

VKØEK Heard Island 2016

Part 2 - THE EXPEDITION: Two Months on the Southern Ocean

Robert W. Schmieder KK6EK, with the Heard Island Expedition Team

AudioLog 5 March 2016. Cape Town. We are in Cape Town. All of our gear has been placed into a warehouse right here on the pier in the main harbor. The Braveheart is tied up on the pier almost adjacent to us about 300 feet away.

1 March 2016. Several of us boarded flights destined for Cape Town, three years of planning and preparation behind us. We stopped over in Istanbul, but it was dark so we spent the time sitting in the airport. We had no problem with customs and immigration, but one team member was temporarily stopped in Cape Town due to a technicality.

The permit from the Australian Antarctic Division (AAD) arrived the same day I left. It included extensive requirements on prepping for the visit and to alert us to the various major restrictions on our activities. Among other requirements, we had to completely wash and disinfect all our gear and the entire vessel. We spent several days having the AirBeam shelters professionally pressure-washed. The Braveheart was washed and disinfected top to bottom.



When we finished, a committee authorized by the AAD came over to inspect it all, eventually approving us for the trip to Heard Island. As we were to learn, the permit included major restrictions on activities at Heard Island. It would have helped to have known these before we planned and shipped our gear.

Cape Town is a charming city. Critical support and logistics were provided by Paul Johnson ZS1S. Some of us were accommodated at his house, and he drove us all over the city on our various errands.



One day Paul and I drove about 50 km north to a dealer who had an All-Terrain Vehicle (ATV) for sale. The ATV was crucial for hauling our gear on Heard Island, and rather than ship one from the U.S. I planned to purchase one in South Africa. This one was perfect, and we gleefully bought it (about \$3000). Nigel thought we didn't need it—his crew was up to the task of hauling the gear from the beach—but as departure time neared, the ATV was loaded onboard.



The last few days in Cape Town were rather gentle. We repacked and relabeled our gear. We took a drive up the mountain to see the spectacular view of the harbor. We sat at an outside restaurant and watched the tourist traffic. We looked at the Agulhas, the ship that expected us to pay \$15,000/day, tied up nearby. We practiced driving the ATV around the dock. Adam assembled his various tracking devices. Two days before we left we went off to a party thrown by the ZS hams, and got ready to leave town. As we left we got the final bill from the agent who had arranged our various services in Cape Town: \$19,000.

AudioLog 10 March 2016 Cape Town, South Africa. Eight minutes after 5 PM. We have left the dock. The sun is low behind us. The crew is handling the dock lines, the team taking pictures. It's a beautiful afternoon...

In the late afternoon of 10 March 2016, the Braveheart engines roared to life and we pulled away from the dock. The city blazed in the sunlight, and we watched as it shrank into a textured mountain. Soon it was dinner time, and darkness descended. We felt alone and small, but happy, as we sailed south to encounter the west winds that would take us in the direction of Heard Island. 12 days to go...

Outbound

Matt Jolly, son of the Braveheart owner Nigel Jolly, was our skipper for the expedition. He just barely made it; his wife presented him with a new baby just days earlier. Following Nigel's instructions, we steamed southward out of Cape Town. The idea

was to get into the circumpolar (west) currents that would carry us faster toward Heard Island. Privately, I thought this idea was not quite right: I reasoned that if we took a more direct route, it would inevitably take less time than taking the legs of a triangle. But we had a lot of trust in the skipper, and I kept my opinion to myself.

We were both lucky and good. The seas were nowhere near the roaring stuff we have seen in the movies and the news. And the crew, taking rotation at the helm, always with at least one other crewman on duty, sailed safely and skillfully. The trip, while not a relaxing float in a boat, was safe, and we were on our way to Heard Island!



During the outbound voyage Adam Brown and the team deployed a series of buoys at pre-determined lines of latitude. There were two motivations for this: (1) Ships provide a platform of opportunity for contributing to the scientific programs using telemetering buoys to learn about the properties and movement of oceanic waters; and (2) The expected eastward drift of the buoys would give some information about the movement of floating and submerged objects in the vicinity of Heard Island.



