

## ARCTIC OCEAN SCIENTIFIC EXPEDITION 1994

*By Gordon Stoodley VE1VCS*

Early in 1994, I was approached by the Canadian Coast Guard to go as the Radio Officer on the Canadian Coast Guard Icebreaker, Louis S. St. Laurent for a voyage from Halifax to circumnavigate North America via the Arctic Ocean. I was working at Halifax Coast Guard Radio at the time.

The expedition was the culmination of four years of joint planning by agencies in Canada and the U.S. It would conduct an unprecedented 55 day scientific study beginning in Nome on July 24<sup>th</sup> and ending in Barrow, Alaska late September. After the Louis would continue its regular patrol through the Northwest Passage and back to Halifax probably early November.

The voyage was to be divided into two sections as far as crewing was concerned. Section one was Halifax to Victoria BC via Panama and section two Victoria to Halifax via the North Pole. Since I had passed through the Panama Canal in 1990 I chose the later half in which the Radio Officer was to play an important part. This also shortened the voyage considerably as the trip commenced in early June and was scheduled to end in November. The opportunity was there for me to do both i.e. to circumnavigate North America and to bring my wife along as far as Victoria B.C. Had I known the voyage was going to end prematurely in September, then I would have done so.

We also took the opportunity to leave early and visit my cousin Joan Buzzard who was living in Sweet Home Oregon at the time. After the Oregon trip we flew to Hawaii for one week. I reported to the ship on July 10 as per schedule.

My wife Betty stayed in Victoria with me on ship from July 10 to 16<sup>th</sup>. During that time, I was learning the operation of some new equipment as well as the itinerary of the voyage.

While in Victoria we had rented a car. After work each day we would drive around the city shopping, sightseeing etc. One Sunday on my day off we went north as far as Comox.

The USCC Polar Sea was tied up behind us in Victoria and was to accompany us on the trip. One day I was invited aboard and we had a quick tour of the ship including the Radio room, which of course I was most interested in. The Radio room was designated high security. All doors were locked and I had to be accompanied by another ship's officer. There were 12 Radio operators aboard and some carried side arms. They were very secretive to any questions about equipment. Quite a contrast to me as the sole radio operator onboard the Louis.

Betty flew home to Halifax on Saturday July 16<sup>th</sup>. On the 17<sup>th</sup> July, we had a dedication ceremony on the Louis. Various scientific leaders, Canadian and U.S. politicians spoke on the upcoming expedition. That evening we departed Victoria bound for Nome, Alaska.

I was extremely busy in the radio room checking out various pieces of equipment. A lot of time was used in setting up log keeping using word perfect on computer. Previous to this voyage, a typewriter was used. In addition to a radio log, I started a personal diary, which I kept for the most part on a daily basis.

By 0800 (8 AM) on July 18<sup>th</sup> we were 4840N 12628W or approximately the middle of Vancouver Island,

Weather was light winds and good visibility. Our course was almost due west toward the Unimak pass, that first break in the long chain of the Aleutian islands of Alaska and the shortest route used by commercial traffic from the west coast to Japan.

The scientific team for the expedition was headed by US scientist Kurt Aagaard from the Polar science center in Seattle, Washington, while Eddy Carmack, chief scientist from the Institute of Ocean Sciences, Sidney B.C. was second in charge. Between the two ships, we were to carry 63 scientists, most of who were boarding at Nome, Alaska.

We were at 5256N and 143.48W on Wednesday July 20<sup>th</sup>, at 0800 (8 AM). This was near the northern tip of Vancouver Island and heading west away from the British Columbia coast. The Polar Sea was sailing mostly abeam of us about 2 nautical miles away, but later in the day she pulled ahead. I went to supper as usual about 5:30pm and watched a movie in the bar that evening. The Louis had two licensed lounges on board, one for the officers and scientists and the other on the deck below for the other crewmembers. I intended to stop drinking beer while onboard as I sort of blamed it for a rise in my blood pressure. I'd been taking medication for years and continued to monitor it on a daily basis.

The ship in addition to a well-stacked supply of movies and a library had a full gymnasium with the usual equipment including ping-pong and darts.

We had two ice observers onboard, Fred Coates and Ken Asmus both out of ice operations office in Ottawa. Fred was a seasoned veteran of the arctic and probably the best ice navigator in Canada. These two could read ice like the back of your hand and were continually busy night and day using satellite data, etc and plotting the best routes through the ice ahead.

We ran into a very heavy storm on July 21<sup>st</sup>. Both ships were rolling and pitching very much. Some damage was done to various crates on deck however it was repaired later on when the weather moderated. I had most of my radio equipment working very well at this point. We were now able to download large files via High Speed Data on Inmarsat satellite A. This connection used two lines on the Inmarsat at 15 dhrs per line per minute. Since that time rates have gone down very considerable and today the same data could be downloaded for a fraction of the cost using later versions of satellite communications i.e. sat B and sat C. We had Inmarsat C onboard, which would have been a great asset, however it was not programmed to send or receive messages. We could receive weather and safety information but it was receiving data from all over the world.

At midnight we moved the ships clock back one hour. We were now on a rhumb line course from Victoria to Nome. A rhumb line is a curved course on a Mercator chart but an actual straight line on the ocean. Our estimated time of arrival for Nome is Sunday.

At 0800 we were 5411N 163.29W and the mountains of Alaska were visible. We were now close to the entrance of the Unimak pass, that busy route most shipping used from the North American west coast to Japan. On our starboard side, we saw a Supertanker, fishing vessel and a cruise ship southbound at a distance of about 3 nautical miles. We were advised today that all crewmembers would be allowed ashore in Nome to make a phone call to home. This evening we had an excellent dinner of poached pacific salmon.

