen over out the front. Some of it is broken and a mysterious swell appeared for about 20 minutes. We don't know where the swell came from but it made the ice bang and crackle against the other ice floes. It was really quite weird. We walked over to Boat Harbour which is once again fully frozen. A huge fog offshore to the west was rolling out over the sea ice.

#### INSIDE "GADGET HUT" LAYERS OF HEAT

The temperature in the morning has been between minus 14 and minus 11 Celsius inside

"Gadget Hut." When we are in bed our breath freezes onto everything. Our books are in plastic bags to keep them in good condition but now there is ice inside the plastic bags! The water drums that we use are frozen up. The water inside is a solid lump of ice so we melt ice for water just as we need it. There is no use in trying to create a store because everything freezes up so quickly. The heater is battling to keep up with the low temperatures. We have it on all the time that we are out of bed. The best the heater can do is to get the area near the ceiling of the hut up to about 20. The temperature at eye height is about 12 degrees and at the table where we sit it is about 7 degrees. On the floor it rarely gets above minus 4 degrees. I guess this explains our cold feet. Margie sits with her feet underneath her now and I keep stamping mine on the floor to keep the blood circulating.

#### FOOD FOR WARMTH AND FAT FOR COLD

We've been eating really well with lots of Shelf Stable Foods and pasta. We had two roasts this week which were fantastic. We had roast pork and roast beef. Cooking a roast in "Gadget Hut" makes it seem homey. I think we are both putting on weight which we need to help us combat the cold. The wind-chill now is really severe. It is virtually always around minus 60 degrees Celsius. We have to rug up and wear our neoprene face masks every time we go outside. We have used the blow-torch on the windows again. There was a 25mm build up of ice on the windows again so we got out the blow-torch and cleared them off. There isn't anything else we can do to stop the window freezing over. The light will soon be gone anyway so it won't be a problem after another week or so.

#### FILMING AND FREEZING

Trying to film in the blizzards for the documentary we are going to make is very difficult. Snow gets into everything. My hands freeze and even my eyelids have had ice on them. When the wind dies down my eyelashes tend to stick together and my moustache ices up. I missed a good photo opportunity when I was filming. I didn't know that Margie was blown over by the wind. She fell over a one-foot ledge down onto some rocks and bruised her leg. Fortunately it was nothing serious but it happened right next to the hut. She was only about three metres away. She was collecting ice for water and when she got blown over she dropped the bucket. It started to blow away so she had to chase after it in the drift snow. It would have made a good scene if I had captured it on video.

#### BATTERIES AND FREEZING

We had to warm our batteries for four hours before they would take a charge from the generator. We had to work for a while to get the generator to start too. First we used the flame torch on the sump and the cylinder head of the generator. Then we poured hot oil down the rocker cover. Even then we had trouble and had to pull the starter cord many times before the generator would start. The temperature is quite low. It has been between minus 27 and minus 22 for the last week. The blizzards get stronger and more consistent as we head toward the dark days of winter. This week the winds were well over 100 knots which is almost 200 kilometres per hour. The wind is still playing the game of dying down to about 40 knots then suddenly gusting to 100 knots. The COMSAT satellite telephone system has been fantastic. The quality is so good that Margie has now taken up singing over the satphone. On the Australian east coast a radio presenter, Stan Zemanek has a show in the evenings on 2UE (954 on AM dial) in New South Wales and 4BC (1116 on AM

dial) in Queensland. Margie sang to Stan on his birthday on Monday night and it may have been the "first live concert via satphone!"

#### SASTRUGI AND DRIFT SNOW

The sun was only out for one hour this week. The entire month of May only had 40.5 hours of sunshine. The wind is so strong it is polishing the sastrugi snow. It shines and glistens with really funny shapes. What is sastrugi snow? I'll tell you. Sasgrugi is a common form of erosion that makes the surface of the snow look like frozen surf. The wind blows drift snow around. The snow crystals become rounded by the wind and eventually freeze to the windpacked snow. The wind continues to erode the snow and makes strange shapes like choppy seas on the ocean and dunes on the beach. A footprint may stay because the snow is compressed and snow around it will be blown away. Early explorers used these frozen footprints to retrace their steps. The lichens which are normally black are turning green under the snow. It is quite strange and maybe it's because there is no sunlight.

#### PARTY PLANS IN ANTARCTICA

The Mid-Winter's party that we are planning is a tradition in Antarctica. If you go to your library and find books about Antarctic exploration you will read about some of the parties that wintering over people have held. They usually involve costumes, songs and special food.

We will also be celebrating with a phone call to Australian schools since the AAP Group is launching our 'electronic field trips to Antarctica' project. In September 2600 American schools are going to join Expedition Ice-Bound on computer networks. Some of you may have friends or relatives in Australia, New Zealand, Japan or the United States. It really make you think we do live in a "global village" when this same journal can reach students on three continents. We want to celebrate by finding out how many classes are following Expedition Ice-Bound.

We would like to receive a card or letter from your class so would you write to us this week at P.O. Box 778, Mona Vale, NSW 2103, Australia. Margie and I are going to share our party with you on 21 June. I'll tell you all the delicious things we are going to eat. Margie is going to be in charge of the entertainment. When you send us a card you could include a suggestion for our party. Please put your e-mail address, the size of your class and your teacher's name on the postcard or letter that you send. The 21st of June marks the point where the sun reaches the Tropic of Cancer in the northern hemisphere. It gives the northern hemisphere their longest day and we get the shortest day. That doesn't quite work in Antarctica because it will be dark then. We will have no daylight but we will be celebrating the fact that the sun is now on its journey back to Antarctica.

Keep warm,  
Don

#### DAFFY DUCK FEET

16 JUNE 1995

We've had quite a lot of snow this week. It was so deep that we couldn't walk on top of it without sinking in. We put on our snow shoes for the very first time. It was quite weird. We

felt like Daffy Duck walking around with tennis racquets strapped to our feet. I fell over a couple of times but Margie was okay.

#### PLANS FOR THE MIDWINTER PARTY

There are only a few days to go until our Mid-Winter Party on the 21st of June which is fantastic. We have a fun day planned with feasting and entertainment.

#### THE FEAST

We have some special treats that we packed for celebrations and we are really looking forward to eating them. For the Mid-Winter Party we have planned the following midday meal. For the entree we are going to have liver pate, caviar and Camembert cheese on biscuits. The soup course will be pea and ham soup. Then the main course which is one of my favourites, roast lamb with mint jelly. The roast will be served with Edgell's frozen broccoli, cauliflower and carrots. An exotic beverage will be served rare and precious 1994 cans of Pepsi Cola. Dessert will be plum pudding and custard, (I love custard. When I sailed around the world in BUTTERCUP I had a big stash of custard on board.) After this feast we will have hot chocolate with marshmallows floating on top and chocolate biscuits. Would your special feast include food like this if you were in Antarctica with us?

#### THE ENTERTAINMENT FOR 21 JUNE

We will begin Mid-Winter's Day early with a phone call to the TODAY SHOW. They are going to link us up with a school and the class will be on television all around Australia. Be sure to get someone to make a video recording of Wednesday's TODAY SHOW on Channel 9 if you aren't able to watch it because you are either in school or travelling to school during that time of the morning. It is scheduled for 8:15 A.M. To make this television link Channel 9 sent a truck full of equipment to several different schools around Sydney. They took a survey from each school by trying to send a signal back to the Channel 9 studio from the truck. The signal is sent from an aerial that telescopes up almost 10 metres from the top of the truck. This aerial has to make line of sight contact with the very high television aerial at Channel 9 in Willoughby, NSW. A hill, a tree or a building can block the aerial's line of sight. The truck must also be able to get within 200 metres of the classroom. Of course, we have no television in Antarctica and we won't be able to see the program but you will see either a still photograph of us on tv or some of the actual video that we made in Antarctica in January this year. After that exciting morning talking to Australian students in a classroom decorated with YOUR MID-WINTER CARDS we will chat with 25 schools in New Zealand on our weekly conference call.

We have really enjoyed hearing about all the Mid-Winter Cards we are receiving. It makes us feel like we aren't all alone. Thanks to everyone who has sent us a card or poster. It's very hard for Margie and I to answer all your letters but our office is reading them to us over the phone which is a lot of fun so thanks very much. A special thanks to Birdwood Primary School in South Australia, Dalmain Public School in West Australia and Roseville Primary and Middle Harbour Public Schools in New South Wales who have sent us some really creative cards. We heard this week that quite a few New Zealand schools are building mock ups of Gadget Hut to see how big it is. That sounds like a great idea and a lot of fun. Maybe you could send us a photo or two so that when we get back to Australia we can look at the photos and see exactly what you're up to. Some schools are sleeping over at school on the

21st of June to experience what we're going through here and we look forward to speaking to some of you on the telephone that night.

#### NEW FRIENDS IN ANTARCTICA

We spoke to the New Zealand's Scott Base in Antarctica today to wish them well for Mid-Winter and to say hello to Scotty, their cook. We found out that their Mid-Winter air drop by Hercules aircraft from Christchurch, New Zealand arrived that day. It dropped 40 parcels each weighing almost 500 kilograms! The parcels were filled with fresh food, Christmas presents and mail. The bad news was that five or six of the parachutes didn't open. Some of the fresh food got smashed on the ice. It was really great to chat with them and to our surprise, it turned out that they'd been receiving our weekly journal! They knew all about us and we had a lot of laughs on the telephone. They have been experiencing calms instead of strong winds like we have but they have had no sun and no light at all for many months now.

#### WHERE IS SCOTT BASE?

Scott Base is located at 77 degrees, 51 minutes South latitude and 166 degrees, 46 minutes East longitude on the western side of the Ross Sea. We are located at 67 degrees South latitude and 143 degrees East longitude almost 1000 kilometres away. Margie and I got excited thinking about their movies, hot showers and lots of other people to talk to which would be a lot of fun. Beginning in mid August planes start landing at Scott Base to change personnel. Margie started thinking about how long the 1000 kilometre walk would take and what the airfare would cost! Of course we can't do it during Expedition Ice@Bound but it is fun to think about projects like that. Margie and I have read a lot about the exploration of Antarctica. In the 1950's Vivian Fuchs and Sir Edmund Hilary lead teams of men on an expedition to be the first to cross Antarctica. Hilary left from Scott Base and Fuchs left from Shackleton Base (77 degrees 57 minutes South, 37 degrees 9 minutes West). The Trans Antarctic Expedition of 1957 was successful and Sir Edmund Hilary and Vivian Fuchs met on 19 January 1958 just three kilometres from the South Pole. Once they reached the South Pole Vivian Fuchs and his men continued on to Scott Base. Their Trans Antarctic route covered 3,472 kilometres in 99 days. One of the photographs in a book shows the living quarters that Sir Edmund Hilary and his team used. It was smaller than Gadget Hut! It was a plywood box 1.2 by 3.6 metres which they towed behind a tractor. The four men slept inside with their equipment in an area half the size of Gadget Hut.

#### THE WEATHER AND THE WAY WE ARE COPING

During a lull on Tuesday, we went up onto the roof and installed a new wind speed and direction indicator. The old direction indicator lasted for five months of incredible winds! We got caught half way through the job when a small blizzard turned up. It was difficult to complete the job but we got it done and were glad to get inside when we finished. One night our air vent was letting in very little air. We checked it and the vent was down to only 25 mm in diameter. We tried to chip the ice out but the ice was pretty solid. In the end we had to put the Tilley pressure lamp under the vent and the hot gasses melted the ice over a period of about 3 hours. It makes a big difference with the vent clear.

#### THE CONTINUING MATTRESS SAGA

Our mattress which has been an ongoing problem now consists of the original 10cm of

foam covered in plastic bags with two 10mm sleeping mats that we normally use when we go camping on top. Then we have our thermarest blow up mattress on top of all that. It is just okay. The past week we have been experiencing another heatwave. The temperature has been averaging around minus 10 degrees Celsius. Compared to last week's minus 30 it seems mild and all the ice inside the hut has melted off the windows and off the walls. There is a lot of water all over the place. We collect over a litre of water from the space blanket over our bunk each night. One night the water managed to seep through a small hole in the space blanket. It drowned the sleeping bag so we had to stay up and dry it in front of the heater. The heatwave has made it much easier to start the generator. We didn't have to warm the batteries which saved us a bit of generator time which was good. Generator time means fuel consumption. We have time but we are limited in the fuel department.

### FUN IN THE SNOW

We decided to dig out our cargo sled which was partly buried in snow and ice. In the process Margie whacked the top of it with the ice axe smashing a bit of timber. I whacked the sled runner at the back smashing it but fortunately it's not in a critical area of the runner so we'll still be able to use it. Yesterday we tried to build an igloo but the snow was too soft. We dug a snow cave into the side of a shallow hill. We struck solid ice on the floor. It's not a very big cave. We sealed it up because a blizzard started but we'll make it bigger when the blizzard stops. We plan to sleep in the cave for a few nights when it gets cold (back down to minus 30 I mean). We want to see what it would be like to really rough it. The drift is a lot less now but it still comes through all the cracks in the door when we shut it. Just a tiny pin prick will allow the drift in. In an hour or so almost a garbage bag full of drift will accumulate. We actually use the snow to plaster the cracks in the door. It acts like a filler and stops any more drift coming in.

### WHITE AS SNOW

We haven't seen the sun for some time. Theoretically it is under the horizon but in the middle of the day we have twilight and are able to see outside for a few hours. Our skin is really white because it hasn't seen the sun. Our hands are white as snow. They are always in gloves, they look really weird and I've never seen my hands so white before. I don't even have a watch mark on my arm any more. I haven't worn a watch since we got here.

### THE MOON

We have had the moon for company since the sun has gone. The moon was full this week which gave us several days of great big moons from 2 p.m. until 10 a.m. One day there was very little wind, the moon was almost full right over Mawson's hut. It looked absolutely spectacular. All the best from us for a great Mid-Winter's Day. Thanks again for thinking about us and sending us cards.

Our address in Sydney is Expedition Ice-Bound P.O.Box 778, Mona Vale, NSW, AUSTRALIA.

One school in NSW received a visit from a writer for a computer magazine who was interested in this journal and what we are doing on the computer networks with you. Mary Ann in our office will be glad to help anyone who visits your school who is writing about Expedition Ice-Bound. Please tell them to ring her on (02) 9798530 or send her a fax if they

would like more information on (02) 9798535. THIS JOURNAL IS PROUDLY BROUGHT TO YOU BY MCINTYRE MARINE SERVICES AND COMMUNICATING ADVENTURE

## OUR MID-WINTER DAY

22 JUNE 1995

We had an exciting day on the 21st which was Mid-Winter's Day. We dressed up. Margie put on a dress for the first time in six months and I wore normal pants and a shirt. Fortunately we had the heater turned up. We had a huge feast of all the good things we told you about last week.

## MODERN COMMUNICATIONS ARE AMAZING

We were very tired after all the phone calls we made. We spoke with students in remote locations in Australia via the Alice Spring School of the Air and more than two dozen New Zealand schools. We rang the Australian Antarctic Bases as well as the Macquarie Island Base to wish them the best on the darkest day of the year. Everyone is glad that the sun is now heading back to the Southern Hemisphere. It is quite amazing when you think about what happens to our voices when we speak down that satellite phone into a briefcase. Our voices turn into a signal that travels to a stationary satellite near the equator and over the Pacific Ocean. It is then sent from the satellite to the west coast of the United States where it is linked into the international telephone lines. COMSAT Mobile Communications certainly are a great help to Expedition Ice-Bound.