The buoys came from two sources: (1) The National Oceanic and Atmospheric Administration (NOAA) supplied five drifter buoys that move with the wind and currents; their positions show the movement of the surface ocean water; and (2) Woods Hole Oceanographic Institute (WHOI) supplied five diving buoys that sink to 1000m for 9 days, then briefly to 2000m before returning to the surface to telemeter the data before repeating the cycle. Both of

these devices automatically activate ("call home") when they enter the water. Watching a web page we could see the location of each buoy shortly after it was deployed. The buoys were dropped at designated latitudes. They are still active and might be for years. The data accumulated since we dropped them is available on websites. The NOAA buoys generally drifted NE, one encountering Kerguelen. The WHOI buoys stayed more in the area south of Africa.



The team, especially Hans-Peter HB9BXE (above), kept a vigorous /MM schedule using the callsigns ZL/ZS9HI/MM and ZL/VKØLD/MM. These rather unwieldy calls needed the ZL for the Braveheart (a New Zealand flagship) and of course the /MM suffix. ZS9HI was arranged by Paul ZS1S and VKØLD is held by team member Alan VKØCQ from a previous Antarctic expedition. Over the course of the voyage we logged about 10,000 QSOs in 14 days.

Arrival

Over time immemorial, the birds have been the harbingers of land for sea-weary mariners, and we felt part of a multi-millennium history as we began to see increasing numbers of cormorants, prions, and skuas zooming around the Braveheart, flying like jet aircraft. It was a challenge to track them, trying to get a picture with a bird in it.

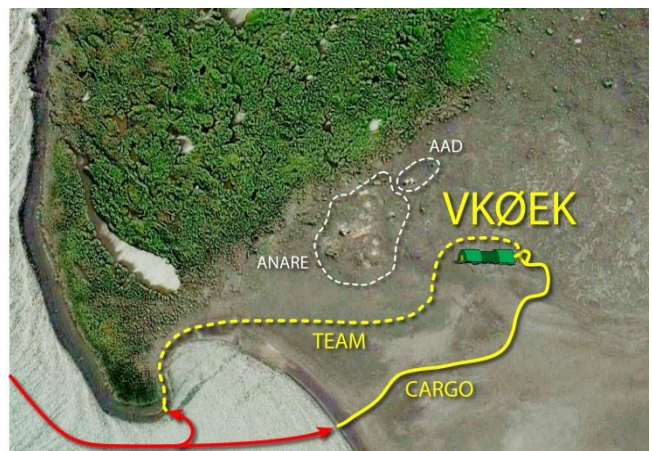
Almost imperceptibly the fog seemed to take on shapes and edges and textures. Suddenly we realized what we were seeing—we were looking at Heard Island! It seemed the reverse of walking into a stadium—it was like the stadium was moving in to envelop us, growing ever higher above us.

Soon there was shouting. We snapped to look over the bow. There, a couple of miles ahead, loomed the magnificent volcano we had seen in hundreds of pictures, in thousands of imagined images: there in front of us was the two-mile-high summit of the volcano...there was Big Ben! And it was smoking!

For my part, I was overwhelmed with the good luck of having a calm, clear day for our arrival. I almost couldn't believe it.

Most of us fell silent, and the sounds of our cameras seemed oddly intrusive. The Braveheart slid into the wide channel toward Atlas Cove, that storybook crescent of shallow water that has provided haven for hundreds of explorers over two centuries. The day was sparking clear, and I knew that we were witnessing a vision seen only by the very, very lucky. As we watched transfixed, the vessel stopped, and the skipper launched the service boat, carrying several of us to Wharf Point. By agreement Alan VK6CQ was the first to step on land, and he planted the Australian flag, as if to take possession of the island. I thought of Columbus.

I led the group past the ruins of the ANARE (the old Australian research station) station, now almost completely reduced to windblown fragments, to our 1997 campsite, but it proved unworkable for our AirBeam shelters—we would have to find another location. The next morning, Dave K3EL and the team ranged around the area and discovered a superb site: flat, soft dirt, and only a hundred feet from the flat plain called the Nullarbor. The site was about 100m from the ANARE ruins, consistent with the permit, and about the same distance to a shelter we could use for the latrine.