We had Amateur radio communications onboard, which had been moved to the radio technician's room just before the voyage. Phil Seaboyer, the chief electrician who was also a radio ham was assigned in charge of that communications. We had a slot in the 20-meter band assigned to the

Canadian Forces Amateur Radio Service (CFARS). This was used for Armed forces overseas to make phone patches via radio to their families in Canada. This band was workable 75 percent of the time, with little or no interference. I was able to talk to Betty who was at our daughters in Ottawa for a while before heading to Halifax. However we were 4 hours behind. It was 1030 when I called and 2:30 AM in Ottawa.

On Sunday, July 24<sup>th</sup>, both ships were anchored off the beach in Nome. We were about 2 miles off and went ashore in the ships barge. Incidentally, the barges used by the Canadian Coast Guard are the same as the ones used to ferry troops ashore in the Invasion of Normandy. They are ideally suited for the Canadian arctic where no wharves are available and landings are done on beaches. I stepped ashore a number of times when the front ramp was dropped during my trip to the Arctic in 1963. Both ships spent all day ferrying scientific personnel and their supplies onboard.

On the way in to Nome we passed the beach where gold was discovered in Alaska and immortalized in the song, "North to Alaska" and indeed a huge barge was still working there presumably still extracting gold from the sand. We secured the barge to the fishermen's wharf. The fishermen (mostly Inuit natives) were unloading huge crab. We walked up the short distance to the main street in town. All the stores, tourist center, restaurants etc were open. I bought several souvenirs including an Eskimo doll. Made a phone call to Betty and visited the tourist chalet. I was amazed to find that there were quite a number of tourists from the mainland United States that day. They all wanted a picture of the starting point of the great dog sleigh race held every year.

2130 hours (9:30 PM) all scientists and gear aboard and we departed Nome bound for the Bering Strait. This evening ship's crew and scientists had an introduction meeting. The scientific crew announced they would be working around the clock and at 2300 (11 PM) the sun was really bright and about 20 degrees above the horizon.

Next day July 25<sup>th</sup>, we were passing through the Bering Strait in glorious sunshine with Big Diomedes Island of Russia to port and little Diomedes of Alaska on our starboard side. The landmass of the Chukotsk peninsula of Russia was also clearly visible. Later that day, we also crossed the Arctic Circle at 66 degs north latitude. The days were getting progressively longer as we headed north, and from now on it was continuous daylight.

Tuesday July 26<sup>th</sup> we entered the ice. At this point it was very scattered and our two ships were working some distance apart. On board the Louis things were gearing up to a party like atmosphere. It was the Arctic Circle crossing ceremony. All crewmembers and scientists alike who could not produce a valid Arctic Circle certificate were arrested and summoned before King Neptune, who demanded concessions for those who dare enter his kingdom. Fortunately I had two previous certificates so I had a ringside seat to the ceremony. The victims were blindfolded, laced with every kind of imaginable item of sea weed, porridge, bad eggs, etc. over their heads and faces till they were hardly recognizable, made to repeat some mumble jumble from the King and then washed off with icy cold salt water. One of the private contractors aboard from Vancouver operated the crane for lifting sea and bottom samples. He was about to get married to one of the scientists aboard. They gave him an extra spray of this cold salt water. How he survived that, I don't know.

By this time we started to use the Health Satellite that orbited the pole once per day. We had a very short window about 15 minutes. We uploaded some files and also downloaded ice data. Our chopper did an ice reconnaissance today and later spent the evening aboard the Polar Sea.

Ice Coverage gradually increased as we headed further north during the next few days. By the end of the week it was pretty well 10/10 but not too thick. After the end of our daily run, the scientific team would then go to work. A rosette was lowered over the side at each stop along with a device that took mud sediment samples from the bottom. The rosette was a round unit consisting of about 30 or more bottles that would open at various levels throughout the water column from the bottom to the surface. This unit would measure temperature, currents, salinity etc. etc. at various levels.

We had every kind of conceivable team aboard to study for example the water, ice, air, sea bottom etc. and a biology team that was on a wildlife program, which included the tranquilizing and testing of polar bears. One of the main issues was to try and determine how much contamination has increased in the arctic from industrial and nuclear wastes.

It wasn't long before 2 or 3 polar bears were spotted. However the ice was too thin and widely scattered at this time to drug these bears. Later on the bears would be fired at from the chopper with a gun and a tranquilizer dart. The bear after being hit would travel about a mile or so before falling. The pilot would land then and the two scientists would do their work, which took approx 1-2 hours. Later the drug would wear off and the bear would continue on his way.

On July 28<sup>th</sup>, one of the scientists spotted a small fish, presumably arctic cod. The ship was stopped and a man put out to recover the fish. Tests were later done onboard in the laboratory.

The high frequencies were dead all day on the 29<sup>th</sup> until 8 PM, at which time I was able to work Inuvik radio/VFA. By 9 PM signals were much better and I was able to receive and clear traffic via telegraphy and radiotelephone. We were unable to get a link on the High-speed data via Inmarsat, which meant unable to download large files for the ice observers or scientists. Today I was informed that my HF transmitter on high power also interferes with scientific monitors in various places on board ship. We reduced the power output but it still caused interference to the remote ice and snow monitoring gear onboard.

