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Teacher describes South Pole work

By Amanda Memrick

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The frozen tundra became the backdrop for Gaston Day School teacher Liz Ratliff when she spent three weeks in the South Pole as part of a research expedition.

The Gazette reached Ratliff after her return to find out what it was like working in the frigid temperatures trying to find out more about subatomic particles.

She helped out with the Askaryan Radio Array project, which looks for tiny particles called neutrinos using radio waves.

“One of the biggest challenges has been the pressure of knowing that we don't have a lot of time to drill the holes and deploy the radio antennas,” Ratliff wrote via email. “We've got until the end of the season (mid-January) to have two stations (12 holes and strings) finished so that the detectors can actually start collecting useful data.”

What was the biggest surprise about working in the South Pole?

I was really surprised by how much I loved it. I worked outside for 12-14 hours a day and it was amazing. The cold days were a little hard but we only had a couple of those (really, it's only cold when the wind is blowing a lot). Most days, the weather was really nice and pretty decent, temperature-wise. I think the average was about -12 F with a wind speed of about 8 knots. I really loved being outside and I really loved working with the drillers.

Can you describe your daily routine?

At least six days a week, we went to work. (The ARA drillers are a busy crew). So, on work days, it went like this:

6:45-7:15 a.m.: Eat breakfast in the galley, talk with the ARA guys about the general plans for the day.

7:15-7:30 a.m.: Get dressed in cold weather gear, check email if the Internet is up.

7:30-8 a.m.: Ride on the snow machines to work.

8 a.m. – 7 p.m. or so: Work. We started the day with a meeting about the specific plans. Then, we could do our arrivals checklist and get the drill site ready for the day. (We'd check fuel tanks, turns on heaters, etc.) After that, we'd drill a hole in the ice. This took about eight hours, if everything went well.

We usually started drilling around 10 a.m. After drilling the hole, we'd bring the drill back up to the surface (took about 30 minutes), and pack it up for the night which included wrapping it in a heating blanket. After that, we'd pack up things that were around the drill train and then move the whole thing over to the next hole. The actual move probably only takes about 10 minutes. Then, we'd clean up the MECC (which was a heated building that we transported to the drill site with us. It was like a break room and workshop in one building.)

Somewhere during the end, we'd also refuel anything that needing refueled. Then, finally, we'd go back to the station. Often we would miss dinner so we'd have to radio in for someone to make us plates and put them in the fridge. So, when we got back to the station for dinner, we'd get our food, eat and hang out, and then have some time to relax.

dresser. There aren't any lights though so we can only use those in the summer, when it's light outside all the time.

The other place you can live is in the station, in one of the berthings. Those rooms are about the same size but they've each got a phone and an Ethernet port so you can have a computer in your room. They're a lot nicer because there's running water in the station (For the hypertats, you have to go to an outhouse or make the 5 minute trek back to station - both of which involved getting dressed in cold weather gear). Everyone would prefer a room in the station. When I got there, I lived in the hypertats for about a week and then I got moved to a room in the station, when there was enough space.

What would you like people to know about the work you're doing?

Anything that's done at the South Pole is challenging. It may sound easy, but the cold weather and the high altitude add an extra element to anything that you want to do. But, on the other side of this, the work is also really rewarding. The people here do amazing things and I'm really lucky that I got to be part of that.