The site provided easy access for the ATV and a short run to the 4-square antennas on the Nullarbor. The team kicked the loose rocks aside and raked it smooth. I defined a short roadway down the gentle slope, and within an hour the ATV arrived with the first AirBeam. Deliveries continued all day, perhaps 50 of them. The time-lapse camera recorded the construction of our outpost.

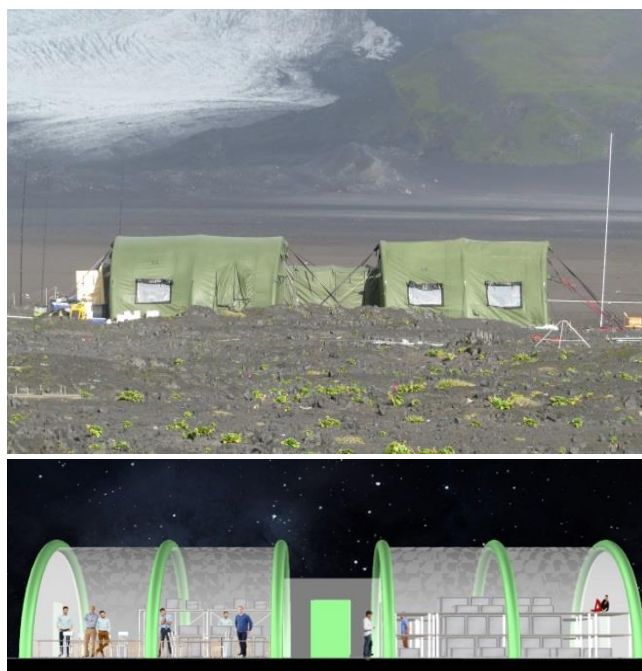
Facilities

While I walked around the ANARE ruins planting flags to indicate no-entry (a condition of our permit), the team began erecting the AirBeams. The work was led by Arliss W7XU, who had participated in the training session at the factory. Staking the tents firmly into the ground was crucial, and I wondered whether we would ever get the stakes out again (we did). The ATV cycled back and forth from the beach with load after load. There would have been no way we could have carried all that stuff by hand, or even dragged the wagons the 250m from the beach to the campsite. The crew from the Braveheart was essentially a part of our team, bringing us food, equipment, and cheers.

Surprisingly quickly, the shelters were up, floors in, and we were moving in—beds, tables, chairs, and the precious BGAN terminals. The entire time we were building the site Big Ben shone brilliantly in the sunlight two miles above us, and we regularly dropped what we were doing to take yet more photographs.



We arranged one AirBeam to be the dormitory—where we all slept—and the other to be the operations center. A hallway separated them, providing very effective sound isolation. We had two diesel-fired heaters, but we used them only for the operations tent. One of the heaters worked sometimes, the other didn't. Several team members worked hard to keep them running, but several days we shivered in the cold.



The ATV “roadway” led directly to the hinged main door. The generators were located about 50ft. away, each in its own plastic enclosure. The generator noise was very low. The operations tent was divided $\frac{1}{2}$ for radio, $\frac{1}{4}$ for communications, and $\frac{1}{4}$ for galley. With antennas all around the tent, a patch panel was convenient for connecting any antenna to any radio.

The dormitory was arranged with the bunks around the periphery, the cases and storage in the middle. It worked well, with two exceptions: First, one of the bunks collapsed the first night and had to be rebuilt. Second, a few days later it rained hard, and the poor souls whose bunk was under the window had to sleep wet. Otherwise, it was a good arrangement. Somewhat to my surprise, only a few hours after we started, some antennas were going up, first the four-squares, and then the Yagis. Vadym led a heroic effort to erect his 160m vertical, assembled on the ground and raised by leverage. It worked for 3200 QSOs.

As the first day wore into night, a mere 15 hours after our first landing, we had the BGAN terminals and two stations ready to put on the air. It was my honor to open the operation, so I made a long-winded high-flying speech on the SSB radio and then handed it to our radio team leader Dave K3EL. We expected the usual chaotic jumble of thousands of stations transmitting simultaneously. Nothing. Not a single sound in response. He repeated the call, wondering whether the radio was connected. Nothing. Absolutely nothing. Still more tries, but still nothing. Maybe there was some extra noise, but there was nothing that resembled DXers calling Heard Island.