## NEW ZEALAND SCHOOLS AND TELECOM NEW ZEALAND

Every week we speak with New Zealand schools because Telecom New Zealand is sponsoring Expedition Ice-Bound and paying for all the telephone calls. We had a fantastic conference call with them this week. They told us all about the projects that they have been working on. They built mock-ups of Gadget Hut. Some students were sleeping over at school on the longest night with their heaters OFF! These brave students were trying this experiment so they could feel some of what we are experiencing at Commonwealth Bay. They were eating meals similar to what we have and created a concert and acting as if they were in Antarctica for Mid-Winter.

It was great for us to hear that students are taking that much interest in what we are doing! MENAI PUBLIC SCHOOL- AUSTRALIA Congratulations to Menai Public School. What a fantastic idea-- making a mock-up of Gadget Hut. It is exciting for us to hear of your total enthusiasm for the project and we look forward to seeing you when we get back. Hopefully we will talk to you on the telephone soon.

We thought it appropriate to reproduce your letter for the other schools so they could get an idea of what you have done.

"Dear Don and Margie,

We are from Menai Public School in Sydney. There are 31 children in our Year 5/6 class. We have been following your expedition all year. We are simply amazed by the things you have experienced. We are standing in front of our Gadget Hut. We made our hut to the same dimensions as yours and as part of our Science and Technology work, we have made your microwave, phone and solar panels, a friendly lamp and a large map of Antarctica. We also made our own individual Gadget Huts and we had to make them with a removable roof

and design the layout of the inside of the hut. We also had to make the furniture that we thought that you would be using.

We cannot believe that you are living in something that size. What we have found really interesting is that you seem to be getting along so very well. Everyone that comes into our room asks about our hut and they learn about what you are up to. We now have people from all over our district sending us news clippings, etc.

We also went to our near by high school to meet another Antarctic explorer, Phillip Bernaart, who showed us slides of his time in Antarctica and allowed us to try on his clothes and to hold an Emperor penguin egg. He also showed us slides of his Mid-Winter Party. We are also having a Mid-Winter Party. We are going to have lots of junk food because we decided that roast lamb was a little hard to organise but we are going to all bring mugs and have hot chocolate with floating marshmallows. We would like to congratulate you on your efforts. We fell like we are part of your family.

Thank you for letting us experience your exciting world.

From 5/6W and Mrs. Walters, Menai Public School, Sydney.

#### " CONFERENCE CALLS TO AUSTRALIAN SCHOOLS

Margie and I will try to organise conference calls to everyone who has sent us cards over the next few months so stand-by for that call from Mary Ann. Conference calls consist of twenty-five schools in total with five of the schools designated to ask three questions each. The other twenty schools listen in and during the following weeks some of those schools will get a chance to ask questions. It will be very exciting and we are looking forward to it. For any schools that would still like to register that they are interested in a conference call, just send us a card letting us know how many students there are in your class, your teacher's name and where your school is located. We will put all the cards in a hat and begin our conference calls when you come back from school holidays. We wish we could speak to everyone on the conference calls but it is very expensive. We are trying to do the best we can at the moment with the limited funds in our education program piggy bank.

#### ALICE SPRINGS SCHOOL OF THE AIR

We had an exciting phone call today with the Alice Springs School of the Air. Children in the outback in Years 1 and 2 spoke with us which was great. It was difficult to think of them in the red dirt of the Australian outback while we are down here surrounded by all this snow and ice. They are isolated in a way that makes us have something in common with each other. Can you imagine what similarities we have with isolated students? Talk about modern technology, the satellite phone which gets connected to an international phone line in the U.S.A. then went to the Australian outback and was connected to HF radio. It was really fantastic. You never know, one day we might get to visit those students on their stations in outback Australia. Alice Springs School of the Air is celebrating its 44th Birthday this year. Congratulations, well done teachers and parents who work with students in these remote locations.

#### THE BAD NEWS THIS WEEK

The idea of using a steel slops bucket instead of a plastic bucket which shatters in the cold seemed like a good idea. It is not a good idea, everything stuck inside when it froze solid. It took us ages to chip it out with a steel stake and hammer. We tried another old plastic bucket but it smashed on the first trip to the sea. Everything plastic is now cracking. We

even broke the dust pan! It looks like we'll have to use one of only three special five-gallon (about 20 litres) buckets that we have which are very strong. They are rated to operate in freezers. If they don't work, we might have a real problem.

#### THE WEATHER, THE AURORAS AND THE STARS

We've had very big blizzards this week and they keep getting worse as time goes by. Hopefully they'll get a lot better now that the sun's on its way home. We did have one really good night this week when there was absolutely no wind. Around midnight, Margie and I went outside for an hour or two. We were amazed at the strength of the auroras which completely encircled the horizon everywhere we looked. They were very bright. I tried to photograph them with the camera which has an exposure setting that can last as long as a minute and a half. I'm not sure whether they will turn out but I hope they do. The stars were fantastically bright right down to the horizon. The air was so clear it made it look as though we were under a huge dome. The Southern Cross stood out really strongly. It is directly above us and we enjoy thinking that we are living under the Southern Cross.

#### THE SNOW CAVE

I had this idea that I'd take Margie out for dinner on Mid-Winter's Day. There really isn't any where to go so I decided to build a snow cave in the side of a snow hill. Margie got a good laugh out of my efforts. She told our office in Sydney, "I laughed a lot while Don was digging it. He looked like a dog trying to bury his bone. It's a bit cramped but I couldn't knock back an invitation to go out for dinner, but that's it. I'm not sleeping in it!" We couldn't get to the snow cave this week because it has been blowing so hard. Fortunately we sealed it up with blocks of snow before we left it because now it is completely covered with snow. In fact you wouldn't even know it's in the snow hill where we dug it. We'll dig it out again when the weather gets better.

#### BOAT HARBOUR

The high tides and strong winds at the beginning of the week have taken the ice away from Boat Harbour once again. Everywhere we walked in the last few weeks is now turned back into water. It is really weird. When Mawson was here Boat Harbour froze solid three months ago and it didn't break up. In fact he set up a tide gauge on the ice and kept taking readings for the rest of the year. If it were there now, it would have drifted away with the ice. Maybe global warming is effecting the climate down here! That is one of the reasons we are keeping such a close watch on our weather statistics.

#### THE BODY CLOCK AND THE ALARM CLOCK

Our daily routine has changed since we have lost the sun. We now go to bed between midnight and 1 a.m.. We get up about noon and eat breakfast at 1 p.m.. I'm sure that sounds funny but that's the way life is down here right now. Our battery operated alarm clock is broken but luckily we've got a mechanical one that was given to us as a farewell present from a friend, Buster.

#### YOUR MID-WINTER'S CARDS

Thanks to all the Australian schools for the hundreds of cards, posters, jokes and recipes. We can't wait to see them all when we get back from Antarctica. They have been read to us over the phone and described to us. I understand that the TODAY SHOW zoomed in and gave a few cards national television exposure. We really appreciate your thoughts and we

do feel as if you are part of our family. Telephone calls to school are an exciting part of our week. The AAP Group of companies is helping us to launch our phone calls to Australian schools and we'll be talking to you soon.

Keep warm,  
Don

#### THE SUN IS BACK

6 JULY 1995

The sun officially came back on the 3rd of July! The days are getting longer with big twilights. Margie is very excited about it and feels a lot better now that the darkness is diminishing.

#### A BIT OF HOME

We now have an imitation gum tree inside "Gadget Hut." We brought it with us from Australia to break open after mid- winter. It's a synthetic branch with green leaves and twigs on it. It reminds us of home and the little bit of green give us a hint each day that spring is on the way.

#### THE RAGING AURORA

On Saturday night Margie and I discussed our twelfth wedding anniversary. We decided that on 2 July 1996 we will have a big celebration but this year we'd let the date pass without any sort of super celebration. Well, did we get a surprise that evening! We noticed a funny type of interference on the radio and then noticed the green glow coming through the window. We went outside and discovered we were having an amazing auroral storm. It was raging directly above us. The whole sky was covered with the aurora. We couldn't see any stars at all. Strong and spectacular explosions lit the sky. We felt so close to them that it seemed as if we could reach up and touch them. The aurora was very intense and it lasted for two hours and then just disappeared.

#### THE RADIO INTERFERENCE

On night this week the radio did stop working. We couldn't listen to music and news. It really worried us so we checked absolutely everything. It appeared to be an aerial problem so I checked all the connections. I went over everything with a fine toothed comb and just as we were about to give up, I realised that sometime in the previous week I had knocked a small knob on the front of the radio. It's called a 'squench control' knob which is used during radio transmission and reception of messages. This was the cause of our radio problem. I simply turned the knob and the radio crackled back to life. Margie and I laughed for about an hour at how silly we had been. The radio is now working.

#### MAKING ENERGY

We had a little bit of sun one day and our Solarex solar panels were putting half an amp into our batteries which is the first time in months. Hopefully in about eight weeks, we will not need the generator any more. It's been too windy for the wind generators so we keep them as our emergency back up system for power generation. We feel quite up lifted by the pleasant behaviour of the generator this week. It started the first time we pulled the cord! We think we may be understanding the idiosyncrasies of generator's behaviour in the cold.

It is usually quite a struggle but this time after pouring hot oil into the head and warming the sump with the blow torch, it started. Our Dryfit batteries are still coping very well.

#### SWIMMING IN MID-WINTER

We spoke with Scotty at New Zealand's Scott Base again this week. Some New Zealand personnel are flying out in mid- August. Margie would like to walk to Scott Base which is almost 1000 kilometres away to catch the plane out. Scotty said he would wait! (Don't worry, neither Margie nor Scotty are serious.) Scotty told us that all the personnel at Scott Base went for a Mid-Winter swim. The water temperature was minus 2 degrees Celsius and the air temperature was minus 30 degrees! Not wanting to be outdone by a Kiwi, I am trying to work out how to get into and out of the water safely. As soon as the wind stops, I'll try a quick swim. Margie is going to wait until summer.

#### MARGIE IS SAFE BUT SINGED

We had a small incident this week when Margie was making roast pork. The oven was on and Margie decided to make rice pudding. We have to prime the burner of our pressure kerosene stove so the burner is hot enough to vaporise the kerosene when we attempt to light the burner. We do this by putting methylated spirits on the burner and lighting it. Since the oven was already quite hot when Margie put the metho on the burner it flashed into flames about one metre high. Margie's eyelashes and eyebrows were singed by the flash flame. Luckily it didn't burn her face.

#### WATER IN WINTER

The biggest problem this week: I couldn't have my bath. We're trapped inside with not enough water for two people to bathe. Margie took the water and she smells really sweet. Getting water is tough. The winds keep getting stronger and stronger. Right now it is blowing from 70 to 100 knots. It has been blowing that hard continuously for the past five days. I had to go out yesterday in 80 knots of wind to get snow for water. We were completely out of water. It was very difficult and the wind knocked me about quite a bit. It was very exhausting.

#### WHAT THE WIND HAS DONE

The wind instruments finally gave up this week. After a period of wind averaging 90 knots for over four hours and then going well over 100 knots the instruments just stopped working. We are now guessing the wind speed until we get a chance to repair the instruments.

#### SUNSHINE AND TEMPERATURE

The total sunshine we had during the month of June was 10 hours and 35 minutes. The temperatures this week have been between minus 21 and minus 10 degrees.

#### OUR FRIEND THE MOON IS BACK

The moon is once again on its way to being full. We enjoy the light of the moon on the snow. Enjoy the full moon.

Keep warm,

Don

#### TERRIBLE WEATHER

14 JULY 1995

The weather is still getting worse. We recorded our all time record low so far of minus 33 degree Celsius outside and minus 19 degrees inside. For the past eight days we have been stuck in our hut with a huge blizzard raging. When the blizzard finally stopped it was COLD with no wind. We couldn't get the heater going because there was very little oxygen so we had to open the door. A vent on the window inside "Gadget Hut" let the drift in during the blizzard. Of course the windows are frozen up again. We had real trouble when we were forced outside in the blizzard for a quick run to get snow because we ran out of water. The wind was 80 to 100 knots and I was getting blown around all over the place. I couldn't use the bucket to collect snow because it was impossible to hold onto in the wind. I had to chop small icebergs from the ice and carry them to the hut one at a time.

Margie was hiding in the lee of the hut and at one stage she was hit by a block of snow. The slops bucket got pretty full during the blizzard. We had to empty it and the wind was still pretty strong. I didn't want the bucket to blow away so I put on my Musto sailing jacket with a harness and life line. There is a clip on the end of the life line that snaps on to various places on a sailboat. I clipped this life line to the bucket to stop it blowing away!

#### SINCE WATER IS SUCH A PROBLEM RIGHT NOW

Margie had a bath. I haven't been able to because either we don't have enough water or there isn't any more room in the slops bucket. I have now gone for 20 days since my last bath. 'I think this is my personal worst.' (I promised Margie I'd say that.)

#### SUNSHINE AND GOOD NEWS

This sun is really coming back fast. The other day we had two and a half hours of sunshine. We went outside for a walk. Margie is really missing the penguins. She says the penguins who didn't make it before the first severe blizzard don't look like they are dead. They are frozen but they look like they are just sleeping! Now that the sun is coming back the sky is turning light blue which is very exciting. Maybe the penguins will come back sooner than expected in October. Who knows! The good news this week is that we have a publisher for our book. It will be 258 big pages with colour photographs of our year down here, "Together Alone." It will be out next year, October 1996. We are really excited about this project.

#### OUR 'NIL ENVIRONMENTAL IMPACT' BELIEFS

In a previous journal, I mentioned that I wanted to send "Spirit of Sydney" to protest the French Government's nuclear testing at Mururoa Atoll. I didn't because if anything happened to "Spirit of Sydney" we might be stuck here for another winter. So this week Margie and I found out that we can send our protest to Jacques Chirac, the French Prime Minister in Paris by e-mail! In the olden days sailors would put messages in bottles and toss them into the sea. Now we can send a protest via e-mail. Not just a protest but art work too!

#### ARTWORK, PHOTOGRAPHS ON CYBER-VOTES VIA E-MAIL

A family living in rural New South Wales have used their computer knowledge and equipment to start a petition to the French Government about Jacques Chirac's decision to commit nuclear testing at Mururoa Atoll in the South Pacific. They entered their petition on the INTERNET'S WORLD WIDE WEB and invited others to join them. I talked to Kevin on the satphone yesterday and he invited everyone to have a look at the art gallery against

nuclear testing. So far people have sent more than 2000 pieces of children's art and messages by e-mail. Mary Ann is putting the details about this e-mail Children's Art Protest Against Nuclear Testing in the South Pacific on ICEJOURNAL.BB under CYBER-VOTE HI-TECH PROTEST. Have a look at what high technology is doing. Communications, by computer, in colour around the world instantly without paper. Cyber-space communications. Wow, when I think of Sir Douglas Mawson, 80 years ago!! He made the first two-way radio communication with Australia from mainland Antarctica!! Kevin is scanning our photo into the petition so Jacques Chirac will see us and Mawson's Hut when he reads our message.

#### GOOD FOOD, BAD FUEL, HARD BED

We are really eating very well. This week we dined on Sate Beef, which claimed the 'best of the week' title. It was a flash cooked, full-of-all-the-nutrition Shelf Stable Foods' meal. So were the other meals which took our minds off the terrible weather.

We ate Beef and Black Bean on Monday; Thai Beef on Tuesday; Hot Spicy Beef and Beef with Mushrooms on Wednesday; then ...wait a minute, I'm getting hungry. We got a new drum of fuel this week and found that it is contaminated. The fuel causes smoke when the heater starts and problems in the stove burner. My inflatable mattress has developed a leak. I thought I found it and fixed it but then it leaked again. My bed is a bit hard at present. The minus 33 cold is giving our batteries a hard time.