With respect to the radio interference, we had onboard one lady scientist from Ottawa a Mrs. Garrett, whose expertise was involved in remote monitoring of the snow on ice. This equipment as I understood was developed in Russia and being further tested and experimented on by Canada with a view to determining ice texture and thickness from remote monitoring by aircraft etc., by reading the snow texture on top of the ice. In any case the device was located very close to my transmitting antenna. The radiation from my antenna was burning the unit out. This problem was corrected by always using the starboard antenna. The scientists had only one unit left when the problem was discovered.

On July 30<sup>th</sup> we were approximately 73.30 north. I got up early at 4 AM ships time with everything quiet and a good satellite signal, I tried downloading a file for the ice observers, but would lose the connection. For about 2 or 3 days now, I'd been trying to get this large data file with no luck. A few days later, the electronic tech onboard found a technical glitch with the high-speed data satellite link and repaired it and on the next connection I was able to download okay. I was still clearing and receiving traffic through Vancouver coast guard radio on 6 and 8 megahertz radiotelegraph.

Later that day while stopped in ice, the two Inuit on board i.e. Ikaksak from Resolute Bay and Oolateetah from Greise Fiord were on the ice trying for a seal and also put out some fishing nets under the ice with no success.

We had reached 76 degrees north on July 31<sup>st</sup> and were stopped for the night. Captain Grandy had asked that the high frequency transmitters be shut down to avoid any further damage to the ice instruments as mentioned previously. It was the next day August 1<sup>st</sup> that the problem was located and solved. At 4 AM I was able to communicate with Betty in Ottawa via the Canadian Forces radio near the ham radio frequencies. It was 9 AM in Ottawa and Betty was still there staying with our daughter and family.

Later that morning, I got permission from the Captain to take a trip in the chopper to approximately 1 mile ahead of the ship, where the biological team had drugged a female polar bear and her cub. I had 3 or 4 cameras including my own from crewmembers that wanted pictures of the bears. It was a beautiful sunny and relatively warm day. After landing on the ice, I moved closer to the bears to take some video and pics. A few minutes later, one of the scientists asked me to come and give them a hand. The bear had a black bag over its head to shield from the direct sun to the eyes. They wanted the bear moved around 180 degrees away from the sun as it was now coming too and to keep the sun out of the bear's eyes. They wanted me to grab the head and lift it to avoid scuffing on the ice as they moved it around. I looked at that awful mouth and its head moving as the drug worked off and I said to myself they have got to be kidding. However they reassured me it was safe, so I did under the jaws and moved the bear around. I would not recommend this job for the faint at heart or another 15 minutes later when the bear was more recovered.

By August 1<sup>st</sup> we had passed 77 north or 13 latitude degrees from the pole. Each degree of latitude is 60 nautical miles, so we had approximately 780 miles to go before turning around and proceeding south. The ice was getting heavier now and progress slow. At times progress through this ice was so slow, one could have walked faster.

Going through ice on a ship is an experience like nothing else. When it is heavy and continuous all around it can only be described like being on a ship and traveling over the prairies in winter. It appears as if you are running aground with the ship's bow rearing up and coming down on the floes breaking and sometimes coming to an almost dead stop and suddenly the ice cracks before you with a jagged crack that resembles a lightning flash across the sky. This crack may run a mile or more ahead of the ship. At that point the ship can slowly steam in the direction of the crack and pushing the ice aside as it goes. If the ice does not crack, the ship can make no further progress and comes to a stop. At that point we go in reverse and run at it again. The ship will then churn itself through the same spot about another ship's length and will come to another stop if the ice fails to crack again. Usually it will crack especially by the second attempt unless it is under pressure from tides or fast to the land.

When a ship is proceeding through ice that is up to 9/10 coverage, progress is better as courses are continually changed as the ship looks for leads of open water. Running over small and medium floes causes the ship to lurch up and down but pose no problem as the floe nearly always cracks.

Progress is still slow by August 2<sup>nd</sup> as we approach 78 degrees north. Today the Polar Sea has taken the lead and we follow. We are into an area of multi year ice, and the Polar Sea is making a very twisty course to avoid this ice and keep in the narrow leads of open water.

I remember being on the bridge when the Captain pointed out to me some ice that was coming back from the Polar Sea had propeller marks. I would have failed to notice it, but Captain Grandy pointed out to me that the American ship was turning too quickly in heavy ice and this was causing the rear of the ship to slide into the ice and the propellers were chewing it. He expressed

some concern due to the lack of experience of the Americans in northern ice infested waters. Later there was some talk of our first officer going aboard the Polar Sea to act as the ice navigator. However that never materialized for some reason or another. This was to have dire consequences later on in the voyage.

We passed 78 degrees north latitude on August 3<sup>rd</sup>. At 0800 a pipe came from the bridge that a polar bear was sighted on the port bow. Most of us watched it for a while as it traveled ahead and away from the ship. There was no attempt to tranquillize this one as the ice was loose in the area and there was danger of the bear ending up in the water and possibly drowning. Later in the day we stopped on scientific station number 14. These stations were selected ahead of time by the scientific team and located in areas of high interest e.g. mountain ranges on the sea bottom, deep basins, etc. We had 36 stations from the Bering Strait to the pole. On the planned return voyage back to Alaska there would be a different route and approximately the same number of stations. The next day Aug 4<sup>th</sup>, we proceeded through loose ice with some good leads. I spoke with Betty again this morning via ham radio. The signals from Resolute Bay Coast Guard radio/VFR were coming in much better and that station handled my traffic.

For some time it had been mentioned that the Russian icebreaker Yamal may be at or in the vicinity of the North Pole about the same time as us. In any case we received a message from the Yamal via Ottawa and Moscow that his 051200 Moscow time (050800Z) position was 8849N and 5709E, in other words approx 1 and ½ degs (90 nautical miles east of the pole). Our GMT time was 051800Z, so by now he was 10 hours closer and probably at or very near the pole.