Finally, in desperation, Dave K3EL sat down at the CW station (right). To our relief, he began to get some response, and soon he was working a big pileup. The team was pleased, but desperately tired. I remember being slightly surprised to find myself alive the next morning. All around me were men unloading food and water, installing radios and antennas, and walking around taking pictures. By the end of the second day, we had six stations wired and all the antennas up—the camp was complete.

Stepping outside, we beheld VKØEK at the foot of the magnificent mountain. The glorious sight was without parallel.



VKØEK HEARD ISLAND 2016

Soon I began the daily ritual of filing a report with the AAD, handling email, and making recordings on the AudioLog. With stations on the air, DXA was working, and we got feedback that the DXers were getting their confirmations a minute after they made their QSO. Rich KY6R, together with Peter W6OP and Mike KJ4Z, supplied us with feedback about what was being said about us. Not all of it was good. For instance, we had been so busy erecting antennas that we didn't operate the stations for some hours. The DXers thought DXA was broken (it wasn't), but they got over it when we got back to operating.

Activities

With the radio operation metabolizing the pileups, some team members were able to get out and explore the area within a few miles of the camp. Several team members ascended the nearby hill known as Mt. Drygalski. The view from there takes your breath away. In the distance (to the north) is Laurens Peninsula, the oldest (30 million years) part of Heard Island. Atlas Cove shows its graceful crescent, with our camp just barely visible as a speck on its eastern headland. Nearby was a colony of thousands of King Penguins.



Jim installed a weather station near our campsite and Fred and Gavin placed a set of sensors at various locations around Atlas Cove to record temperature and illumination at 10-minute intervals. They also started systematically photographing the terrain, especially including the rocky outcroppings, penguin colonies, and the high cliffs. Bill deployed the GigaPan camera and took a set of ultra-high-resolution images. Gavin made the first recorded flight of a drone on Heard Island. Jim N6TQ captured observations of cloud formations for a class and later held a Skype conference to talk about them.



AudioLog. 3 April 2016. Atlas Cove, Heard Island. It's about 1:12 in the afternoon. Boy have we had a rainstorm! It rained continuously for hours this morning. The entire Nullarbor flooded. It's very cold outside, so we're staying inside. Right now we are sitting at 51,189 QSOs. Unfortunately we are experiencing a major solar storm, perhaps a flare, so there is almost no propagation. We cannot hear any stations and apparently no stations can hear us.

We used an abandoned shelter to house our latrine, in spite of it having no door. Each day someone (who?) replaced the plastic bag, taking the full bag back to the Braveheart. The AAD shelter doors were rusted closed, so Alan repaired them. Some chocolate that had been there since 2003 was quite edible.

Fred made collections of rock, sediment, and water samples, taking care to document them with photographs and GPS coordinates. Several people came upon a local collection of dolphin skulls, and speculated on whether it had been a poorly led pod or whether this was where dolphins go to die.



(Upper) KK6EK (Expedition Leader), NG2H, NP4IW, W7UX, K2ARB, AEØEE, K3EL (Radio Team Leader)
(Lower) VK2BAX, KM4MDX, HB9BXE, N6TQ, UT6UD, WJ2O, VK6CQ [All photographs were taken on Heard Island]

Gavin Marshall Journal. 4 April 2016. We arrived at the southern end of the island early on the 3rd. Once again bad weather delayed our plans and we waited out a strong southerly wind gusting above 60 knots for the next 24 hours.

Scientific Excursion

There were both radio and scientific reasons for mounting an excursion to Stephenson Lagoon, on the opposite side of the island, and these are described elsewhere in this issue. On April 3rd a violent weather front was approaching Heard Island, and it was necessary for the Braveheart to up-anchor and move to the other side of the island. Coincidentally this afforded an opportunity to carry out our long-standing plan for the excursion. Fred, Gavin, and I came onboard, and around midnight slipped out of Atlas Cove. We moved down the southwestern edge of the island, a distance of some 25 miles, and as dawn broke the next morning we were at anchor about a mile outside Stephenson Lagoon. The sea was too high for any boat operation, so we spent the day hanging on, accommodating to the expectation that we would have no chance for either radio or science.