Keep warm,  
Don

#### MINUS 40 DEGREES, WIND 130 KNOTS

21 July 1995

The big excitement this week came on Monday night. Between eight and nine in the evening the wind started reaching 100 knots (185 kms) with dramatic turbulence. It dropped back to between zero and 5 knots in a matter of seconds and returned suddenly heading back up toward 100 knots. Margie and I went to bed and between two and three a.m. the wind became quite severe. At one stage there were two huge cracks in quick succession which made us both sit bolt upright in bed. We felt sure something important had broken and that the hut must be in serious trouble. The winds were gusting to 130 knots which is approximately 240 kilometres per hour or 150 miles an hour.

#### SNOW INSIDE!

The force of the wind has caused "Gadget Hut" to spring a few leaks. When we woke up there were piles of drift snow in the hut. One pile was above the table and it covered our CD player and speakers. The other pile of snow was under the table and we didn't see it until after breakfast. We collected several buckets full of snow. We plugged the holes in the hut with Sikaflex. They were only tiny but the drift snow is finer than talcum powder. We still haven't been outside to check what the cracking noise was because the wind is still severe, four days later. The hut seems quite stable, so either it was our imagination playing tricks on us or the ice on the hut was cracking away from the beams inside the hut and outside as well.

## THE COLD SUN

Even though the wind has been strong, we've experienced over eight hours of sunlight this week. The drift snow has disappeared. Maybe the wind has blown it all away! The visibility outside is good. The sea looks absolutely spectacular. The salt water is being picked up by the breeze and just blown away creating what we are calling 'sea smoke.' Our coldest temperature this week was minus 40 degrees Celsius. In countries that don't use the metric system they talk about temperature in Fahrenheit. Zero Celsius is 32 degrees Fahrenheit, water freezes. The Celsius and Fahrenheit scales cross at minus 40. So minus 40 degree Celsius is the same as 40 below zero in Fahrenheit.

## MAKING ELECTRICITY IN THE COLD

We had to run the generator when it was minus 32 Celsius! We used a lot of gas from the blow torch heating up the generator. It was so cold that recoil starter would not retract into the motor. We had to warm up the cord and the spring. The batteries didn't like the low temperatures. They started to freeze up with voltages dropping below 10.5 volts. It meant four hours of heating the batteries before we could put power in. Even then it was difficult but it all worked out okay.

## WALKING ON WATER ISN'T EASY

We had a fine day last Saturday. Margie and I walked on the water over to Boat Harbour. The frozen ocean has large pressure ridges which rise up into the air about 240 cm (8 feet). They are formed by the frozen ice on the top of the sea breaking up and being blown against other chunks of broken ice by the tides and the wind. So walking on water isn't smooth going and Margie took a tumble. She bruised her back and her elbow but she is okay. It was so cold during our walk that our eyelashes were freezing. My beard froze to my balaclava.

## COLD CABLES

Since many of our plastic things are breaking because of the cold I have become concerned about the cables that connect the satellite phone aerials to the phone in the hut. They are coaxial cables of flexible wire. In these temperatures they turn into rigid sticks. I'm really scared that one of them will break. We will begin our telephone calls to Australian school next week and we need the satellite phone.

## TESTING THE SATELLITE PHONE

This week we've started official tests with the our satellite phone to determine whether the Inmarsat M satellite telephone system is suitable to be used for the Global Maritime Distress Satellite System (GMDSS) for ships at sea. We are the furthest south of anyone ever to use the Inmarsat M unit. We are doing these tests with Inmarsat who are the international controllers of the satellites which are used by our COMSAT satellite telephone. Every day we give a call to a recording machine in England. They test the quality of our outgoing call. We give them a report on the quality of their incoming message. The phone has been working really well for the past six months and we feel sure that the test results will be good.

## WHALES

This week we spoke to a friend, Peter Gill who is a whale specialist. He and some other scientists are about to leave Australia on the ice breaker "Aurora" which is Australia's

Antarctic supply ship. They will cruise along the pack ice between 120 and 150 East longitude looking for whales. Margie has been thinking of all sorts of schemes to lure the scientists to Commonwealth Bay. She would like to tell them about weird whales and seals we can't even begin to identify in the hopes that they might come and visit. She thinks that once the ice breaker is within swimming distance, she would make a go for it.

#### PROBLEMS THIS WEEK

We had our first fuel spill. About a half a cup of kerosene spilled on the floor of "Gadget Hut" when we were filling the kerosene containers. We mopped up with paper towels and put them in a plastic bag to take back to Australia. The worst part of the spill is the smell. In the morning when we wake up the hut still smells. It is slowly disappearing. Our vacuum flask is slowly losing its vacuum and will not keep our water hot. It was quite handy and saved us from heating the kettle every time we wanted a hot drink. We have six more months to go and this was our 'back up' vacuum flask. The first one lasted until the end of February. We will miss the convenience. I had to take a bath! Margie started to use perfume! For 21 days I managed to avoid bathing but now I'm clean.

#### NEXT YEARS OATS

We have started to eat our second year's supply of Uncle Toby's oats. We've only used a few bags so far but we seem to have miscalculated how much we would enjoy hot cereal! We have lots of food but we are not eating nearly as much as we expected. We seem to pick our favourites. We have heaps of Cadbury's chocolate that we eat each night but we don't have enough chocolate biscuits. What a drama!

#### THE BEST THINGS THIS WEEK

We had pork chops with Birds Eye frozen vegetables, plum pudding and custard. What a feed. The auroras are back again since the moon has gone. They are spectacular. I wish you could see them. Margie is going to write to you! All our buckets are full, the toilet buckets and the slops / gray water buckets. The wind is blowing 80 knots and I have to make a run to empty the buckets and to collect snow and ice. Bye for now.

Keep warm,  
Don

#### MELTING

3 AUGUST 1995

We hit another all-time low in the last two weeks, minus 40 degrees Celsius. Then it got hot! It was 1 degree for about 12 hours and then only minus 2 for a few days. Everything inside the hut has melted and it's getting difficult to keep anything dry. The seats of our dinette, the bed, our clothes, everything is wet. It's almost depressing. There's so much water on the floor that it is leaking out below the hut. The food has defrosted. Our precious meat and frozen vegies are starting to defrost but they aren't thawed out yet. We are getting worried. The temperature inside has been as high as 7 degrees in the morning and we think it feels really hot. The snow in our buckets is even melting all by itself! There is no wind and the barometer is very high at 1030 millibars. Outside everything is covered in a metre of snow

and it looks very pretty. We've only seen this once before in March. It's quite hard to walk around at times. It feels a bit like a ski resort without the crowds and the hot chips.

#### MARGIE'S BIRTHDAY

It's Margie's birthday on Saturday, 5th of August. We are planning to make sausage rolls and another White Wings chocolate cake. I have two cans of Solo stashed away and I'm going to open them on Saturday. We rang into radio 2UE in Sydney the other night to answer a quiz. We won ten dinners for two at various Sydney restaurants. We are looking forward to using these next year.

#### THE HEATER AND THE SUN

I cleaned the heater this week. We are still on our original wick which is amazing. We have five spares! So far we have used eighteen 20 litre drums of ATK (aviation turbine kerosene) since we arrived here in January, but we are using about 20 litres a week right now. We'll use less when the sun is around and it is coming back. We are getting eight hours of light every day now. That eight hours includes the twilights and the weather is often overcast. We are now getting up earlier, at about 9:30 every day. We are quite excited about the arrival of September. It seemed so far into the future when we used to dream about it in February. Now it is just around the corner and we may get 250 of sunlight in September. We had 58 hours and 20 minutes of sunlight in July.

#### REPAIR JOBS

Last week during some high winds our VHF radio aerial snapped off the roof. We use it to speak to ships in Commonwealth Bay. Last summer we spoke to the ice-breaker when they tried to come ashore. We have to fix it before "Spirit of Sydney" arrives. One of our kerosene lamps started leaking. We didn't realise it and now we have kerosene smell in the cabin. It will last a few days.

#### THE EARTH NEEDS A REPAIR JOB

We heard on the BBC radio that the ozone hole over Antarctica is getting bigger. They said that if the whole world were to stop using CFC's the hole in the ozone would close in about 80 years. It makes you think about the sunshine. We have to be careful with our UV exposure. I've had two skin cancers removed from my back and shoulder. I guess those sections of my body won't get much exposure down here but our face and hands have to be protected.

#### THE BEST MEAL THIS WEEK

Buttercup Par-Bake long-life bread rolls turned into small pizzas and baked in the oven.

#### THE BEST PART OF THE WEEK

Looking forward to our Australian schools' conference on 8 August.

#### THE WORST THING THAT HAPPENED THIS WEEK

We are running out of maple syrup! We found our last bottle. It will last for about three weeks. We will miss it.

#### THE BEST THING THAT HAPPENED THIS WEEK

We were walking around Boat Harbour and we discovered two Weddell seals. We sat with

them for a few hours. We were so glad to see them back, we didn't expect them for another month or so.

Keep warm,  
Don

#### HELICOPTER LOCATES WILDLIFE

11 AUGUST 1995

Big excitement this week. We had visitors or nearly! We spoke via HF radio to the "Aurora Australis," Australia's Antarctic resupply ship which is cruising the pack ice doing research this winter. It is the first time they have done research in winter and they came within 150 miles to the north-west of Commonwealth Bay. Down here that's practically neighbours. They told us they had 26 crew and 40 expeditioners on board including scientists, marine biologists and weather people.

#### HELICOPTER LOCATES WILDLIFE

On Thursday they launched helicopters and found a big open water hole in the pack which was full of life including 300 Adelie penguins, 30 killer whales and calves, some Weddell and Leopard seals.

#### FOOD, OUR FAVORITE SUBJECT

Margie asked the "Aurora" about their dinner menu. They told her they had just eaten Chicken Wellington, vegetarian pasta and pork cutlets with horseradish sauce. It must have frightened her off or made her green with envy because she didn't ask her favorite questions which are always about hot showers and sweets.

#### MARGIE'S BIRTHDAY

Margie's birthday was fun. We had a big party on Saturday, the 5th of August. 17 of the teddy bears attended the party all dressed up in party hats, streamers and signs. The menu included 27 sausage rolls and a huge chocolate birthday cake with jam and cream in the middle. Lots of friends rang on the satellite phone to wish Margie "Happy Birthday." We really enjoyed the birthday party and "pigged out." We both felt a little sick at the end of the day but that's how birthday parties with "pig outs" usually end even in Antarctica.

#### AUSTRALIAN SCHOOLS "FIELD TRIP"

We spoke with Australian schools this week for our first two conference calls. Five schools were able to ask us questions while other schools listened in. We took almost 1000 students on this "Electronic Field Trip to Antarctica." New Zealand students have had these conference calls since February because Telecom New Zealand has created a whole year of interesting projects involving Expedition Ice-Bound.

#### 8 AUGUST AND 10 AUGUST CONFERENCE CALLS

We spoke with ten schools this week and lots more were listening in. Mary Ann put all the questions and answers on the ICEJOURNAL.BB for you to see. Check it out and you'll see what winter has been doing to us. We are looking forward to 1 September, the first day of Spring. Well, calendar spring, anyway. She told me that Millthorpe Public School, Mr. Haynes class was on Prime Television in western New South Wales from Cobar to Lithgow!

Wow! Kamora School in Davidson, NSW got in the Manly Daily; Menai Public School, NSW was in the Sutherland Shire Leader and; Middle Harbour Public School in Mosman, NSW was filmed by Channel 7 in Sydney. The Middle Harbour Public School was on Channel 7 in Brisbane too. St. Ita's at Dutton Park and Springwood Central both listened to Don and Margie talking to Middle Harbour. So the satellite phone call was on television. Margie and I sit here thinking of Mawson. Wow! Mary Ann says reports are still coming in from schools. That's great. I'm really glad your schools had a chance to be in the newspaper or on television or radio. It makes the world seem closer. We did a call on 10 August with high schools. One of them was Maryborough State High in Queensland. I had to tell the students that Peter Wyatt is Margie's brother (Mary Ann probably didn't put that in the questions and answers.) Then I told them that he wants me to give him fishing lessons because the fish I always catch bigger fish than he does. ABC radio was taping the call and SEQ Television was filming. Whoops!

#### WHAT MARGIE AND I LEARNED

We learned that Kingscliff High School in New South Wales near the Queensland border, has three students attending the United Nations Environment Program (UNEP) Global Youth Forum in Berkeley, California this week. 2000 young people from around the world are discussing ways of protecting the environment. Mr. Peter Langley, their science teacher learned about the United Nations Environment Program on the Internet. The Prime Minister, Mr. Keating, says he will listen carefully to the ideas and conclusions coming out of the UNEP Global Youth Forum. We look forward to hearing from the Kingscliff students when they get back.

#### POWERNET,KEYLINK, NEXUS, INTERNET AND COMPUSERVE

We use the Keylink and Nexus computer networks in Australia and the Internet to send the journal to New Zealand. 2600 American schools will join us in September and we wanted a network to serve them. They suggested America Online or Prodigy but those networks aren't used by Japanese students. Several Japanese schools have been following our journals and they are sent on CompuServe. So, next week we will become "information providers" on the PACIFIC FORUM on CompuServe. This will give people and students in 62 countries the chance to have a look at these journals that you read. We may even get the opportunity to put photographs on CompuServe when we get our digital photo transmission working. We are still just testing. "COMPUTER LIVING" In Australia the August issue of " Computer Living" magazine has an article about how Roseville Primary School in NSW is using Expedition Ice-Bound and these journals. The magazine is aimed at us regular computer people rather than the computer whiz types. I can't wait to see it when I get back. We miss magazines.

#### BAD DREAMS, FOG AND GOOD SUN

Both Margie and I are dreaming a lot lately. We have had some nightmares with people chasing us which is quite strange. Our blizzard sticks leading to the water's edge have been buried by drift snow over the past few days. There has been lots of snow. The weather has been quite unusual overall with northerly gale of 50 knots and one complete day of fog. It was frustrating as we knew the sun was shining brightly above the fog bank with not clouds. The sea out front is frozen over. Two days this week we went out walking. There is sunshine now! The sun comes up around 9 o'clock and sets around 4 in the afternoon. We have

been going to bed earlier and getting up with the sun. We had 11 hours of actual shining sun this week. We are looking forward to 1 September because it will mark the first day of spring.

Keep warm,  
Don

18 AUGUST 1995

On Sunday Margie and I took a walk. We went to the edge of the ice plateau at the back of Cape Denison to look for meteorites. It was a beautiful sunny day with clear blue skies and not a breath of wind. When we were about 1.5 kilometres from Gadget Hut when we noticed willy willies like small tornadoes coming from around the top of the plateau. We could see some small puffs of drift at the top too. We thought it best to head back to Gadget Hut. You never know what will happen here in Antarctica. We started heading back towards home and very quickly we had willy willies all around us. When we were about half a kilometre from Gadget Hut we got hit by tremendous katabatic winds and drift snow. The visibility dropped to zero! We couldn't even see our feet on the ground. It was quite difficult for a while as we fumbled our way along with virtually no sun because of the thick drift snow. Luckily it cleared with a few minutes and left us with 30 to 50 knots of wind and 10 metres of visibility. We were able to find our way to Gadget Hut. This was the first time that we have been caught out in these conditions. It is surprising to be in a white out, especially coming from absolutely perfect weather with very little warning.

#### PENGUIN COUNTDOWN

The countdown to the penguin return has begun. It is only about 7 weeks until they are due to come back. We feel as though we should be doing something like spring cleaning for their return. Margie thinks their rookery could use a good clean up. She would like to vacuum the area!