The Yamal is a nuclear powered icebreaker that the soviets recently allowed to be chartered by a U.S. company and were taking approx 100 passengers from Murmansk, Russia to the pole and back. The cost per passenger was from 19,500 to 28,000 U.S. dollars. It appeared that on this trip most of the passengers were European and Japanese

August 6<sup>th</sup> we passed 80 degrees north, and stopped at 8008N 173.17W. We stayed most of the day doing scientific work. We have had continuous fog and at times drizzle since August 3<sup>rd</sup>. We were now at the theoretical edge of satellite coverage but the dish had to be pointed south and pretty well flat to the horizon. Our antenna was mounted in front of the engine smoke stack and on a good part of our course the stack was directly in line with the western pacific satellite, which we were now using. This was very frustrating as I would get a good signal for 5 mins or so when the ship started running a lead to starboard or port but when she swung around, the stack would shade the signal and it would be lost. By checking on the bridge and trying to anticipate the length of a certain course with ice conditions, I was finally able to download a file for the ice observers. However what normally would take 30 mins took me all day on Aug 7<sup>th</sup>.

It was a good thing I persisted in obtaining this data file as the ice observers told me the next day that they would not have been able to continue receiving ice data without it. For this voyage we also had obtained permission from WHO the World Health Organization to use their satellite when it passed over the pole. This was a satellite that rotated the earth approx every 24 hours or so and was used to pass health info mostly to and from third world countries. We had about a 10-minute window to download and upload files while it passed over us. It was not really suited for ship operations, as any message sent could not be replied to until the next day. However, it was part of my job to do upload and download the traffic. The files were usually small and could be saved on a 1.4 megahertz floppy disk.

We have had no polar bear sightings for several days now, but occasionally we saw tracks across the ice. The Polar Sea announced today, that they would take out mail and send it from the Pole

using their post office aboard ship. They had special cancellation stamps etc made for the occasion and a limited number of U.S. postage stamps for sale.

We were advised that an ice reconnaissance flight left Alert, North West Territories this morning to ascertain the best route toward the pole. This flight went low right over the ship on its way north. It was using side-scanning radar, which mapped the ice on a 200 kilometer wide line and extending 1100 kilometers along our intended track. Later the data was downloaded to us via very high frequency radio while the plane was overhead. It took the ice observers 2 days to decipher the data. I remember seeing an ice flow they pointed out in our path that was massive. It was more than 5 kilometers in diameter and partly multi year. Later on in a meeting with the head scientists, it was decided to divert our course around this flow. As I recall it meant abandoning one of the selected stations.

On Aug 9<sup>th</sup>, I was able to work traffic through Vancouver radio/VAI on 12 megahertz radiotelegraph. We lost the satellite signal for the whole day. I would have got it early in the morning but the ship stopped in the ice for scientific work and was facing the wrong way, shading the satellite with the engine stack. Captain Grandy said to me later, if I had mentioned this to him before hand, he would have turned the ship 180 degs before stopping.

Today was also significant in that we have crossed over the International Date Line at 180 degrees longitude. Technically it was not Tuesday the 9<sup>th</sup> now, but Monday the 8<sup>th</sup>. But for our intent and purposes of course we had to ignore the line as we were crossing back and forth every other day.

The satellite signal was not received after 82 degrees north, except for a few minutes early in the morning on Aug 11<sup>th</sup> at 8233N. From here on in it would be high frequency radio only, on telegraphy and telephony. When I worked on cruise ships a few years earlier, the radio operators told me that the pacific satellite had a slight wobble and could be worked early in the morning while at extreme range before the daily correction was made from California. Whether this was factual or not I kept this in mind and it was true that early in the morning a connection could be made while for the rest of the day, forget it. Atmospheric conditions were not supposed to affect satellite transmissions, but I'm not so sure of that.

Today we also broke a record for the furthest north of any Canadian vessel when we went by 8247N. From here on, records would be broken every day.



Every day was the same routine; breakfast at 0700 (7AM), on watch at 0800 (8 AM), lunch at 1130 (11:30 AM) and dinner at 1700 (5 PM). Meals were excellent all the way. Green vegetables were kept for a very long time after leaving Victoria. I was amazed that we were able to have salads with lettuce etc for so long. The food department must have had a good cooler and looked after the fruits and vegetables very well.

During the evening, the officer's bar was always open with drinks and beer one dollar each. All alcoholic beverages were in bond while at sea and free of taxes. This is the norm for all ships on the high seas. We had a huge stack of movies on board, all the latest that were released to video at that time. There was also a fairly well stocked library on board, and a gymnasium.

The fog finally lifted on Aug 13<sup>th</sup> after almost two weeks of low visibility. We still had 9/10 cloud coverage with now and then a glimpse of the sun. Ice coverage is very heavy 10/10. In these latitudes a sunny day is 24 hrs long and it is amazing how much work can be done. All of the cabins had a heavy dark blind to darken the room otherwise sleep becomes difficult.

At 0800 (8 AM) August 14<sup>th</sup>, ships time and incidentally Alaskan time as we had not changed our clocks since leaving Nome, we were in position 8453N 17038E. The fog is back and visibility is down to ½ mile. It has now become a bit colder than when we started in July. We are also getting a few snow flurries. The freshwater melt ponds on the ice are starting to freeze over.

