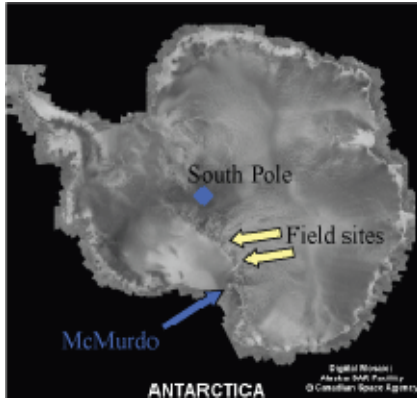


October 23, 2005

Greetings from the Great White South!

I am writing to you from McMurdo Station in Antarctica where we are currently having whiteout conditions and I have a sizeable snowdrift developing *inside* my window! This letter will tell you a little bit about our research project, what we've done so far and a little bit about what we hope to do.



I am working with geologists from 2 other universities to address a few main research questions, which are: (1) what did the Antarctic Ice Sheet look like during the last ice age (~15,000 yrs ago) and (2) what kinds of rock are under all that ice in East Antarctica? Addressing the first question is really important for making models of Antarctica's response to climate change. Understanding the history is essential for making better predictions of changes we can expect from Antarctica as earth's temperature rises. The 2nd topic helps us figure out Earth's early history (by early I mean a few billion years ago). We are lucky that one set of samples will help us address both of these

questions. Our plan is to collect glacial sediments that have built up along the edges of glaciers that flow from the interior of East Antarctica toward the coast. These sediments contain material that was picked up by the bottom of the ice sheet (where we *cannot* easily get to the rocks to see what is there) and transported to a place where we can see them. The combination of rocks and minerals in the glacial sediment is unique at each location and serves as its fingerprint so we can trace where the ice flowed in the past. If you have more questions about this, please feel free to ask!

We have a total of 6 people in our field party here in Antarctica: 2 graduate students, 3 geology professors and 1 mountaineer. We flew from the U.S. to Christchurch, New Zealand and from there to McMurdo Station in Antarctica. In Christchurch, we went to the Clothing

Distribution Center and got about 40 pounds of Extreme Cold Weather (ECW) gear to keep us warm and safe. We also had a day to explore Christchurch, which had loads of spring flowers in bloom at the Botanical Gardens. It was nice to soak up lots of green before we headed south! From Christchurch we boarded an enormous C-17 airplane for our 5-hour flight to Antarctica. Upon landing on the ice, we were treated to a



view of Mt. Erebus, which is an active volcano (don't worry, we aren't in danger!). You might be able to see the steam billowing out of the top of it in the picture below.



McMurdo Station is like most small towns, with places to eat and drink, a library, fire station, hospital, and barber shop. Currently there are about 1000 people here. All waste (trash and recyclables) is taken back to the U.S. each year, so we all had to go to a class to learn how to properly sort our trash. The other required class for people going out to do field work is called Happy Camper School, which lasts two days and

includes an overnight camping trip. We spent the first morning in class and then went outside to set up our camp. We set up yellow Scott tents, which served as our cook tent, and then built a

quinzee, which is kind of like an igloo. To make the quinzee, we stacked all of our gear bags into a huge pile and then buried them with a couple feet of snow. Finally, we dug a tunnel and pulled out the bags so we could climb inside. Four people slept inside this luxury accommodation. We also learned to cut the snow into big bricks to build a wall to protect the tents from the wind – that was a lot of work.

Luckily, we had decent weather most of the time we were out (though for an hour or two the wind blew like gangbusters) and the overnight temperature was quite balmy at 10 degrees above zero (F).

The next day we learned to work the emergency radios and then they made us walk around with white buckets on our heads! The goal was to practice trying to find a lost person in whiteout conditions when the snow blows so hard that you can hardly see your own feet.



Our other big job so far has been to collect and organize all of our field gear. We went out to test it on Sunday (23rd). We took a Pisten Bully, which is a crazy-looking vehicle with tracks, and headed out for a place to practice our field procedures. Since it was very slow going over the rough sea ice, we had to turn back toward McMurdo before the weather got too bad.

A few hours after we got back to McMurdo, it turned into whiteout conditions, so we made the right choice to turn around. Although it didn't work exactly as planned, we were able to test the gear and found that some needed to be replaced.

For the next few days we will be waiting until the small planes (called Twin Otters) are ready to take us to our sites to collect samples. We will send another update and more photos then. For now you can check out lots more photos and movies of our trip at: <http://homepage.mac.com/emersonpalmer> Look for the links titled Christchurch or McMurdo toward the end of the list at the top of the page.