#### HF RADIO AND "AURORA AUSTRALIS"

We used our HF radio to contact Australia for the first time this week. We carried out a radio check with Perth Radio. They received us quite clearly on 4 MHz as the condition that night were very good. Later on in the week, the snow and blowing drift caused considerable static when we tried to contact the "Aurora Australis" to give them our weather information. We haven't seen the "Aurora Australis" even on the distant horizon. They must be on the other side of the pack ice. Margie is still hopeful that they will pull into Commonwealth Bay with magazines and chocolates!

#### "SPIRIT OF SYDNEY"

Our expedition yacht, "Spirit of Sydney" is being prepared for her return voyage to Antarctica. It is hard to believe that all these preparations are already taking place. We are actually starting to think about coming home! Margie is very excited and very anxious at the same time. The trip down was rough on her. "Spirit" should be ready by the end of September!

#### HEALTH AND BEAUTY

When I had my bath this week I noticed that the back of my legs are as bald as the top of

my head. It seems as though the hair on my legs has rubbed off from the long socks, high boots and thermal underwear. I trimmed my beard instead of letting Margie cut my hair. I can almost make a plait my hair is getting so long. Margie laughs but I won't let her near me with the scissors.

#### LOW ON LIQUIDS

The sad news is the maple syrup situation down here. We are just about out. It has become a favorite and when we use the very last of it tomorrow -- that's it. We are also running out of the flavourings we use to make various beverages out of our ice water. We use Tang, lemon barley and cordial as well as Berri Fruit Juice. They are all running low and we will be drinking plain water soon.

#### THE OZONE HOLE, PEOPLE AND FROGS

The bright sun has us worried at times because of the high UV. The UV penetration through the ozone hole over Antarctica is the worst between mid-August and mid-November so we have to be very careful. We have heard that the ozone hole could be causing frog populations to decline. The increase in the UV affects the coating on the frogs' eggs.

#### INCREASING DAYLIGHT AND THE COLD

The increasing daylight has put up to 20 amps a day in our batteries. The Solarex solar panels are fantastic now that we have sunshine again. It has been very cold this week. It averaged minus 25 degrees Celsius. There is a 50 degree difference in the temperature today between Sydney and Antarctica if it really was 25 degrees in Sydney in August! The sea is frozen solid and I'm very tempted to go walking out on the ocean. It may happen in the next few days if we get any calms. The cold weather has made the snow very hard. When we walk on it the snow feels like cracked glass. The sastrugi which is being moulded and eroded by the wind is very intricate and quite spectacular.

#### ANTARCTICA FLORA CHANGES COLOUR

The mosses and lichens are changing colour now that they're getting some sunlight. They are going from bright yellows to oranges and the greens are turning brown and black. It is quite interesting. The best part of the week: Wednesday: 24 hours with no wind and seven hours of beautiful sunshine and blue sky. It was just like summer! Fruit loaf toast. Margie almost forgot to put in the yeast when she was baking a fruit loaf. She remembered halfway through the recipe and the fruit loaf was great as toast. I would even eat a toasted fruit brick. The worst part of the week: Being caught in the white out and a total of only 25 hours of sunshine.

#### FURTHEST SOUTH INMARSAT M USERS ON EARTH

25 AUGUST 1995

Just because we want spring, winter has decide to lock us indoors again. The winds have been 70 to 100 knots (130 to 185 kilometres per hour). Today the wind dropped down to just 30 knots (55 kms.) so we are going to try and make a "bucket run" and collect some snow. The sun is shining and the sea is solid. Mawson didn't have anything like this.

We can see the Mackellar Islands just a couple of miles offshore to the east. We are tempted to walk out on the sea because it seems reasonably safe. The sea ice is about 60

cm thick and it looks solid all the way to the horizon. There would be no where for the ice to go even it decided to break up. In just six weeks the penguins are due, if the ice doesn't break up the penguins will be walking back to Commonwealth Bay!

#### SOLAR POWER IS BACK

Yesterday we had eight hours of sun and today the sunshine is brilliant. Temperatures have been around minus 26 degrees Celsius all week. We've been getting a good charge into the batteries from the Solarex solar panels. Over the past months we have had to run the generator every seven days. With the increasing sunshine we have just gone for twelve days without needing the generator. I would like it if this were our last session with the generator. It would be good to be back to full time solar energy consumption.

#### HOMESICKNESS

Margie wants to go home and she is missing everything from regular life. For the first time I felt a bit of homesickness myself. I want to sit on a beach, walk on carpet and use a flushing toilet. I would like to eat a good green salad. Time ticks by and we wait for September 1st.

From time to time Margie mentions going for a drive in the car and looking at green trees and grass. Sometimes she wants to drive to the Northern Beaches near where we used to live.

When she was interviewed on the telephone last week the reporter asked her so many questions about what we miss that after the interview Margie felt more homesick than ever.

#### AUSTRALIAN RESEARCH FROM "AURORA AUSTRALIS"

" The "Aurora Australis" is about 200 miles from us. They are stationary studying one area of pack ice that is about 100 square miles. They are using helicopters and they are out walking on the ice to study it in detail. Their boat is completely surrounded by ice and they are basically frozen in.

The way the Antarctic ice reacts and forms appears to be different from the way the Arctic ice behaves. This is one area that they are researching. Another area under investigation is the effects of the pack ice on the general weather.

It certainly seems colder here since the sea has frozen over. It's like a desert with drift snow blowing over it. In its own Antarctic way, it is spectacular. We have both concluded that we could probably walk all the way from here to the "Aurora Australis" on the ice but 200 miles would be risky. They told us they have 200 videos on board! We considered it but we really don't want to watch videos that badly.

#### WE ARE THE FURTHEST SOUTH INMARSAT M USERS

We have finished our trials with Inmarsat in England. We were testing our COMSAT satellite telephone system. Inmarsat are considering adopting the Inmarsat M units for global distress and disaster alerting. We are the furthest south that any Inmarsat M terminal has ever been. The trials were very, very good. We had 100% success rate on every contact.

We have decided to put a satellite telephone on "Spirit of Sydney" for the pick-up trip. It is very expensive, the cost is about \$30,000 Australian. The on board radio isn't very good

and we will need good communications when we sail David Hempleman-Adams to the South Magnetic Pole.

#### POLE ADVENTURES

David Hempleman-Adams is an Englishman who was the first person to walk unassisted to the North Pole. In October or November of this year he plans to walk to the South Pole!

In February he would like to sail to the South Magnetic Pole on "Spirit of Sydney." We are hoping to arrive in Hobart in late January so this plan may just work out. Once David has sailed to the South Magnetic Pole he wants to conquer the North Magnetic Pole. He will attempt the North Magnetic Pole in April 1996. He is certainly going to be busy.

The BBC is making a film of David's endeavours. We are happy to provide "Spirit of Sydney" for his adventure to the South Magnetic Pole. David did mention that he hasn't been sailing before and he's concerned about seasickness. I thought Margie might like to discuss the subject with him but that hasn't happened yet. We'll let you know.

#### THE DRIFING MAGNETIC POLE

In 1992 the South Magnetic Pole was located at approximately 65 South and 139 East. If you check your atlas you will see that it is just off shore near Commonwealth Bay.

In 1970 the South Magnetic Pole was located at approximately 66 South and 140 East.

It will be interesting to find it's exact location in 1996.

#### LOOKING FOR NEW TENANTS

We did an interview on a bilingual radio program in Japan this week. The program, "Tokio Today" on J.Wave Radio has 3 to 4 million listeners! We gave the listeners a shock when we asked for a Japanese couple to spend next year in "Gadget Hut."

We're serious. We think another couple would like the opportunity of spending a year in this last pristine wilderness on earth. We might even find an American, New Zealand or British couple who would like to chill out for a while down here with the penguins. We think it could be interesting to have the journal continue from Antarctica until the year 2000.

#### PURAKANUI SCHOOL IN NEW ZEALAND

We received a fax at our office from Purakanui School. They were one of the schools who celebrated the longest night of Mid-Winter with us.

Their fax had terrible news. Fire. Their school was completely destroyed by fire. They are now going to school in the local hall.

Margie and I are both very sorry to hear about the school being burnt to the ground on 21 July. Fortunately no one was hurt because the fire happened in the early hours before the school day began.

Fire is a big concern for us down here. It is funny that we don't think about fire very much in our every day lives, yet terrible things like this do happen in every day life. We are thinking of you at Purakanui School and we are very glad to hear that no one was hurt.

## COLD WITH CONDENSATION

The cold is affecting our video cameras and normal cameras. It is the condensation that is really bad. We have everything in plastic bags trying to keep the condensation at bay.

We had 33 hours of sunshine this week. It is totally incredible when we compare that with the entire month of June. In June we had 10 hours of sunshine for the entire month! Hurry Mr. Sun, hurry.

Keep warm,

Don

## 18 DAYS INSIDE GADGET HUT

1 September 1995

Spring has arrived! Yippee!! Winter went out with a real bang. We have been stuck inside for the last 18 days. We have been outside twice for two fifteen-minute runs.

## TWO BLIZZARDS

We had two big blizzards this week. On Thursday night the wind was 200 km per hour and there was zero visibility. During the day Margie and I attempted a short trip outside to film for the documentary we are making. When we opened the door to step outside the drift snow poured in all around the edges of the door as if it were water entering a sinking ship. The annexe was flooded with snow. During the confusion, and we were only outside for about 10 minutes, Margie lost the hood of her down jacket. It got ripped off in the wind. It's a real problem. We have now stitched the one remaining hood onto my jacket. She will use one of our other jackets. Fortunately we have a few spares for just such an emergency. The visibility was impossible. It was like trying to film a polar bear in a blizzard. The camera wouldn't focus and there was snow and drift blowing around everywhere.

## OUR BATTERIES ARE COMPLAINING

There has been no sun for ages so we aren't getting any solar energy for the batteries. The batteries froze. I missed two radio interviews this week because of the battery problem. In trying to solve the battery problem I found out that I have been doing the wrong thing by heating them when they are standing on end. It separates the gel and some fluid which ultimately effects their life and reduces their capacity. I can fix the problem by reheating them after charging when they are flat on the floor.

## STATISTICS

We are now into our 34th week in Antarctica only four months to go. It is really unbelievable. Last January and February seem like they were a very long time ago when we think about what we were doing back then. The total sun for August was 78 hours which is a bit better than Mawson who only experienced 50. The coldest temperature this month was minus 26.7 degrees Celsius and the warmest was one degree above zero. That is incredibly warm for August in Antarctica. The strongest wind was 120 knots (220 km. per hour).

## SEA ICE IS GONE

The sea-ice I mentioned last week finally broke up one night during a blizzard. It was quite a

shock the next morning. We wanted to go for a walk, a really big walk and it was gone. Just the day before I spent about ten minutes walking on that ice. I walked out a few hundred metres, now the ocean is there where I walked. During the blizzard there were waves crashing on the front edge of the ice which sent spray about 15 feet in the air. It was quite spectacular. I guess now the penguins will be able to swim back.

#### MYSTERIOUS NOISE EXPLAINED?

We received a fax from Rod Ledingham, the Field Training Officer at Australia's Antarctic Division in Hobart. He said, "Read you last newsletter with interest, especially the bit about the loud cracking noises you heard during the gale. There may be an explanation -- natural phenomena. At Mawson [Base] in the mountains it is not uncommon to hear a whipcrack noise as a strong gale tears over the ridge." "I have heard it at Heard Island as I was standing by myself below a cliff in Atlas Cove. A crack above me made me run thinking that a chunk of the cliff had come away. It gave me a real fright. I stayed there listening to the noises for quite a while." "I think Professor Don Adamson wrote something about the phenomena...occurring in violent gales. Maybe that explains it."

#### THE ANTARCTIC DIVISION

If you or your classmates want any information from Australia's Antarctic Division regarding their activities in Antarctica you can contact the Education Division whose telephone number is Australia (002) 323-209. Their address is Channel Highway, Kingston, Tasmania 7050. The "Aurora Australis" has returned to Hobart and will now be preparing to load all the equipment and supplies necessary to resupply the Australian bases during the coming months.

#### PENGUIN RETURN CONTEST

Your class might like to organise your own competition to guess the date and time that the first penguins return to Commonwealth Bay. You could also guess how many penguins will be in the first group that arrives here. We will be recording all this information for our Adelie penguin survey. We have given you some hints about the return of the penguins...so good luck. We will announce the return of the penguins as soon as we spot the first one so get your competition going soon. The funniest part of the week was trying to walk outside in the blizzard when we couldn't even see our feet. The worst part of the week was the roar of the blizzard during the night. Celebration occasion of the week: We had our operations, one year ago today. Mary Ann filmed in the operating theatre when I had my appendix out. Margie had hers out too. We didn't want to have to deal with that sort of preventable emergency down here and the diet that we are eating is rough on one's appendix.

Keep warm,  
Don

#### FIRST SIGNS OF LIFE RETURNING

8 SEPTEMBER 1995

We had another huge blizzard on the first and second of September. One metre visibility and 120 knot winds welcomed our first days of spring. We used an ice axe as a wedge for

the front door because it was flexing in the gusts. Finally on Tuesday we escaped and had our first day outside in twenty days!

### SNOW

Massive amounts of snow have been dumped around us during August. The radio aerial used to be about two metres in the air. One end was buried in the snow! When there was a lull in the wind Margie and I went outside to clear the snow away from the aerial. We were only wearing our Ug boots. No crampons or anything sensible. Margie fell and twisted her leg. Fortunately, there is no serious injury. We were surprised at the amount of snow. It was like a wall around Gadget Hut two metres high. I cut steps in the snow to make it easier to get out. The wind is working on clearing the snow away and has already cleared a space all around Gadget Hut. It looks like Gadget Hut is sitting in a snow hole. I mentioned Margie's hood got blown away last week. We estimated that the hood arrived in Australia about 12 hours after she lost it. Keep your eyes open when you walk on the beach, maybe it will turn up!

### THE FIRST SIGNS OF LIFE ARE RETURNING

We went over to Boat Harbour to look at what the high tide did to the ice. Boat Harbour is partially broken out of its total ice cover again. The high tide when the moon is full starts cracking the ice. We were having a look and cracks were opening up everywhere. Margie was frightened when cracks opened under her feet. All I could think of was how much I would like to film what was happening. I had the video camera with me and I did manage to get a bit of what was happening recorded. After this exciting bit we noticed that there were about 40 Snow Petrels and Cape Petrels feeding along the shore. Usually we only see one or two birds trying to feed along this shore. So Margie and I decided it's our official announcement. The animals are coming back.

### A PAPER SHORTAGE

We opened a new supply drum this week that was supposed to have toilet paper in it. It didn't, it was empty. We have been careful of our paper usage since our first month down here. Now we will be very careful. We collected all the tissues, paper towels and toilet rolls. Then we separated them into four monthly blocks which will get us to the end the year. We will just manage but if we are stuck here for a second year...well that will take some creative thinking. We would have a year without paper products. Can you imagine that?

### SUNSHINE COME ON

Mawson experienced 226 hours of sunlight in September. We have our fingers crossed. We need the sun because I've really damaged our batteries. We are only getting 15 percent of what we should be getting and then they go flat. I caused this battery problem by warming them in front of the heater, standing on their ends. They are the very best gel- cell batteries that you can buy. They have done a fantastic job for us. We need to warm the batteries for a whole week to repair them. That will be difficult in these conditions. Temperatures are in the low minus twenties but it has been sunny. This week we had 33 hours of sunshine. The Solarex solar panels keep the batteries topped up and yesterday we had nine and a half hours so the batteries are happy today.

### THE BEST OF THE WEEK:

Talking to students and Dr. Hendrik Heijnin about Antarctic research. We had a conference

call in Australia this week and learned that Australian scientists from ANSTO are working in Antarctica. Dr. Heinjin will be continuing his research into the affects of ultraviolet B on diatoms in Antarctica. They are the beginning of the food chain. Mary Ann put a summary of his work on ICEJOURNAL.BB. Opening another batch of 100 Shelf Stable Meals. Margie has grabbed the Sate Beef which is her favorite.