I am unable to communicate with any Canadian Coast Station. I'm hearing European stations on the bands loud and clear. I made a signal check with St. Lys/FFL coast station in France and signals are 5/5 both ways. Captain Grandy however, did not want any traffic routed through this station; instead we uploaded traffic via the Health Satellite later on when it passed over the pole.



Today Aug 15<sup>th</sup>, we have passed 85N. The USCG ship Polar Sea announced to all they have made a new record for the furthest north of any USCG ship. We are still proceeding in very heavy ice with occasional ridging. Scientist Bob Macdonald spotted an arctic cod on the ice. This fish is a little larger than a capelin or smelt. He quickly threw out a bright coloured marker intended for just this purpose. The ship stopped and our chopper went out and recovered the fish. The scientists are very happy and immediately go to the onboard lab and analyze the fish.

The scientists also found a new undersea mountain. While doing soundings from the helicopter, the wire stopped at 850 meters while the chart showed 3700 meters. The Captain announced today that a wedding would take place on or near the North Pole. The happy couple was two scientists, Douglas Sieberg and Louise Adamson who both worked at the Institute of Ocean Sciences in Sidney, British Columbia.

On communications, the British coast station GKD was coming in loud and clear and I had a radio check with him confirming my transmissions were perfect as well. Later on I was able to raise Resolute and Inuvik radio and cleared my traffic. On the ham bands 20 meters we were getting good signals as well and later I talked to my wife Betty.

We had passed 8640N by Aug 16<sup>th</sup> and ice remained 10/10 coverage. Progress was very slow in a northeast gale with snow and poor visibility.

An Aurora military aircraft from Comox, BC flew over us on Aug 17<sup>th</sup>. It dropped a canister on the ice containing ice and weather maps, also a newspaper, the first we had seen in months. Everyone was on deck and taking pictures during the fly pass and drop. The chopper was dispatched immediately for the recovery. The ice was now 9/10 plus with occasionally heavy multi year pieces. Multi year has a more blue colour and is hard as steel.

We also noticed in this position 8721N and 15503E, the ice was whiter than what we've normally seen. Previously we were seeing a fair amount of ice that was mud or dirt covered, presumably from rafting rivers that empty into the Arctic Ocean.

We are 2 degrees of latitude or 120 nautical miles from the pole on Aug 18<sup>th</sup>. The Polar Sea has taken the lead and we are following in his track. We have had snow showers all day and stopped on scientific station number 30 for most of the day. This is the farthest east we have gone over the date line at 147E.

Part of my duty each day involved passing and receiving messages to/from the Captain on the bridge. While off duty at times I would take some video shots of our movements. It was either on or around the same day we again saw propeller marks on the ice, from the Polar Sea.

I have good communications with Resolute and Inuvik and worked 2 extra hours in the morning from 0600-0800 and in the evening 2 more hours from 2200 to 2400. This was necessary to clear heavy traffic.

On the 19<sup>th</sup>, we reached the crest of the Lomonosov Ridge, which divides the Arctic Ocean in two. We are now 72 nm from the pole. Our chopper was sent ahead to do an ice reconnaissance to determine the best route forward. The chopper actually landed at the pole with our first officer on board. The flight determined that very heavy ice at our intended crossing of the ridge so it was decided at the regular meeting of the team to continue northward and do the seismic and coring on our way back to Alaska.

The Polar Sea advised us today that they have the post office open and a limited number of stamps for anyone who wishes to mail a letter from the North Pole. I purchased ten stamps and started to get my mail ready that evening.

We passed 89N today, Aug 20<sup>th</sup> or one more degree of latitude or 60 nm to go. Phoned our daughter and son today at noon, but neither of them was home.

Early Sunday morning on the 21<sup>st</sup>, we were informed that the Polar Sea had lost a blade on the starboard propeller. Further investigation by the divers later that day indicated even further damage. As luck should have it, when the propeller blade let go, it drove into one of the blades on the center propeller, rendering this one useless as well due to the severe vibration. We now had a serious situation of a ship with one propeller functioning. This required that the expedition take the shortest route out of the ice. This meant scrapping the rest of the program and heading east toward Spitsbergen and Iceland.

In the afternoon a U.S. C-130 aircraft from Kodiak flew over us and dropped another canister. In the canister along with other things were ice reconnaissance files from the aircraft on floppy disks. The ice observers were able to use these files to plan our course toward the pole. Shortly after the fly-pass, the aircraft radioed that it had lost an engine and could not continue the reconnaissance. This meant we could not get aircraft ice data for conditions on stations beyond 90N.

Sometime during the evening, the Captain asked me to come on duty at 0230 hrs because we were estimating arrival 90N at 0300 and he would have a number of messages to be sent.

I started my shift at 0230. After about 10 minutes I went to the bridge. There was hardly standing room. Almost every scientist and non-essential personnel were there for the countdown to 90N. Everyone was watching the GPS navigator count down the readings from 8930N. Just before crossing, our Commanding Officer radioed the Polar Sea and invited him to come abeam and we would cross the pole together. This was done and when the readings reached 0000 it appeared both ships were abeam, however it was later determined that the Louis crossed first by a foot or so.

There was uproar on the deck as cheers and congratulations went all around. Everyone all around shook the hand of our Commanding Officer, Captain Grandy. After a few minutes, he handed me 10 messages saying, "Sparks can you send these out".

I went back into the radio room and after repeated tries, could not contact Resolute or Inuvik radio. The first scenario that came to me was we had a blackout on the HF frequencies, which happened now and then throughout the voyage, especially during foggy conditions. I kept trying for about 30 minutes with no luck. At this time the chief electrician Phil Seaboyer and Faulkner were making contact on the ham radio bands. I knew then that I had a problem in the radio room, probably with the antennas. Rather than wait for the radio tech and me to figure out where the problem was, Capt. Grandy radioed Ottawa through the CFARS band via the ham radio.