The next morning the crew decided to make a try for it. Hanging tightly onto the service boat, we

plunged through 5-ft. breakers, catapulting into the lagoon. Stephenson Lagoon is large—2 miles across—but it's a mere 20 years old, the result of a major glacier melting away, the result of global warming. Looking at the surf, and considering the limitations of our permit, it was immediately obvious that there was no chance for any radio operation there. We got right to work exploring and documenting the lagoon and its surroundings. All around us was evidence of the degeneration of glaciers. Among the most spectacular sights were huge ice slumps, exposed as the termini of glaciers collapsed, leaving what we termed “blue gashes”. We only had a few hours for our exploration, but we returned with many hundreds of photographs, and a fine collection of rocks, sediments, and water.

I believe that the experience of seeing Heard Island in all its glory will not fail to overwhelm you, and if you're like me, give you a lifelong appreciation for the sensitivity of the Earth to the change in climate.



Shutdown



Back at Atlas Cove, we had another relatively clear day, and took the opportunity to take our team photographs. Good thing we hurried—it began to hail almost immediately afterward.

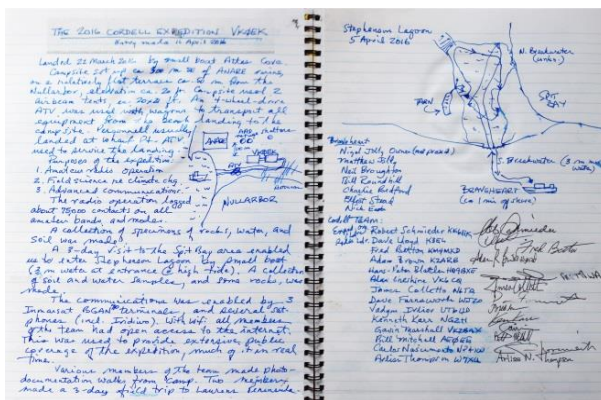
Without much warning, the skipper announced that this would be our last day—everything must be packed and on the vessel today. There was no time, nor desire, for discussion—it was moving day! We worked furiously.

I abandoned the team for a while to make an entry in the AAD visitor log (kept in one of the refuge shelters), which dates back to 1953. I also made an entry for our VKØIR 1997 DXpedition, and we left our stash of emergency rations for potential future needy visitors.

Some men packed the equipment while others dismantled the antennas. The ATV was kept constantly in motion, shuttling the two wagons between the campsite and the beach. Everything was driven to the beach for transfer to the Braveheart. Finally, the AirBeams came down, a simple matter of pulling the stakes and deflating them. They were folded and rolled into their bags. Each weighed 450 lbs. These, and the ATV, were simply lifted into the launch and carried to the Braveheart.



As is my habit, I walked the site, ensuring that there was not one item or scrap from our visit—it was totally clean. Finally, the team kicked the loose rocks back into the area we had cleared. From start to finish, everything was removed in 9 hours flat.



AudioLog 11 April 2016. Atlas Cove. As we were packing we got a break in the weather, although we had a little hailstorm. Otherwise it was clear and cold. The sky is covered with puffy clouds so we cannot see big Ben. We do have a spectacular view of the Laurens Peninsula.

Inbound

It took several hours in the evening for the Braveheart crew to secure the vessel and cargo. We stayed out of their way. About midnight we heard the anchor being weighed and sensed the change in the swells. We felt a mixture of relief and sadness that we

were leaving Heard Island, in all likelihood never to see this place again. Of course, that's what I said in 1997, and to my delight, here I was again. Among the many things to think about at this time, was the adage that we shouldn't rule out even the very unlikely.



The VKØEK team. (LtoR): Alan VKIØCQ, Dave K3EL, Arliss W7XU, Dave WJ2O, Carlos NP4IW, Bill AEØEE, Adam K2ARB, Hans-Peter HB9BXE, Ken NG2H, Jim N6TQ, Vadym UT6UD, Gavin VK2BAX, Fred KM4MXD, and Bob KK6EK [Photo onboard the Braveheart]

Soon the familiar rhythm of sleeping (or trying to!), eating, watching the ocean, working /MM, and sleeping again, was our life. The Southern Ocean was kind to us—none of that 30-ft. sea that I had seen in 1997. We watched the birds, now and then sighting another vessel or a buoy.