#### THE WORST PART OF THE WEEK:

During our conversation with the students, one high school asked if we were doing any harm to the environment of Antarctica by living here. It was a very good question and we have written about this in ICEJOURNAL. We have a "nil environmental impact" approach and will be carrying all of our waste back to Australia. The Antarctic Treaty of nations permits disposal of human waste into the sea. We don't want to do that but we are having a few problems. We'll keep you informed when we have investigated the problem, yuck.

Keep warm,  
Don

#### THE FIRST SKUA RETURNS

15 SEPTEMBER 1995

The excitement this week was when I fell over. I was twice as exciting because I was carrying the toilet bucket down to the sea when it happened. Margie was about 15 metres behind me. I couldn't see her face through the neoprene face mask but somehow I just knew she was smiling. You see, I don't fall down as often as Margie. But when I do fall, I like to make it a good one but would you believe it? I didn't spill anything!

#### MAJOR ARRIVAL THIS WEEK

The first skua arrived last Sunday night at 5 o'clock. He or she has settled into a rocky outcrop by Boat Harbour. Since skuas like to eat penguins we think the penguins can't be too far away. We've been counting the days until the penguins arrive. They aren't due according to what we have read for another three weeks. The day after the skua arrived we had another blizzard. It lasted for two days so the poor skua probably got blown back out to sea.

#### BATTERIES NAMED HUEY, LOUEY AND DEWEY

We told you about the battery troubles that we have been having. Well, we are still warming the batteries to improve their condition. We decided to treat them very nicely and moved them inside Gadget Hut. If we are going to live with them we figured they need names. Something easier than battery number 1, battery number 2, etc. So Huey, Louey and Dewey are permanently residing inside with us, right in front of our heater! When we were speaking with New Zealand schools this week we had to cut our conversation short because Huey, Louey and Dewey were acting up. They seem to be alright then they play up. They seem like mischievous games. We'll be keeping our eyes on them now since they are inside with us. They take up one third of our floor space so we have to walk around them all the time. We are happy to do this if it makes the batteries happy. We are keeping our fingers crossed. It was minus 12 inside this morning. Poor Huey, Louey and Dewey probably woke up thinking they were still outside!

NSW EDUCATION WEEK LAUNCHED FROM EXPEDITION ICE- BOUND EXHIBIT NSW Minister for Education John Aquilina visited Tempe High School to officially launch Education Week in New South Wales on the 11th of September. He spoke from an exhibit about Expedition Ice-Bound! The great work was done by students from 5-6 W at Menai Public School. It was selected as the location for the podium and microphones for Mr. Aquilina's speech. Mrs. Cheryl Walter's class 5-6 W built a full size model of Gadget Hut and were demonstrating how they are using telecommunications and computers to learn about Antarctica when Mr. Aquilina arrived! He asked us to come and tell him all about the Expedition Ice-Bound adventure when we get back! The students from Menai put our call from Antarctica on their speaker phone at the launch and we had a discussion about their dry ice in a bucket experiment. I think they got to minus 25 degrees Celsius which was close to the temperature we were experiencing that day in Antarctica! Margie and I look forward to seeing the photographs of the work that Menai Public School did. We hear that it was great. Thank you very much students in 5-6 W and thank you Mrs. Walters.

#### AUSTRALIAN SCIENCE IN ANTARCTICA

One of our goals in coming down to live here for a year was to increase the general level of awareness of Antarctica by informing you about what Australians are doing down here. We are very pleased to have the assistance of ANSTO for this part of our education program. We had an interview with ANSTO scientist, Dr. Hendrik Heinjin. Dr. Hendrik Heinjin spoke with us and high school students from Victoria and New South Wales on a conference call in Australia this week. The call was made possible by the funds given to Expedition Ice-Bound by The AAP Group. Students were interested in asking Dr. Heinjin, or "Dr. Henk" as they called him about details of his work. Henk is continuing his research into the affects of UVB on diatoms in Antarctica. This work is related to the growing hole in the ozone layer. Henk will spend several months at Davis Base studying diatoms.

#### MAWSON'S HUT REVISITED

We checked out Mawson's Hut for the first time after many blizzards and found it completely snowed in. The snow is right up to the roof and there's still some snow on the roof itself. It might have been covered up to about half a metre. We have noticed that some parts of Gadget Hut are starting to look like Mawson's Hut. It is interesting to really look at the timber. It is being eroded away. It is as if it were being sand blasted by the intense wind and driven snow. All the grains of the timber stick out. It looks exactly the same as some of the timber on Mawson's Hut.

#### ABOUT THE WONDERFUL SUN

The sun is up at 6:30 and sets around 6:30 in the evening. Technically that's lots of light. We have had blizzards and for the last two days it has been overcast. We did see an aurora just prior to the blizzard which was the first time in months. We seem to have had very rare nights with clear skies and no drift blowing around. What we can observe when the weather is fair, is the sun setting very much more to the west now. We can follow the sunshine! It moves across the eastern wall. This is exciting stuff for us. We had 28 hours of sunshine this week. The strongest winds were 88 knots. The coldest temperature was minus 27 Celsius.

#### ABOUT THE TEMPERATURE INSIDE

We have a strong temperature gradient in the hut today. At the floor level it is minus 5, on the table it is minus 2, at head height it is 10 and at the roof it is 14 degrees Celsius. There's been a lot of cooking this week. Margie cooked pikelets and baked a sultana cake. She made a batch of scones which were great. We haven't made bread for ages because we have plenty of Buttercup Oven Bake rolls and lots of cracker biscuits.

#### A WORD ABOUT THE OUTSIDE TEMPERATURE

The wind chill factor is about minus 60 degrees Celsius outside right now but there is a lot of sunshine. ICEBERG OBSERVATION There is an iceberg about 300 metres offshore. It is now about half as big as it was back in February when it broke off the cliff and ground on a rock. It has been quite interesting to watch it erode away and we wonder what will be left of it by the time we leave.

#### THE BEST MEAL OF THE WEEK:

Jelly fruit with raspberry jelly. We have about six packets of jelly that we hadn't thought of using. It was really nice and will be on the menu again soon.

#### THE BEST PART OF THE WEEK:

Eating dinner without the lights on at 6:30 p.m.

#### THE FUNNIEST PART OF THE WEEK:

Looking at my hair in the mirror. I look like a cross between Ronald McDonald and Angry Anderson.

Keep warm,  
Don

25th September, 1995

Hi kids!

It's Margie here! Don has been writing the journals for the past eight months with help from Mary Ann and I thought it was about time I had a say! The past week has been very exciting with lots of sunshine and the feeling that things are changing rapidly.

The sun is rising before 6 a.m. and setting after 8 p.m. with long twilights. This is making us a bit tired as we are getting to bed a bit later and getting up earlier each day. Following our problems last week with Huey, Dewey and Louey (our batteries), we decided to flatten them completely with a steady 1 amp load over four days. We left the radio on, on Friday, Saturday, Sunday and Monday which brought them down to 10 volts. We then ran our engine generator for thirteen hours which topped them right up. This appears to have reconditioned them. Our Solarex solar panels are now keeping them topped up, which is great.

Hopefully things will run smoothly from now on. It would be very lonely down here without our COMSAT satellite phone and the radio!

We are still receiving Australian and New Zealand AM radio stations at night. We regularly listen to 2UE. The signal skips through space but when we lose the night in weeks to come,

we will no longer be able to receive their signals. Radio Australia broadcasts special long distance signals on higher frequencies up to 15 MHz (megahertz) to all around the world. We listen to Radio Australia regularly during the day to keep up with world news. Did you know that lots of the world's frogs are dying! They have survived for 23 million years but now our pollution is dirtying the water they live in! That came over Radio Australia.

We phoned Scotty at New Zealand's Scott Antarctic Base this week. They are busy preparing a runway on the sea-ice to land the world's largest aircraft on wheels, the huge American "Galaxy Starlifter". All the flights to Scott Base so far have been with "Hercules" on sWs. That will be an incredible sight! To see a giant plane arrive in Antarctica and landing on the ice and unloading hundreds of tonnes of equipment and people. Scotty flies out soon with new base personnel arriving for the coming summer season. He suggested we call in on their 7 p.m. Friday night high frequency radio sked with the American Amundsen Scott Base at the South Pole and the Davis, Mawson and Casey Australian Bases. I thought that would be exciting to speak to people at the South Pole, so we agreed.

At 6.45 p.m. on Friday, I had a phone conference with Radio Bedrock at the Royal Alexandra Hospital for Children at Camperdown. It was lot's of fun. It was their last and final broadcast before moving to a new hospital building at Westmead. We will be speaking to them again for their first broadcast from Westmead on October 23rd. At 7 p.m. on Friday, we turned our phone off and our radio on to break into a very exciting group. Scotty was there as well as personnel from Casey and Davis Bases.

We were speaking to them all and to our surprise, up came the "Aurora Australis" Australia's Antarctic resupply ship. She had just resupplied Macquarie Island and is now on her way in stormy weather, to Casey Base. She was at 53 degrees south latitude and 145 degrees east longitude, a few hundred miles north of us. Don and I were really excited to have all these groups on the radio, all in Antarctica. It made us feel part of a very special group. Following our big chat, Scott, Davis and Casey Bases started a game of darts over the radio. They wanted us to join in but we didn't have a dart set. We promised to make one this week out of bits of wire and some feathers and join them next Friday night.

This chat hour has been going on all year and we knew nothing about it! It would have been great fun during the dark of winter. We are already looking forward to next Friday.

On Tuesday, a blizzard of 110 knots, hit with a very low barometer at 949 millibars. On Wednesday, the barometer was still low but the wind stopped completely. The temperature went up to 9 degrees Celsius.

It was fantastic and the best day we've had since February. It felt like summer. I went over to Grantholme Hut, an old A.N.A.R.E. hut, and cleaned up a bit inside after digging the snow away from the door. I found two old deck chairs. We sat outside on them for a while with our feet up, just relaxing in the sun on a proper chair for the first time since leaving Hobart.

It was incredible! The snow was melting on the rocks everywhere, mixing with the penguin droppings. The smell was strong, as if the rookeries were full of penguins but they are still weeks away. seal made a visit without telling us. We found a hollow in the snow where it lay with tell-tale droppings and some blood. It must have had bleeding teeth. Whilst returning

to Gadget Hut late that afternoon, we heard a huge thunder rumble. Don went up onto Memorial Hill to check for any icebergs that might have broken off the ice cliffs. There was nothing. We thought the noise could have been a big crevasse forming on the plateau. Strangely for the second time, we had a very strong smell of sulphur, just like you would have from volcanic eruption or geothermal activity.

It was very strange. Quite mysterious. We have no explanation for it and we look forward to speaking to some experts about it in the future.

Keeping house in Antarctica is quite different from Australia and New Zealand. I use an egg flip, hammer, screwdriver and gas flame torch at times just to clean the windows. I use a hammer and ice axe to clean the floor and to clear the ice from inside the cupboards. We are into week 36 now and I am counting the days. I can't wait to see and use my first flushing toilet or stand under a hot shower or walk on carpet in bare feet in a warm room.

It has been hard living here. At times I wonder why I am here and even though the sun is back, I still feel homesick. Don finds it a lot easier and, believe it or not, is getting worried that we've got just over three months left. He says there is so much to do before we leave! I can't wait to get out but it will be fun to see the penguins again and I love the sun. Don says he will miss the night for sleeping but I like 24-hour daylight. The wind never seems as strong when it is light.

I made five teddy bears this week. A 40 cm "Buttercup", a 10cm "Meika", and 15cm "Scotty", "Bik" and "Pola".

The total sun for this week is 53.5 hours.

The funniest part of the week was when Don slipped over outside and I caught him.

The best meal was fruit bun (I remembered the yeast!).

See you next week, have a good holiday and

stay warm ,  
Margie

29th September 1995

Hi kids from the great Southern Land!

There are still no penguins yet! With the long days we've been having, we think they must have started their long swim and walk by now. They start their journey by walking over the packice until they find some open water then they start swimming. Don thinks they will arrive next Friday but I think it will be a few days after that. If they were here now, they would not be having any fun.

It is still very windy with lots of drift snow and a temperature of -21 degrees Celsius. Last Sunday the wind dropped a bit late in the afternoon. The sun was shining on the plateau behind us where the wind was still blowing quite hard. The surface drift was pouring down the ice slopes in long lines which looked like a waterfall. It would then billow up into the air

when It reached Cape Denison where Don and I were standing, in absolutely no wind at all. It was quite spectacular to watch. The iceberg which broke off the cliffs when I was singing "Ave Maria" ealier in the year, is moving a little bit on the high tides. It is quite strange to think of something so big, moving at all.

We had an early Christmas on Monday when the wind stopped early in the morning and heaps of snow fell. Beautiful star-patterned crystals where covering everything to approximately 200 metres, until the Katabatic winds started again, blowing it all cut to sea. Temperatures that day rose to -4 degrees Celsius. It was "raining" Heavily inside the hut as all the ice on the roof, walls and windows began to melt. We had to continually mop up the falling droplets from the roof. The worst part was when droplets fell down our backs, inside our clothes. It was freezing and caused us to shiver. The only dry spot in the hut was underneath the bunk. Even there. the seats on the settee were wet and we had to put the cushions into plastic bags.

We both had a bath on Tuesday and now all our waste buckets are full and we can't get out to empty them. The wind has been blowing 70 to 100 knots ever since! Don said I had to tell you that I finally changed my outer fibrepile pants after my bath. I have been putting them on every day for about eight months! I really miss wearing dresses and the pretty clothes I left behind In Sydney. Down here, we dress for warmth. I sure at times Don thinks I'm a boy because we wear virtually the same clothes. I don't have to dress to look good here and my outer pants have been pretty clean. I changed them because my clean pair felt so soft. Please don't think I'm a grub for not changing my pants.

An exciting discovery had us both jumping for joy yesterday. I found half a bag of frozen potatoes in the annexe. We thought there were none left. We are having roast potatoes tonight with our last piece of roast beef.

There have been auroras during the past nights and I think I wili miss them when the night goes. At present we still have a twilight in the southern sky until 8 p.m. and we will have 24-hour daylight very soon. The equinox past during this week which usually creates periods of unsettled weather throughout the world and probably explains another weird patch for us! On Wednesday night, a 90 to 100 knot southerly wind stopped blowing for one hour then turned around and to blow 70 knots from the north. It was very strange! We have begun believing that we can expect anything in this part of the world. I am still dreaming of roast chlcken, my favourite and I get a bit upset when I think of all the things my friends will be doing over over weekend in sunny Australia and New Zealand. I miss so many things about spring with all its flowers and colourful birds. When you look at or hear them next, please stop and have an extra look and listen for me.

It's only about 93 days until we see "Spirit of Sydney" Yippee! The total sun for the week was 46 hours Wow!

The funniest part of the week: Don trying to conserve toilet paper. Our best meal for the week: I made Don some pikelets shaped like teddy bear heads.

The worst part of the week; There is still lots of drift when September is supposed to be clear.

The teddy bears I made this week were: Mal who is 10cm and Arthur who is 15cm.

Sorry to the New Zealand schools who had their conference call cancelled after the first question. We are not getting a very strong satellite signal between 11 a.m. and 4 p.m. Antarctic local time (Sydney time). Hopefully we will catch you all next week. Bye for now from us down here and

KEEP WARM.