I remembered R/O Rick Falvey on the Henry Larsen told me one time, that he could not contact anyone due to bad radio conditions, so he tuned up his transmitter on Resolute radio's frequencies and contacted another coast guard ship. So this is exactly what I did and sure enough Rick answered me and I cleared the ten messages. By the time they were gone, the Captain passed me 8 more and these were cleared.

Later when some of the excitement cooled down and during a break, I went outside and sure enough the antenna was broken on top of the mast. Back in the radio room, I changed all my hf receivers set to Resolute and Inuvik on our remaining antenna and we were back to normal. All of my subsequent traffic that day was cleared through both of these stations.

It was no time when traffic started to come to the ship, slowly at first but at one time, Resolute had over 50 messages for me. Sometime during the day, I got an hour's break and went on the ice. I happened to look back at our track of broken ice and water behind the ship and saw two black seals. Also there were polar bear tracks across the snow and ice.

I also noticed a track of broken ice ahead of the ship, which I thought was odd, as we were in the lead and the American ship behind us. The first thing came to mind that it was the Russian ship at the pole and now it's on the way back.

It was like a day off for all the crew. There was a sign post erected showing our distance from most major cities in the world as well as hometowns of various crewmembers. Most of us had a "walk around the world" in a matter of seconds. Everyone was eager to make a first. We had crewmembers and scientists playing golf, riding a bicycle, playing softball, etc. etc.

Crewmembers were busy drilling holes in the ice for steel mooring poles. Then the ship was moored as if to a wharf. This wharf was hugemungus, the North Polar ice cap. At one point everyone left the ship for a group photo on the ice. The Polar Sea was "moored" about 300 meters away.

I had spent less than an hour on the ice and returned to the ship. By this time, I learned that the Russian ship Yamal was spotted on the horizon about 5 kilometers away from us. We learned later that they had been in our position at the pole and had moved away, so our two ships could pinpoint 90 degrees north and have our little celebration. They were also making a movie in honour of the year of the family and possibly beaming live television back to Russia in celebration of the year of the family.

On board the Yamal was a very talented children's musical band singing Russian songs. Later they invited Capt. Grandy to play the guitar and sing onboard.

I went back to work in the radio room and tried to get some of the messages for the ship that were backed up at Resolute and Inuvik. I copied 25 or 30 and took a break for lunch. This radio traffic continued all day, including arranging radiotelephone calls via high frequency radio mostly for the Captain.

At 0800 on the 23rd, we moved along with the Polar Sea to the position of the Yamal. Now it became a real international meeting. No sooner were we secured to the ice again, when visitors from the Russian ship started to stream aboard. It was just before 6 PM, when two of the Radio Officers dropped into see me. I was still working and showed them our radio equipment. They invited me over to tour the Yamal and I indicated right after supper I'd walk across the ice to the Yamal just a short distance ahead.

I walked across at a little after 7 PM. The barbeque was finishing up, and some of our crewmembers were staggering across the ice. The huge punch bowl was still half full and everyone was dipping in with a ladle and filling their cups or glasses. There was also a swimming pool type ladder on the edge of the open water at the stern of the ship. Here Russian security and seaman were conducting a North Pole swim for the tourists onboard and anyone else who wanted

to jump in. It was strictly controlled with safety conditions uppermost. Each person going for the polar swim had a life preserver attached around his waist with a line held by the Russian seamen. I saw one Japanese tourist calmly walk down the ladder and completely submerge himself without one whimper. Others just jumped straight in to take the shock all at once.

There were a Canadian and U.S. group of about 10 who decided to make a historic swim as well. Fortunately there were no casualties. However one of our sailors, a strong young man from Cape Breton, heavily influenced by the effects of the "punch" wanted to jump straight in. He had stripped to the waist and staggered across the ice to the hole, but two Russians were holding him back. I guess they knew with the combined effect of alcohol and ice cold water, he could suffer a heart attack. He fought them saying "I've gotta do this" and finally ducked his head underwater. Luckily there were no ill effects.

Anyway, I walked up the gangway of the Russian ship "Yamal" met the chief radio officer and he took me straight away to their cabins, where they had their own kitchen. The chief asked me if I would like some breakfast. I said no thanks, I just finished dinner. They looked at me kind of strange. "Well then would you like some vodka?" Of course, I said. While we were chatting around the table, the chief said to me, with his fingers to his lips, "shh my wife is sleeping". I looked at the clock; sure enough the time said 7:20, so I assumed she must have been not feeling well.

They were having poached eggs and toast. I was on my second or third vodka and they kept bringing it out. The Russians were toasting everything. I was wondering by this time what was actually in the vodka, but nevertheless, I did ask why are you eating breakfast for dinner? They said because it is morning. But I protested its evening. I said what time zone are you on? They said Murmansk time in Russia.

Then it hit me. We had not changed our clocks since leaving Alaska and they had not changed theirs since leaving Murmansk. There was simply no need as it was continuous daylight anyway. It just so happened that we were exactly 12 hours apart. Apparently it was not noticed by the ships crew either until they were invited to a barbeque on the ice by the Yamal at 5 PM. I did not get to the barbeque as I was still working, but it seemed everyone else on the Louis arrived at the Yamal 5 PM Louis time which was 5 AM Yamal time and not a soul on the ice, save for the crewmember on guard at the gangway.

Nevertheless, the crew of the Yamal all got up at 5 AM and by 6 AM the barbeque got underway.