When you're on a voyage, you often have the feeling that you'll *never* get to your destination, and we felt that way on this one. But of course nothing lasts forever, and early in the morning of April 22 we tied up at the dock in Fremantle.



Nigel met us and disappeared with the customs and immigration officials. Finally they convoked a meeting in the salon, took our passports, and told us what would happen next. Soon we were piling our personal bags and suitcases on the stern deck, preparing for them to be loaded onto the dock. A large open truck backed down near the boat and waited.

An official from the AAD came to look at our specimen collection, and approved it, and I closed the lids on the plastic buckets and labelled them: rocks for the University of Tasmania, sediment and water samples for Cordell Expeditions in California. The

ATV was off-loaded and driven away. I snapped a picture of Nigel and the crew moments before we left for good. Well, it was almost for good. That night we had a noisy party at the hotel and the next night a BBQ with the Northern Corridor DX Group.

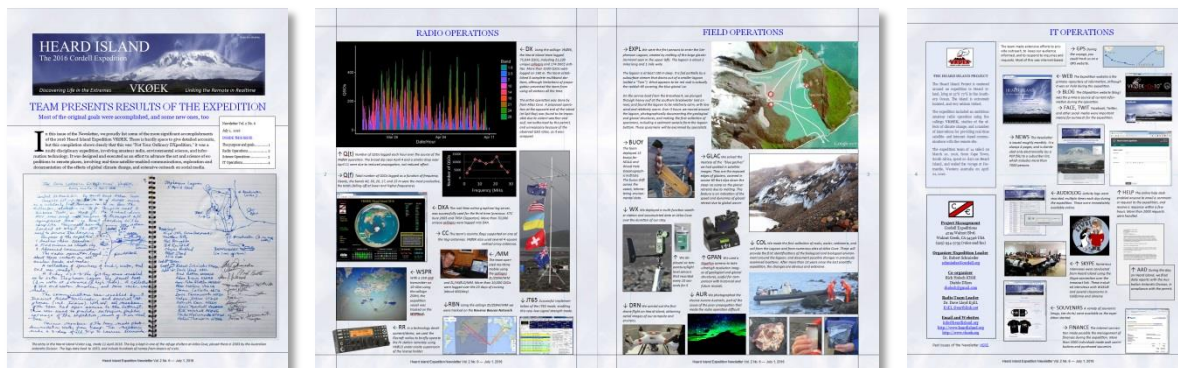


The next morning about half of us were on airplanes heading home. I spent two splendid days with Grahame Budd and his wife Josephine in Sydney, and we toasted the expedition with a whiskey he had taken to Heard Island 50 years previously.

After a trip of two months, going completely around the world, I returned home to California. At the airport my wife Kay held up a "Welcome Home, Bob!" sign. I had done this numerous times before, but this time there was a nostalgic feeling, knowing that maybe this time, I would never do this again.

The AirBeams were repossessed by HDT in Australia, saving us the trouble and expense of shipping them back to Virginia. The rest of our cargo sat in a warehouse in Fremantle for two months while we struggled to complete the paperwork for the shipping. Eventually the ATV and the cargo, and our precious specimens, arrived safely in Oakland.

Of course, the work isn't completed until the *paperwork* is done. Yep. I put out another Newsletter, and wrote reports to our major sponsoring organizations and QST. Next came the Final Report to the AAD: 264 pages, 710 pictures. And as soon as that was done, I started on the DX magazine articles you see here.



We hope that you felt the VKØEK DXpedition was worthy of your support. If you were indeed a sponsor, you can proudly quote our outreach motto: “I helped make it happen!”

The onsite team was deeply grateful for the invaluable participation of the vessel crew: Matt Jolly, Bill Roundhill, Elliot Stead, Neil Broughton, Charlie Bedford, Nick East, and the vessel owner Nigel Jolly. The onsite team gratefully acknowledges the incomparable contributions of Rich Holoch KY6R and the Diablo DXers in California, Manny Rodriguez K4MSR and the group in Fluvanna County, Virginia, Peter Meihuizen and colleagues in Cape Town, and Mui Kim Hoon in Perth. The list of sponsors includes more than 10,000 organizations and individuals.