Don and Margie

13th October 1995

Hello everybody! I hope you have all been having a warm week because we haven't! Well I suppose it is Antarctica, but the temperature has hardly risen above -20 degrees Celsius for weeks. The sun is powering down on us but it has been colder than Mawson experienced for October and my feet are really icy.

The sea has been slowly freezing towards us all week even though the Katabatics have been blowing quite hard at times. During the day, the winds are dropping back to the 20 to 30 knot range and we now have a "see-through" wind! No drift! It's fantastic. Early in the week we had heavy drift with a few leaks through the hut wall, but now it's clear and conditions are changing.

Don is really desperate to walk out to the MacKellar's but the sea-ice is a bit thin just along the shore. We also have vivid memories of how all the sea-ice disappeared a few months ago, literally overnight. I don't feel like swimming back from the MacKellar's which are a group of islands about one and a half miles offshore.

It is exciting outside walking in the sun after weeks of being stuck in a box and knowing that the weather is changing for the better. All we need now are the penguins. I am really disappointed that they are late probably because of the sea-ice, though Don doesn't really mind. It will be fun when they do arrive but for now, I am just happy with the sun.

Solar radiation is providing 20 times more electricity than we can use and causes some spectacular effects with the cold clear temperatures. Fantastically intricate ice crystals form on the windows during the night which melt during the day. The hut has quite a few ice stalactites drooping from its base. The bad news is that inside we have a huge build-up of ice which will turn to water when the temperature does go up. Don hates the melt-downs and he hopes the next one will be the last.

Week 40 is about to begin causing Don some concern. He is starting the major task of writing our book. I will be writing a few chapters too! He is also planning our summer Antarctic activities and checking progress on "Spirit of Sydney's" preparation to pick us up. He is worried about fitting everything in to the last 12 weeks. I am just looking forward to one very important job... Packing up to go home.

I am happy to report that I haven't fallen over for weeks nor burnt my jacket, in fact nothing untoward has happened (touch wood), even though the ice is getting slippery again and it's Friday the 13th. I hope you all survived okay. With the cold temperatures, the surface ice

melts, instantly evaporating into the dry air. Rocks are emerging everywhere. A huge piece of the ice edge where we empty our bucket, broke off this week and is now frozen to the sea-ice below

We have opened our final three food drums for October, November and December to take stock of our supplies. Don immediately attacked his favourite biscuits (chocolate mint slice) and I hid the shortbreads! We are nearly out of Milo and Don is now watering down his lime cordial to about 1/20th of the amount he usually uses. His breath after lunch yesterday was a bit rugged. He had a tin kippers, some pickled onions, 2 gherkins, a few slices of Metwurst and a bit of 9-month-old cheese! I stuck with the biscuits and a cup of chicken noodle soup. Two teddy bears were born this week bringing the total births at Cape Venison so far this year to 51. They were a 20cm white bear called "Snowbear" and a 15cm white bear called "Fluff".

The funniest part of the week was a competition to see who had the most hair in their food or drink, I won it is unbelievable how it gets into everything. If it is not hair it is blue fluff from our thermals.

The best meal of the week was our last Roast Lamb on Sunday the 8th. It cost us dearly though as we both suffered a major carbon monoxide poisoning. The worst so far! My head started to ache a little while dinner was cooking and I thought it may have been caused through dehydration. During dinner. Don began to experience a headache then realised the oven burner had been burning yellow which is an indication of carbon monoxide. He didn't realise this fact earlier. There was little wind we had the heater on and the top burner of the stove was on cooking frozen vegetables. The vent was iced over leaving only a small 50mm hole. We were sitting in a cabin full of carbon monoxide. Our heads started pounding, our eyes were puffing up and pains were appearing in the back of our necks. It was about 8 pm. and -25 degrees Celsius outside so we immediately opened the hut for a short time after turning everything off, Very quickly the cabin temperature dropped to below zero. My headache was so bad I was in tears as I climbed onto my bunk. Any exertion caused my heart to beat faster. I thought my head was going to explode. It was really terrible. I lay in my bunk unable to move, the pain was so bad. Don sat in the cold as it was too dangerous for us both to get into bed at first. He was in a lot of pain and upset that he didn't comprehend the lack of oxygen in the hut while three burners were being used. This caused inefficient combustion which produced the carbon monoxide. We both know the consequences but it got past us again During the night our headaches persisted. I took two tablets to help but Don resisted because he wanted to watch the symptoms which continued well into the next morning. Now we have a big sign above the stove "YELLOW = CARBON MONOXIDE".

We've had 76 hours of sun this week, It's great to be alive!

Keep warm and we'll see you soon

Margie

23rd October, 1995

Hello everyone! I'm sorry this bulletins is late. I had just finished writing my notes on Friday the 20th when Don shouted "penguins, penguins!" as he looked out our kitchen window. Jumping out of my seat, I screamed "where, where". Straining my eyes, I saw a small black rock start to move across the ice at the entrance of Boat Harbour. It is official - at 2 p.m. local Sydney/Antarctic time, we both saw our first penguin after nearly seven months. Shivers went up and down my spine. I had to tell the world. The COMSAT phone was hurriedly connected, then a call put through to Susie at Expedition Headquarters in Sydney. It was blowing about 25 knots with no drift and brilliant sunshine as we quickly donned boots, down jackets, grabbed cameras and rushed outside to head for penguin number one, about half a mile away. In the next 15 minutes, Don and I both fell over quite a few times in the excitement, not really concerned, though the ice was really slippery. We were off to greet our first visitor in months and there he was! One neat, well-dressed, shiny Adelle penguin with a very full tummy. He was so fat and so cute with his little pink feet. I wanted to rush up and give him a big hug and shake his flipper. It was that exciting! All the time, Don and I were laughing, screaming and jumping up and down. It was such a great feeling. The penguins were back, or at least one was. The weather is on the improve. Christmas is not far away and 'ÒSpirit' is leaving in about eight weeks.

It is funny how we got the impression that our first penguin would be as excited to see us, as we were to see him! But oh no! He was not interested in these two brightly coloured "thingÕs jumping up and down, making funny noises about eight metres away. He stopped to check us out and then carried on his way. It was very obvious to us, he was on a mission as he walked about a mile, all the way up to a very high rookery - that's probably where he was born. We were shocked to discover that our visitor was actually number two! Another penguin was already fast asleep on a rock, a few hundred metres away. About ten minutes later, number three jumped from the sea onto the ice. For the rest of Friday we searched for penguins all over Cape Denison with no luck, so the total score for Friday was three.

This bulletin only covers up to Friday but it is actually Sunday 22nd as I am writing. I am not going to tell you what happened on Saturday and today. You will have to wait until next week, but it is very exciting, so stay tuned!

Now back to the events from last Saturday 14th. It was just as exciting! Don and I went for our walk out on the ocean. It was frozen but not very thick. A really strange feeling went through my body, never really relaxing for the fear of breaking through. Don seemed very happy at finally getting to walk on sea-ice. For about three hours, we walked up to icebergs grounded on rocks and took photographs of our hut from the ocean (the first time we had seen it from that angle). We stepped over pressure cracks. A few had opened up turning in to big blacks lines of deep cold ocean just to remind us that we walking on water. It was fascinating to run my ice axe through it until Don reminded me that a leopard seal had once jumped out of a crack like that and had attacked a man in the Ross Sea area. Strong sunshine had made the top 50mm of ice really slushy in places, like mud sticking to our boots.

Standing next to the huge lumps of ground ice with its brilliant shades of blue seemed so special after looking at them from a distance all these months. The sun was slowly setting over the plateau as we returned, creating huge shadows and beautiful soft pink and yellow

colours which will become another vivid memory in years to come. Back in the hut, we were reminded of how unfit we had become after months stuck inside, having only enough energy to grab some food and get into bed - what a day!

Sunday we slept in and took things really slow. Monday brought a falling barometer and rising winds up to 80 knots and very little drift initially. It was really exciting to watch a few big cracks appear in the sea-ice and then within three hours it was all gone. Right where we had walked, we could now only swim! This place really is amazing. The good news was that the blizzard blew itself out in 24 hours and we then had beautiful sunshine and see-through wind. Don suggested the penguins would be back on the weekend, now that the ice was gone. They could swim at last. Not bad - he was only eight hours out but that was his second guess.

Temperatures went up with the blizzard and are now around -10 degrees Celsius, so inside the hut is melting again. Yuk, water drips everywhere. It is really miserable. Our mattress is soaking and everything is in plastic again. Hopefully this will be the last time, but I have said that before.

I had spent two days this week, writing up food lists to be bought and loaded aboard "Spirit" for the pick-up trip. Steve Corrigan, the skipper who brought us down here is now in charge of final preparations and will skipper "Spirit" again. Don says it is really strange having someone else skipper our boat but he has a lot of faith in Steve.

The ice in Boat Harbour is cracking up, creating small crevasses. Don was unlucky enough to fall through the snow into one this week. No damage - only one leg fell through up to his bottom. He said it was scary as it could have closed up with his leg still in it. We are very careful now crossing that part.

I am glad I am writing this bulletin as I can imagine how Don would have described my accident this week. I was having a bath when my bottom touched the heater grill. Now I have three stripes burnt on my bottom. One has blistered and they are all sore, but I will survive. Don says it looks like a good piece of char-grilled rump!

The total sunshine for this week was 49 hours.

Two bears were born. One white 20cm tall named Barney. The other caramel 20cm tall called Bert.

Stay warm and stay tuned for next week!

Bye for now, Margie.

27th October, 1995

Hello everybody from sunny, spectacular, pristine, beautiful Antarctica. The land of the penguins! WOW! Have things changed down here!. Overnight it seems to have burst into summer. The penguins sure know how to pick their weather. I am feeling so happy at the moment with all the activity down here. There is just so much to tell you about! But first the bad news! Our friend the Adelie penguins are already on full alert! On Saturday about six great skuas arrived to take up residence on the high ground overlooking their rookeries. The

skuas now cruise above the penguin heads looking for any weak animals they may be able to have for dinner. So far they have gone hungry all week. We haven't seen any Adelies attacked.

On Sunday, our first seal arrived which was quite exciting. We rushed over to say giddy to our beautiful big-eyed Wedel seals which we have missed for so many months but as we approached to about 10 metres it saw us coming, arched its head, hissed its mouth wide open, then started swaying its head from side to side like a dragon, with rows of sharp teeth glistening in the sun. Don immediately recognised it as a leopard seal, whose number one diet is penguin! and number two diet, possibly us! I didn't like him and it was the first time that anything has arrived that would seriously consider us as "dinner" if we got too close. He had spots on his fur and was not as fat as a Wedel seal, with a predator's look in his eye, and just simply didn't smile! He had pulled up on the frozen sea ice at the head of Boat Harbour where he slept for two days in the sun. We took some photos and watched with amazement as the Adelies walked right past "Mr. Sleepy Head" about 2 metres from his mouth, probably without realising that they could have become dinner! I was glad to see him go on Tuesday but Don wasn't so sure. He said he was obviously hungry and would be out cruising the ice edge for something to eat!

Sure enough on our daily inspections to greet the penguins, which are now arriving in their thousands each day, we witnessed a dramatic escape. Usually the Adelies jump from the water onto the ice, then stand for a short time shaking off and preening their feathers before walking away. It was a perfectly calm day as we moved along the shore, looking down at the crystal clear water with weeds, rocks and ice, frozen to the sea bed, when a big splash startled us and four Adelies, obviously jet-propelled, rocketed skywards from the water beside us, overshooting the ice edge by some considerable distance, bouncing when they hit the ground, not waiting an instant before running straight up into the rocks. Sure enough, the old leopard seal was right there with a hungry look on his face - he had missed lunch again!

I felt so glad for the Adelies but Don pointed out that the leopard seal was only staying alive just the same as the Adelies eat krill. I suppose it would be pretty sad if I was just about to sit down to eat my often dreamt about roast chicken and vegetable dinner, when it jumped off the table and out the window! Don is really impressed by leopard seals, sharks, killer whales and other predators. He says they are amazing creatures, beautifully designed, very functional and an important part of nature. Our leopard is only a small one, not quite 2 metres long as they can grow to well over 3 metres.

The poor skuas haven't had much luck either and are getting hungrier as the week goes by. Their bombing raids are becoming more and more aggressive each day. So for the moment, the Adelies are winning the war but the battle is not over.

The weather has been so good this week that we have been outside every day except Thursday. This is some sort of a record for us and it could even get better. Imagine being outside every day of the week! I'll let you know when that happens.

Our new activities are to just sit by a rookery watching the busy little penguins. The girls have been collecting little rocks to pile on their nests which look a bit hard to me. I suppose

there are no sticks, grass or leaves to make anything better and at least the rocks don't get blown away. Don said its also to keep their eggs off the ground so that when the snow melts, the cold water drains under the rocks and does not touch the eggs. Within a day or two of arriving, the girls all found boyfriends and quickly got married because they are all busy mating, trying to start their families. It looks like we're going to have lots of eggs soon!

The rookeries after only one week, are overflowing and expanding onto new ground as more Adelies arrive each day. They arrive so fat with their bellies full of food, some can hardly waddle around. When the wind blows, they get knocked about and tumble over which is a funny sight.

Temperatures have gone to -12 degrees Celsius averages, which drowned all our books again inside the hut as the ice melts now that our heater is more efficient. They have been in plastic bags but somehow ice gets in them and melts. It is so frustrating and disappointing trying to dry them out with quite a few of our very old red rare editions becoming water-damaged. Don is philosophical, saying that it is now part of their history and that we probably have the only original set in the world of Mawson's scientific notes, diaries and journals that have spent a year at his original base camp in Commonwealth Bay.

The high temperatures and bright sunshine, continue to crack the ice edge along the shore and may have something to do with our "Ave Maria iceberg" finally setting out to sea. It carved from the ice cliffs early in the year when I was singing "Ave Maria" and has sat grounded on rocks about 4 kms to the east of us all through the huge winter blizzards. On Friday, Don shouted out "Ave Maria is moving". It is incredible to see this huge berg moving ever so slowly out to sea. It's sad in a way because we have always checked on it at every opportunity throughout the year and now it's headed north. Maybe that's a sign! Don says it will take days to drift out of the bay then head east in the currents and prevailing winds offshore. It could even run aground again as it probably extends, hundreds of metres below the surface. It floats about 100 metres high. I will let you know next week, how far it has gone. We estimate it's about 12 square kilometres in size and the funny part is, we have a better view of it now from different angles. It really is beautiful, especially in the late afternoon sunlight when the sea is dark and the sky is dark but the sun is illuminating with fantastic colours. Don's brilliant statement was that it's even big enough and flat enough on the top to land a plane on. Wouldn't that be funny! If it does drift out of sight, we may see it when we sail home. That would be exciting! Not long to go!

The total sun for the week was 85 hours. The best meal for the week was honey-glazed ham with cloves, roasted in the oven, followed by baked apple pie with raisins and custard. I used dried apples soaked in water.

Three bears were born this week. One a 20cm white bear named "Bright Eyes", and two 15cm beige bears named "Bob" and "Laserson".

The worst part of the week was the burns on my bottom have dried up and are cracking and itching. Don said I have to tell you that I slipt and slightly sprained my wrist too! Fortunately nothing happened to him!

For Australian schools, we will be on the Today Show on Channel 9 next Tuesday 31st October at approximately ten to eight in the morning.

Catch you next week. Stay warm.

Margie

3rd November 1995

Hello everybody. Week 42 is coming to a close, Christmas is heading this way fast and its only about eight weeks until "Spirit of Sydney" arrives (touch wood!) I bet you are all thinking about your holidays. Down here, all we think about are the things we will be doing when we get back to civilisation. Our white world is so fantastic at present, that the hardships and dark world of winter seem a distant memory. The human mind is amazing! Even though I am still a bit homesick, I look back on everything which has happened over the last ten months and remember the good times vividly whilst I have to stop and think about the bad parts. By the time I get back to Australia, I will probably wish I could spend another year in Antarctica!