About 9 PM or 9 AM depending what ship you were on, I left feeling a little under the weather and walked back "home" to the Louis. I went to the radio room, called Resolute and Inuvik radio to see how much traffic they were holding. There were over 50 messages at that time for me. I copied 8 or 10 but was unable to copy any more. At 10:30 PM I just could not stay awake any longer. They would have to wait till morning.



On the morning of the 24<sup>th</sup> on the ship's bridge, we learned that we were ready to get underway at 0800 (8 AM) and proceed east toward Iceland. There had been meetings on the 23<sup>rd</sup> between the three ships and the US Polar Sea had asked the Russians for help in clearing a path for her out of the heavy ice. This was agreed to and we were underway with the Yamal in the lead, the Polar Sea and Louis following. It was quite a sight to see the Yamal steaming through 10 feet or more of solid ice without changing course and a speed of about 10 knots. Gone was the need for ice surveillance and plotting.

At about 10 AM or 11 AM, the Polar Sea got stuck in fast closing ice behind the Yamal. At that time I was on the bridge and saw the Yamal turn around to free the Polar Sea. The Captain on the Yamal must have decided to give us all a visual demonstration of the power of his ship. He just drove through at about 10 knots with ice flows flying on both sides of the bow. He proceeded past the Polar Sea and our ship and everyone on the bridge just gazed in awe with their jaws drooped. Then after about 300 meters past our stern he turned around and hammered through the ice again. The Polar Sea and the Louis were now quite free of the ice and we continued on our way.

All day Wednesday the 24<sup>th</sup>, we were heading east in the track of the Yamal. I was busy with traffic and worked until 8:30 PM. I had to come back to work 3 AM on the 25<sup>th</sup> to make a live call to the Canada AM television program for the newlyweds Doug and Louise Adams Sieberg. Later that morning ice conditions improved and we parted company with the Yamal. We then proceeded to position 8543N 3741E scientific station number 36. After several hours of work there, we proceeded south course 190 degrees speed 5 kts and stopped for another work station at 8415N 3452E.

On August 27<sup>th</sup> we were down to 8326N 3665E. Open water now became more prevalent and birds and seals were more numerous. On Friday the 26<sup>th</sup>, the biological team spotted and tagged a polar bear from the chopper. We also had an airdrop from a C130 aircraft, which delivered a helicopter part for us. This will enable us to have our two units serviceable again.

The next four days were uneventful as we were proceeding in loose ice and open water toward Iceland. By Sept 1<sup>st</sup> we had reached 7345N and 0934W and heading for the Denmark Strait,

between Iceland and Greenland. The Captain made an announcement today that we should be in Halifax between Sept 8 and 10<sup>th</sup>.

At 0800 Sept 3<sup>rd</sup>, along with the Polar Sea, we were anchored off Reykjavik, Iceland, unable to dock due to the shallow water of the harbour. The high-rise buildings of Reykjavik were easily visible and all along the shore to the U.S. Naval base at Keflivk. The chopper went ashore several times to the airport. As I recall one of the scientists flew home from there. I would have dearly loved to go ashore, but the opportunity wasn't there.

So on Sept 4<sup>th</sup> we departed Iceland on a course south of Cape Farewell, Greenland bound for Halifax. We were running for two days into a vicious storm with winds of 60 knots and more. Seas were very heavy and the ship with very little ballast from low fuel tanks pitched and rolled terribly. Seas broke over the wheelhouse and soon water started coming in every seam. It was probably the worst seas the Louis had ever experienced having spent most of the time in ice-chocked seas, which are almost never stormy and rough. It was very difficult to do any work in the radio room and eating in the officer's mess was out of the question. I was told some of the scientific samples that were in refrigeration were broken. Just how much damage was done there, I never found out.

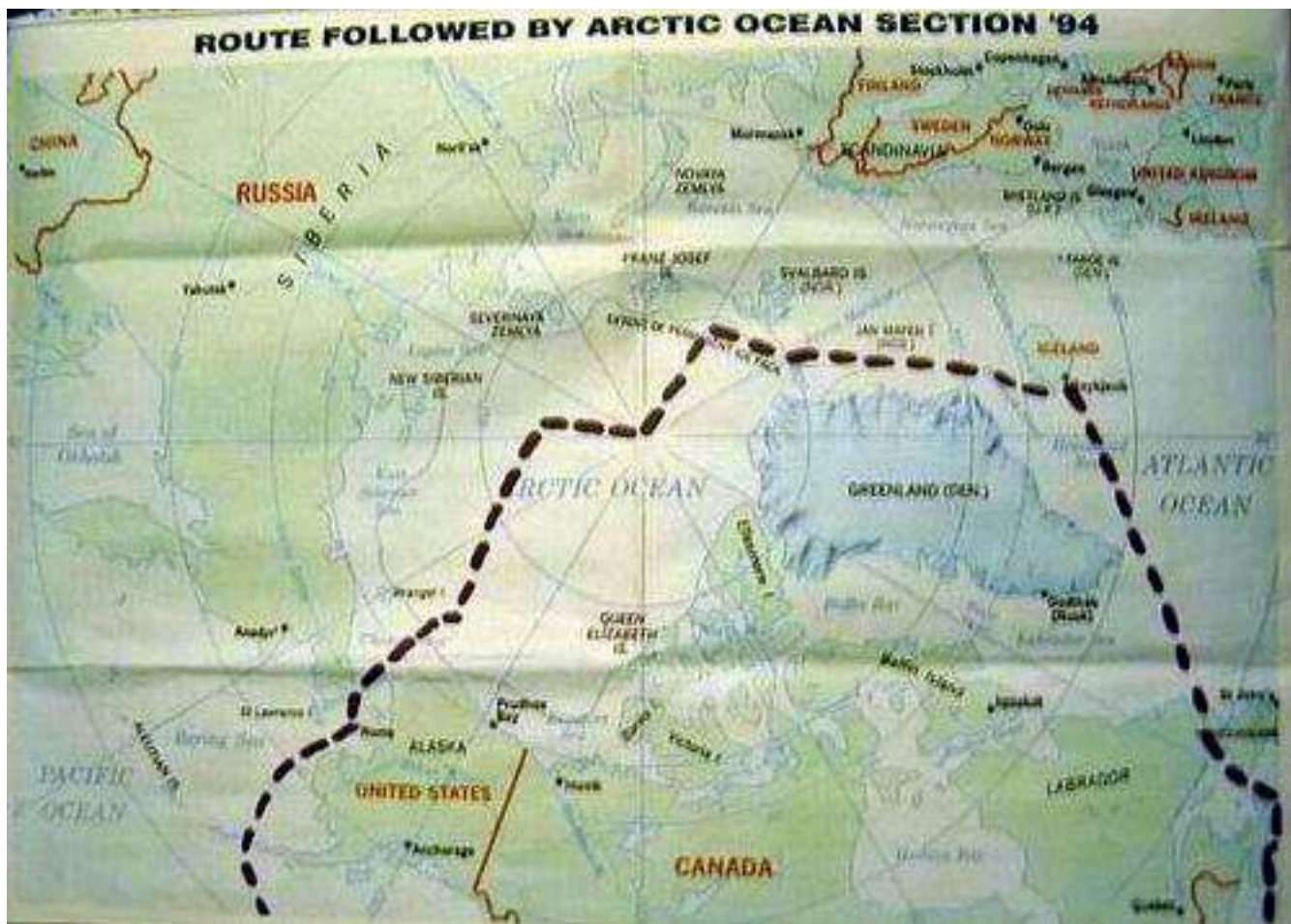
After we passed Greenland, the storm abated and the rest of the voyage home was uneventful. We proceeded down through the Strait of Belle Isle and arrived in Halifax around noon on Sept 9<sup>th</sup>.

A reception was held at the Dartmouth Coast Guard base. We had accomplished several firsts for any surface vessel in the Arctic. Probably the most outstanding feat was the first ship to ever completely cross the Arctic Ocean. The Louis was also the first Canadian ship to reach the North Pole. Up until 1994 there were 17 trips made to the North Pole by surface vessels. Of those the Russian icebreaker Yamal had made 6. The Louis made number 16.

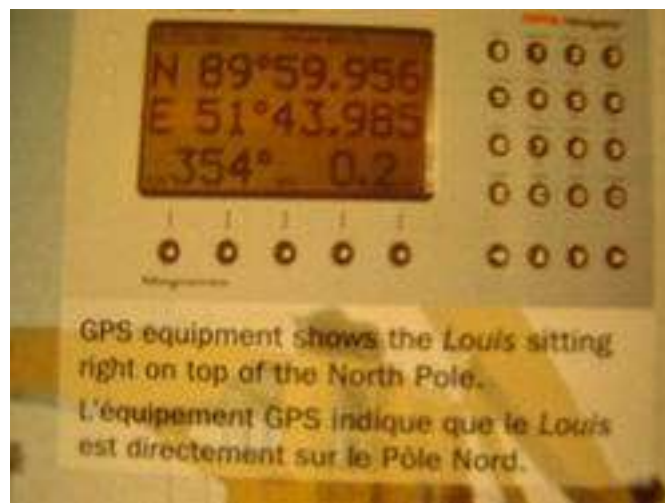
This is a list of the icebreaker ships that have reached 90 degrees north.

Ships name	Master	Date	Country of Registry	Propulsion
1. Arktika	Yuriy Kuchiyev	17 Aug 1977	Soviet Union	Nuclear
2. Sibir	Zigfrid Viblah	25 May 1987	Soviet Union	Nuclear
3. Rossiya	Anatoly Lamehov	8Aug 1990	Soviet Union	Nuclear
4. Sovetskly Soyuz	Anatoly Gorshkovskiy	4 Aug 1991	Soviet Union	Nuclear
5. Oden	Anders Backman	7 Sep 1991	Sweden	Diesel
6 Polarstern	Ernst Peter Greve	7 Sep	Germany	Diesel
7. Sovetskly Soyuz	Anatoly Gorshkovskiy	13 Jul 1992	Russia	Nuclear
8. Sovetskiy Soyuz	Anatoly Gorshkovskiy	23 Aug 1992	Russia	Nuclear
9. Yamal	Andrey Smirnof	21 July 1993	Russia	Nuclear
10. Yamal	Andrey Smirnof	8 Aug 1993	Russia	Nuclear
11. Yamal	Andrey Smirnof	30 Aug 1993	Russia	Nuclear
12. Yamal	Andrey Smirnof	21 July 1994	Russia	Nuclear
13. Kapitan Dranitsyn	Viktor Terekhov	21 July 1994	Russia	Nuclear
14. Yamal	Andrey Smirnof	5 Aug 1994	Russia	Nuclear
15. Yamal	Andrey Smirnof	20 Aug 1994	Russia	Nuclear
16. Louis S. St.Laurent	P.O. Grandy	22 Aug 1994	Canada	Diesel
17. Polar Sea	Lawson W. Brigham	22 Aug 1994	USA	Diesel

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Radio Officer  
Gordon T. Stoodley  
June 2006