There is hardly any room to move inside Gadget Hut as all 71 teddy bears are out and about, waking up after their long winter (they are organising a picnic for Hobart!) Huey, Louey and Dewey, our Sonnenshein batteries have fully recovered after being in front of the heater for the past two months. They took up much of our scarce floor space. They have returned to the Lobby. The Solarex solar panels provide twenty times more power than we can use so our batteries are always topped up.

Gadget Hut seems so big with the increased floor space, now that the batteries are in the Lobby. Don went for a walk inside by taking very small steps and I can get into my seat without having to be a contortionist.

The average wind strength has dropped back to about 25 to 40 knots virtually all week with heaps of sun and Don and I have been able to really get to know the Adelies. We have decided to observe seven couples in detail until we leave and already they seem like old friends. On every occasion possible, we sit watching their habits, body language and interaction with other birds. It is incredible how their lives are structured and how nature has adapted them to survive and communicate in this harsh environment.

Don and I feel like the luckiest people in the world, to be able to sit in the sun in total peace and solitude for hours at a time, surrounded by thousands of cute little black and white Adelie penguins who are totally oblivious to the rest of the world with its atomic testing wars and pollution.

October has been a very special month, with November shaping up to be the same so this is definitely the best part of Expedition Ice-Bound.

As predicted, the skuas are getting hungrier and impatient for eggs to be laid and chicks to be hatched. They will be easier prey than the adult Adelies. We don't think any skuas have had dinner yet. Yesterday we saw the first giant petrel fly overhead. These birds are really big. They are about the same size as a big turkey. They are so powerful. They charge into a

rookery and grab a penguin, so it won't be long now before the food chain cycle begins again.

We have witnessed some very fierce fights in the rookeries with feathers and blood going everywhere between competing Adelies. We think it is the single male Adelies who cruise the edge of the pack then make a run into the middle looking for a mate. Every bird he passes, pecks at him until the male stops by a pair and an all-out brawl begins. The noise is unbelievable. Eventually the penguins that started the fight, work their way to the edge of the rookery causing absolute chaos, until one is chased away by the other, usually bleeding from the flipper and minus a large quantity of feathers.

We think the leopard seal is still around. We noticed one penguin hop onto the ice by himself with an injured foot. It may have been the one that got away. He looked a bit sorry for himself as he slowly hopped along. Apart from that he seemed quite healthy.

The Ave Maria iceberg is still aground. After being pushed offshore about 3 miles by the katabatics, it ran aground again and stuck fast for two days. The strangest thing happened when it sailed away into the wind in an easterly direction, pushed by the currents for about 5 miles. The next day it drifted back again. Now it is stuck fast on the bottom about 3 miles to the north-east of Gadget Hut. I hope it will be there for a long time as it seems like an old friend.

As the sun moves low over the plateau to the south late at night, the colours are amazing. We even saw a rainbow from the sea spray, late one windy afternoon.

A strange cloud appeared this week, over Cape Gray which is about 20 miles away at the eastern end of Commonwealth Bay. It was a brownish grey cloud which extended over Boat Harbour and looked like it was full of smoke and pollution of some kind. It is impossible to say where it came from or what it was but it created a weird hazy light underneath and around it. It could have been some weird light on a soft cloud. Don and I both agreed that it did not look like water vapour.

The Wedel Seals still haven't arrived nor any Emperor penguins. Don saw an Emperor penguin in 1993 on his previous visit to Cape Denison and Mawson saw a couple during his stay. They look so beautiful in the photographs we have and I am still hopeful that one will arrive before we leave. It would be fantastic.

Two skuas have made a nest in the rocks on the ground between two rookeries. It is funny to see these birds nesting on the ground until we realise that there aren't any trees for them to build their nests in.

Our wind instruments have been playing up again so some data is not being logged into our computer which is disappointing. It has been a pretty hard year for them.

Our snow cave Don dug in the middle of winter was sealed up with blocks of snow nearly five months ago. We were surprised to find it in perfect condition this week, when we dug out the entrance. Don is talking about sleeping in it for a few nights. The good news is that there is only enough room inside for one.

There are only four tins of fruit left in our supplies, we are just about out of muesli and there is no Milo! It could be worse! We could have run out of toilet paper but so far, it is lasting okay.

Don said I had to tell you that the "what happened to Margie this week" segment was that I was chipping some ice from the floor with a hammer and screw driver when everything in a big basket on the top shelf, crashed down on top of me making all sorts of noise. There was no damage because it wasn't very heavy but it was really weird. It was as if someone had pushed it off the shelf but there was no one here.

The total sun for October was 297.5 hours. The highest temperature was -5.7 degrees Celsius. The lowest temperature was -26.6 degrees. The best meal for this week was a toss-up between tuna patties and Shelf Stable's Spanish Lamb. Three teddy bears were born this week. A 20 cm caramel bear named "Flinders", 8 20 cm ginger bear named "Toasty" and a 15 cm caramel bear named "Frosty".

Bye for now and stay warm.

Margie

10th November, 1995

Hi everybody. It's only 6 weeks until Christmas! It's still getting warmer here so I hope you are all staying COOL!

The sun is still gloaming and at midnight it is perfectly light outside. Over the past week, the full moon has been really spectacular as it moves low across the horizon to the north for only a few hours, glowing a rich yellow against the dark blue sky with traces of purple and violet above a wind-blown sea.

Last night the Katabatic wind rose to 74 knots and backed off again in the morning to gentle breezes during the day. The power and energy pouring out from the sun is easy to understand down here when we experience and feel the effect it has had on the Antarctic weather.

Our little black and white friends, the Adelie penguins, seem quite happy arranging and rearranging their nests. Some of the nests have been built on snow and ice causing problems for their occupants. The sun warms the rocks and they melt into the ice as they sink lower and lower. The Adelies then pick the rocks out of their sinking nests, move them a few inches either side of the nest, and wait for them to sink again. This doesn't appear to be a good idea and may affect the new hatchlings. We will watch them and let you know what happens!

The skuas are feeding on the dead penguins which did not survive their moulting period back in March and April. They have been "in the freezer" all winter and I am sure the skuas will be watching the unprotected eggs.

There are still no Wedel seals and no sign of the Leopard seal that we saw cruising the ice edge so the penguins are all smiles at present. We thought the Wedel seals would have returned by now and we hope they turn up soon. We still have to collect a lot of seal jobbies

for the Australian Antarctic Division biologists back in Australia, who plan to check them to determine what the seals have been eating.

It is so warm outside that we have been eating lunch out in the sunshine. It is still -7 to -10 degrees Celsius but it seems like a summer picnic to us. This week I baked pizza and a fruit loaf which we ate in the sun. Don found a big hair in the fruit loaf. We laughed! Hair and blue fluff from our thermals turn up everywhere except in our Shelf Stable meals. I say the hair belongs to Don and he says it is mine. He still hasn't let me cut his hair which makes us both laugh at times.

The snow is rapidly melting away and exposing rocks around Gadget Hut as the area transforms into a summer landscape.

Some of our books have been placed in empty food drums, now that they are dry. Great sheets of ice crashed down from the roof in our cold porch. We both laughed as great slabs of ice fell down, just missing Don's head as he opened the door to go outside. He asked me to pass him the hard-hat as we proclaimed the area a "danger zone".

The good news for the week is, it looks like the toilet paper supply will last. We found a few old rolls in Grantholme Hut which were in solid blocks of ice and were put there in 1976. Slowly, I thawed them over the heater to remove the water. We nearly had a fire at one stage as one got a little hot.

We also checked one of the seventeen boxes of emergency food we brought for our second year. Surprise, surprise, each box has four toilet rolls and a box of tissues. We could survive a second year if we had to, but I don't want to talk about that.

Now for the "what's happened to Margie this week" segment. I had an impromptu shower fully clothed. Ice in our roof vent melts and collects in a screw cap at the bottom of the vent. Every now and then we empty the water. As I stood underneath the vent unscrewing the cap, I slipped. It was overflowing with about 1.5 litres of water which poured down all over me. Don burst out laughing as I struggled to catch my breath while being drowned by freezing water. I was not amused! Don struggled to catch his breath from laughing so much. Many hours later I was only half dry.

Expedition Ice-Bound has now teamed up with two groups in America to form an International Schools Program called "Blue Ice". It will be covering Arctic and Antarctic activities via the Internet with tele-conferencing and fascinating projects starting in 1996. In next week's bulletin, we will start to provide details of "Blue Ice". Don and I are really excited about this new relationship as "Blue Ice" promises to be the biggest program of its type, anywhere in the world. Expedition Ice-Bound will be distributing all the "Blue Ice" activities to schools throughout Australasia, right up to Japan and including New Zealand. So stay tuned!

The total sun for the week was 117 hours. The highest temperature was -3.6 degrees Celsius. The lowest temperature was -17 degrees Celsius.

See you next week and stay COOL.

Margie

20th November, 1995

Hello from Expedition Ice-Bound's Southern Leisure Resort. I am starting to forget what happens to Gadget Hut and my own feelings, during a severe blizzard. It has been so long since our last - "touch wood". The weather continues to be basically mild with temperatures at night around -10 degrees Celsius and during the day -2 degrees Celsius, with 20 hours of sunshine most days. Don actually fell asleep on the rocks last Sunday and I did a little bit of sunbathing with my shirt off. It was so good to produce a little amount of my own vitamin D.

The ice and snow surrounding Mawson's Hut is starting to melt for the first time with interesting artefacts appearing from their winter cover. Don is planning a photographic survey of Mawson's Hut within the next two weeks. Back in 1985 a group of "Project Blizzard" expedition members, visited Cape Denison for a few weeks during summer to carry out a comprehensive survey of Mawson's Hut and the surrounding area, including a very detailed photographic record of every timber plank on the Hut which has become very wind-worn and eroded. The patterns in the timber are quite impressive with the grains sitting up proud as if sand blasted.

We plan to repeat the photographic record of each plank this summer, 11 years after Project Blizzard. The two sets of photographs will be compared to determine the rate of deterioration and wind erosion during the past 11 years which should worry the various government departments who are responsible for the Hut. It will give them an indication of how long until the Hut completely blows away. Discussions have been under way since 1965 about conserving, preserving or restoring the Hut, but so far nothing has really happened. I think a lot of the artefacts are "junk" (rusting tins etc) and that the place needs a huge clean-up but we can't touch anything.

Adelie penguins continue to arrive each day, swelling the existing rookeries to overflowing. Three completely new rookeries are being developed by "penguin land speculators" here. They have created brand new little "suburbs". It starts off with just one pair of penguins, individuals who decide to settle in the country, away from the cities. Over time they are joined by others, creating a little country town. Don thinks that before long, these towns will expand right up to the existing cities as Cape Denison seems to attract and support a very healthy, ever-growing population of Adelies. We are mapping all rookeries on Cape Denison.

Nest stealing seems to be the way some dominant males overcome the pressure of city life. We have watched a couple of "take-overs" which take place over a few hours or even days with vicious fights and considerable blood shed, as well as the loss of a few eggs. Yes that's right! Eggs<sup>1</sup>

Last Saturday afternoon, eggs started to appear from everywhere. They are slightly bigger than a duck egg and are a light greenish-blue colour with many "mums" having two eggs. Now it's a roster system for the two parents as they snuggle on top of the eggs to keep them warm. They have a little gap in their feathers between their legs with the eggs fit. Inside the gap is penguin skin so they can transfer their body heat to keep the growing

embryos warm. During the many rookery fights, some eggs roll out of the nests to be collected by skuas or crushed by other penguins. Either way, they freeze very quickly, which is probably why nature gives many couples two eggs, in case one is lost early.

We have discovered a "witch doctor" in one rookery who has built his nest out of penguin bones and feet discarded by skuas after feeding. Another guy, we have named "Hoppy" because he has only one foot, but otherwise looks very fit and healthy. He even has a girlfriend so maybe we will see "little hoppies" later!

Don and I really enjoy watching all the penguin antics. We sit and watch them for hours each day.

Wedel seals are slowly crawling up on the ice for a snooze with four visiting Boat Harbour this week. The ice is heavily cracked there and slippery now. Guess what! Don fell over!! Gee I feel good when he falls over rather than me. There are no bruises but we now walk around carefully. Don thinks that the ice on Boat Harbour could all break up with the next big blizzard.

"Ave Maria" iceberg is still grounded about seven miles from here. It moves around a little, but it can't quite make it out to the ocean.

We are using much less kerosene now as our heater is off most of the day and we don't use our kerosene lamp any longer.

Our supply of Muesli is getting low but should last us and I can now confirm that the toilet paper rationing is now over. Phew! What a relief Stock of tinned fruit is low with only 12 cans left.

We have been checking all our gear this week for our trip up onto the plateau. We set the Macpac Olympus tent up and will sleep in it next week and cook meals with our special stove right next to Gadget Hut in final preparation. Don says we will take off for about five days during the first week of December. We have been checking our sun navigation techniques because we can't use compasses here. We have a global positioning system (GPS) which uses satellites to determine position and course over the ground but we have to use the sun as a backup in case the GPS is damaged, stops working or loses battery power.

Our brilliant discovery for this week is that we are actually half a mile further north than the maps and charts say. That's right! We have moved closer to Australia well not really! It's just that using the GPS which is very accurate, we have proven all the existing maps are out of position by approximately half a mile on a bearing of 020 degrees True. Don was happy to report this to the various mapping authorities in Australia who will now change their maps. This is the first time that GPS positioning has been carried out in Cape Denison.

We have lost our Friday night radio contact with the other Antarctic bases which is disappointing. One night we heard a funny "thud" when it was calm and Don thought a bird might have struck our long wire aerial so he checked for any injured birds but none were found. Now the wind has dropped back with the improved weather, we have decided to put streamers on the aerial again to hopefully alert the birds if the streamers last.

Our beautiful little white snow petrels with the black eyes and beaks which we have seen all year, are now nesting in rocks crevasses and under huge boulders within 100 metres of Gadget Hut, They are my favourite birds. They are just so pretty. We are having our last big school conference calls this week for both Australia and New Zealand. We will miss your voices and questions but hope you will still enjoy the weekly bulletins. Don't forget to check your computers next year when you return to school.

Don't forget also, if you want Expedition Ice Bound t-shirts for \$15, to contact Expedition Ice-Bound headquarters in Sydney on 02 9979 8530 or P.O. Box 778 Mona Vale N.S.W. 2103.

We have another call to Japan and Munro School (hello Lightfoot and Dickens) in December.

On Sunday. February 4th 1996 our Australian followers can watch 60 Minutes. They will run a story on our year in Antarctica and you will see our faces on the screen. We are currently trying to organise a visit to New Zealand in May 1996 to speak with some schools and may even get up to Japan. So stay tuned!

For New South Wales and Canberra schools, you will be able to visit us at the Australian National Maritime Museum, to check out a very good Antarctic display they will be exhibiting. Don and I will meet you there, show you some of our video footage and slides in their theatre and talk about our year in Antarctica and answer all your questions We will give you each a photograph and generally have a fun time. It will cost \$2 each to get into the museum and then the fun begins. You will see some of the equipment we use also. Get your teachers to contact Expedition Ice-Bound headquarters or the Australian National Maritime Museum on 552 7514. We will be giving the talks over two days only on Tuesday 21st May and Wednesday 29th May. You will need to book early as we are confident it will book out. We look forward to seeing you all then!

Total sunshine for the week was 103 hours. Three teddy bears were born this week. A 15cm beige bear called "Poo-bear", another called "Captain Zero" and the third called "Gadget". The bear I made a few weeks ago called "Flinders" is now dressed up as Santa Claus. I cut up some material I had here and he now looks very smart in his Santa Claus jacket with his white fluffy beard and little red hat and big black belt.

Stay COOL.

Margie

24th November, 1995

Our "Ave Maria" iceberg is still low on the horizon but has been moving slowly north, so may disappear in the next week or two. Finally some chunks of ice are breaking away from the ice edge around Cape Denison. Boat Harbour is still full of ice though and it had better break out soon or there will be no room for "Spirit of Sydney" to anchor. It has been blowing about 70-80 knots today, so maybe this will help to break it out.

The high temperatures (+2 degrees Celsius) and sunshine are slowly but surely melting and evaporating the snow and ice all over Cape Denison especially in the rocks where little pools of water are collecting each day.

Next week Don wants to go camping up onto the Plateau but I'm not so sure. Even though the wind is dropping off, I get second thoughts about it as we sit here in our "box" still shaking. Our Macpac tent is good for about 70 knots but today it is gusting up to about 80 knots. It could be 100 knots or more up on the Plateau! I don't particularly feel like sailing away, bundled up in our tent. Stay tuned - it could be an exciting bulletin next week!

Don't forget to place your t-shirt orders as next week is your last chance.

Finally we have managed to answer most of your questions sent to us on e-mail. The answers will be placed on the OzProjects Bulletin Board.

The total sun this week was 97 hours. The coldest temperature was -13 degrees Celsius. The "hottest" temperature was +2 degrees Celsius. That's right! We finally cracked over zero degrees on a regular basis.

Three teddy bears were born this week. Two 15 cm beige bears called "Wallace" and "Mertz" and a 20cm white bear called "Dumpling". One of our teddies just found a new home through the Leo & Jenny Cancer Research Foundation. The new parents paid \$1,000 to them for "Theodore" which is exciting.

See you next week. Stay Warm.

Margie

1st December, 1995

Hi everybody. It's the first day of summer - unreal! "Spirit of Sydney" leaves in only two weeks. The crew are now arriving in Sydney to start final preparations and I'm actually making plans to decommission Gadget Hut and pack my bags. (touch wood !)

I am also sharpening the scissors as Don's pony tail is now 15cm long and will get 'the chop' on Christmas Day. This will be his only haircut all year.

Last Sunday, Don's mother came down for a visit on-board the first Qantas Antarctic flight. She was only 10,000 feet above us and we were speaking on the COMSAT satellite phone which was pretty amazing. The signal was transmitted from us to the satellite over the Pacific Ocean then down to the COMSAT American earth station at Santa Paula, then back to the satellite which bounced the signal to the Qantas flight in mid-air just above us. The bad news was that we had total cloud cover so we could not see them and they could not see us. I was really upset, especially when all the clouds had gone 90 minutes after the plane left. The clouds arrived only 6 hours before the plane and it has been sunny for weeks!

Sunday was also the warmest day we have had since January. The mercury rose to +5 degrees Celsius with absolutely no wind. We both sunbaked for about 30 minutes. These warm temperatures caused the ice edge around Cape Denison to crack up with huge chunks falling into the sea. This makes it very dangerous, when emptying our slops bucket.

Don rammed two large ice stakes into the ice, well back from the edge, just in case we have to rig ropes to get someone out. (touch wood) We have a rule now - 'we are never close to the edge at the same time as each other'.

Huge pieces of ice are floating out from Boat Harbour. When the penguins return from their fishing trips, they see these pieces and think they are finally home. They 'rocket' out of the water like missiles aiming at the sky then flop down onto the ice, landing on their two feet. The first few up are usually knocked over like skittles at a bowling alley by the next wave of penguins. As each wave washes more penguins up, at about a hundred at a time, they pile on top of each other, cramming 'on-board'. Then they realise they haven't made it to the shore at all and that they are on a floating island of ice. They play 'chicken' to see who's going to jump into the cold water first to swim back to the shore. Penguins are really funny. They seem to be scared of the water until the first one jumps in, then they don't want to be left behind so they all jump in.

No penguin eggs have hatched yet but we have six Wedel seals in residence, sleeping and sunning themselves on the edge of Boat Harbour. A couple are really scarred and look beaten up as if they have been fighting. Some are covered in blood.

We had a tense time this week when strong fumes filled the cabin from an electrical problem. It took us a day to isolate the cause, with memories of the electrical fire back in January, fresh in our minds. It was a simple problem caused by a heavy current draw, overheating a wire which was not thick enough to carry the current. It felt like a big problem at the time. It was intermittent and we couldn't find it at first. We were very tentative every time we used power after that.

We spoke to the Australian bases at Macquarie Island and Casey Station this week by HF radio and heard the "Aurora Australis" but she could not hear us. The "Aurora Australis" is heading to Casey Station with supplies. One of the Australian personnel at Davis Base, died this week when he apparently slipped and fell from a cliff which was sad news indeed. It is one of the big risks in Antarctica - slipping on ice, then sliding on it until coming to a big 'drop'. So far so good for Don and ~! (touch wood)

Don and I have been having rock races. We find the blackest piece of rock possible and place it on the snow or ice out beside Gadget Hut. The sun heats the rock and it starts sinking into the snow. At the end of the day, the rock that has sunk into the snow the deepest wins. Some times they have reached a depth of 12cms. Matt black rocks sink faster than shiny black rocks as they absorb more heat. Don knew this fact and didn't tell me so obviously he won the race. I picked shiny black rocks, but never again.

We can get water very easily by placing a large black rock onto the ice. It melts down into the ice and very quickly a puddle of water is formed around the rock, even though the temperature is well below zero. We can always get a drink in survival situations if the sun is out. The sun is still up at 11 pm now and this week a big moon is up also which is really weird.

As I sit here writing the journal, 4 penguins are sitting right outside my window. They come right up to the hut now which is really great. I expect them to knock on the front door and ask if they can come in for a cup of tea.

This week, the sheets on our bunk were finally changed. All year we have used our flannelette sheets but now it is warmer, we have changed to a red double sleeping bag sheet which is a bit colourful. My UG boots are smiling at me now as the soles are lifting. Don drew two eyes and a nose on them, just for a giggle.

The exciting news for the week is that we were visited by 3 Killer Whales late on Friday evening. They came right into the entrance of Boat Harbour, swimming through a group of penguins, then out along the western shore of Commonwealth Bay. Don and I were sitting on a rock at the entrance watching. It was unbelievably spectacular. The sun was low on the horizon creating some amazing colours and the two biggest killer whales were absolutely huge. The third whale was quite small and maybe was an offspring of the other two. They swam only about 5 metres from the shore along the ice edge just outside Boat Harbour. We have a pretty good backyard, eh kids!!

How is this! The total sun for November was 497.5 hours but who is counting. It certainly makes the figures for June and July look a bit grim.

The lowest temperature was -17 degrees Celsius. The highest temperature was +4.9 degrees Celsius.

Three teddy bears were born this week. Two 15cm beige bears called "Ninnis" and "Bobba" and one 20cm beige bear named "Sir Douglas Mawson". This bear is now the "Ice-Bound Mascot" and will stay in Gadget Hut until it is returned to Australia in the Year 2000. He will then remain on sight as the "Spirit" of Sir Douglas.

Next Friday the 8th December, will be our final bulletin for the year because most schools will finish by the 15th and I know some schools are finishing this week. To those schools that are breaking up this week, have a Merry Christmas and a Happy New Year and a great summer holiday. We will see you via the journal again next year.

A big thank you to all the kids who have been sending us Christmas Cards.

A Special Note to our New Zealand Friends During the first half of May 1996, Don and I will visit New Zealand to say giddy to as many of you as possible. It has been very exciting speaking to you all during our Telecom New Zealand Conferences and we wish we could visit everyone, but unfortunately it may be impossible.

Our plans at this stage are not finalised but we shall be travelling through New Zealand so we can visit some country areas.

If your class or school would like us to visit you, please send the following details to Expedition Ice-Bound, P.O. Box 778, Mona Vale N.S.W. 2103 or fax 612 9979 8535 to arrive no later than February 16th 19~6.

Name; Address; Telephone Contact; Number of children following Expedition Ice- Bound; and then in 10 words or less, complete the following sentence. We would like Don & Margle to visit our school because.....

If we decide to visit your school, we may stay in your area for up to 24 hours so that you can share one of your adventures with us. You could organise a Teddy Bears Picnic, a bushwalk, overnight camping, a bike ride, paddling a canoe, go fishing, visit a museum or historic site, visit a farm, go for a ride on a fire engine, go sailing, go bird watching, sight-seeing, flying, etc. etc. etc. Let your imagination run wild.

In 50 words or less, complete the following sentence. If Don and Margie could stay with us for a short period, we would like to share an activity with them and have organised.....

Stay COOL and Keep Warm

Don & Margie in Antarctica

11th December, 1995

You are no doubt very excited about the forthcoming holidays and the last few days at school. We feel the same way here as it may be only three and a half weeks until we have some visitors. It may be even earlier. We have heard that the "Polar Star" a U.S. Ice-breaker may be visiting Cape Denison on Christmas Day to service their automatic weather station, but this isn't confirmed as yet. This may mean that we will have a very special Christmas also!

This is our last bulletin for 1995 and there will be some journals waiting for you when you return to school next year, so remember to check your computers. Remember also to watch "60 Minutes" on Channel 9 on Sunday 11th February, to see us. Also check a special bulletin regarding "Spirit of Sydney's" voyage to the South Magnetic Pole during February.

It is Monday 11th December as I write this journal, so it covers from Saturday 2nd until today. The second Qantas flight to Antarctica on 3rd December was another disappointment for us. There was total cloud cover so we couldn't see anything at all and the passengers missed out on seeing Cape Denison. They had a fantastic flight though, along the Antarctic coast up to the Ross Sea etc. We spoke on the COMSAT phone when they were above us and the clouds disappeared about three hours after they left.

The exciting day for us was yesterday, Sunday 10th. The big red Qantas jumbo painted with aboriginal murals with the kangaroo on the tail, flew overhead in perfectly clear skies. There was no wind and we had a perfect view of the plane as it circled around us and the "Ave Maria" iceberg about six miles offshore. We told them it was a world-famous iceberg and was being tracked by thousands of school children around the world and the passengers were impressed. They no doubt took lots of photos.

I was really excited to see something from another world. We spoke on the COMSAT phone and flashed a mirror at them 10,000 feet up in the sky. We had some friends onboard so it was a great moment. The jumbo also flew over the Plateau to check on "Ted's Geyser"

which has not been active for about ten days. They may not have seen anything. I was a bit upset when they flew away. I wanted to be on that plane, headed home too!

It has been so warm lately (up to +3 degrees Celsius) that I have been drying the washing outside, pegged to the securing stays of the hut. The sun is so powerful, it feels a lot warmer than +3 degrees, when the wind stops. Some days we don't have our heater on in Gadget Hut. That's unbelievable. I can't believe that the weather can get any better. The seals and penguins love it!

Two special visitors arrived a few days ago which was a real surprise. A baby Wedel seal pup, probably about 8 weeks old and a bit over 1 metre long, arrived. He was so cute with a soft fluffy face and brand new black whiskers. Don and I sat for hours watching him. All the other seals are sleeping but he is very active, rolling around and making growling sounds. He is obviously a very restless little "child". We call him "Coco Puff" like the breakfast cereal. I would really like to bring him home to Gadget Hut and invite him in for breakfast.

The other visitor was a huge elephant seal. He is about 3 or 4 metres long and probably weighs well over a tonne and gets very grumpy when he sees us. If we get within 20 metres of him, he growls, burps and rears up into the air, looking really intimidating. He moved up onto some rocks one day, so we did not see him until we were about 8 metres away. He growled and huffed then made a lunge at me. He only moved about a metre so he was only out to frighten me and he succeeded!! It took one hour before my heart slowed down. It really, really frightened me. Don thought it was a bit funny and he took some great video footage and photos. We now give him a "wide berth" and let him sleep, provided we see him because he does move around quite a lot. Unlike the Wedel seals who lay around on the ice and go to sleep, the elephant seal moves around a lot and I never know where I'm going to find him next.

The ice edges are breaking off all around Cape Denison, so most penguins arrive back after feeding, directly into Boat Harbour. It is too difficult for them to land on the ice anywhere else. Of course, this is where all the seals are sleeping. One night all the penguins shot up out of the water, not realising the seals were asleep on the ice. One seal was bombarded ~y the penguins which was so funny to watch. I am not sure who got the biggest surprise - the penguins or the seal. There was quite a 'Crash landing" as the seal tried to get away from the penguins raining down on him.

The "Aurora Australis", Australia's Antarctic resupply ship, has completed the resupply of Casey Base as well as moved equipment to some field stations in the Bungan Hills using their three helicopters. We followed their daily activities on our radio. They are now headed for Davis Station and had hoped to visit a Russian Antarctic Base at Mirny by helicopter but the weather was not looking good for flying so we think they had to miss them. The Russian Base only gets one resupply a year which I think is in late January so they were no doubt disappointed.

We sent a message through to the "Aurora Australis" telling them that "Spirit of Sydney" will be most interested in the Ice Reports they may be able to give at the end of December when "Spirit" is about to leave Hobart. Fingers crossed!

We finally ran out of oats this week so we are now onto other cereals. Our milk supplies are also getting low but we have plenty of Berri Fruit Juice and Buttercup Oven Bakes, long-life bread rolls which have been great. The biggest bonus now that the weather is so stable are our Shelf Stable meals. They are so quick and easy to prepare. We just heat them in the microwave or in boiling water. Some days we are still outside at 11 pm, so it is good to have so many varieties of tasty meals that are so easy to cook up.

Don has begun the photographic survey of Mawson's Hut. Every plank is being photographed. When he was on the roof, I had to be ready to catch him in case he slipped which may have been a difficult task. Fortunately I wasn't put to the test. There are so many exposed nails I think he would have been spiked rather than sliding off anyway! Half the Hut has now been photographed. The Baltic pine planks are eroded with their timber grains sitting up after 80 years of exposure to extreme winds. In the late evening sun, the colours of the timbers are really spectacular with their artistic patterns.

Late in the day, the wind usually drops completely. We usually go out for a walk and marvel at the colours in the sky and all around us and how special these days are compared to the days of the long dark winter. It is very hard to describe everything as it is so big and beautiful, a classic white wilderness with no one but us to experience it. These are very lucky and special days, the good times which are too good to believe.

I am really looking forward to "Spirit of Sydney" arriving. Don has been very busy on the phone, helping to coordinate its departure. It is going to be very emotional when they get here and I think I will be in a big mess. I will probably be crying again when we sail away. We will both have mixed emotions - sad to leave but happy to be going. Hobart will be fantastic after the Southern Ocean. I will probably be in my bunk all the way as there are a lot of good sailors on board!

The best part of the week: Whistling to attract little Wilson Storm Petrels. They are birds about as big as a budgie with yellow webbed feet that are so unafraid, they landed on our feet and on our hands to listen to our whistling. they are so pretty.

The total sun for the week. Lots!

The temperature range: +3 degrees to -7 degrees Celsius.

Teddy bears born were 3 beige 20cm bears "Uno", "Madigan" and "Hurley".

That is about it from us until next year when we will hopefully be writing our journal from Australia in some warm sunny room, overlooking the beach or maybe sitting under a tree in a park with no shoes on, whilst wiggling our toes in the grass.

See you back in Australia. Stay COOL over Christmas - except for our Japanese Schools, stay WARM.

Let's hope we don't have to stay warm after January 23rd 1996 when we will just stay COOL!

MERRY CHRISTMAS, HAPPY NEW YEAR and HAPPY HOLIDAYS

Don and Margie in Antarctica