Tuesday, March 26

In the early morning, long before dawn, the promised cold front arrived. The wind began to howl outside and the wind generator up on the hill shrieked as it spun creating energy for the field station. This morning I got up just before 6 AM. The room was still dark and everyone was sleeping soundly. Outside the wind was still howling….gusting up to 44 mph. After a warm shower and a hearty breakfast of pancakes and eggs, I joined a large contingent heading up to the Cima lava flow.

Once again I drove out Kelbaker Rd. and the caravan of cars and vans turned off and drove up a dirt track to the edge of "recent" lava flow. As we piled out of the cars, everyone bundled up in jackets as the temperature had dropped from yesterday's 80 degrees to a chilly 50 degrees. It seemed even colder because of the gusty wind blowing across the slopes there. Steve Wells, a desert scientist from the Desert Institute, spoke to the group about the geology of the lava flows in this area.

I joined Elaine's soil sampling team and off we trekked to an undisturbed area nearby. The 10 of us marked out a 10 meter quadrant and we placed 5 stakes in a predetermined pattern within the quadrant. It was fun learning how to take a sterile soil sample. Here I am in the photo with Naomi, a teacher from Massachusetts, placing 3 scoops of topsoil into a sterile bag.

Later in the morning I went to help Jim Nienow as he continued his study of the microbial soil crust. This photo shows these crusts as small, black, low mounds of material. It's amazing to think just how complex this tiny ecosystem is. The black color is used to protect these organisms from the onslaught of UV light. When these microorganisms are separated out in the lab one might find a mixture of cyanobacteria, mosses, and fungi and even some lichen. It's incredible and I now have a better understanding of just how delicate these soils are.

At this location we found some larger pieces of quartz. I found that there was a distinct line of cyanobacteria around the rim of the larger rock and hypothesized that this marked the depth of light penetration though these thicker quartz rocks. Some of the rocks had a distinctive red color beneath that resulted from oxidation.

With the cold wind still whipping around several of us decided to climb the leading edge of this lava flow. Steve Wells had shared with us that this is one of the most recent lava flows in the area, dated from between 9,000 and 20,000 years ago. It was quite evident from the sharp, unstable, raw-looking lava that not much weathering had tamed this lava.

Kathy, a middle school teacher from Oregon, tumbled backward while climbing the steep slope, and fortunately suffered only a few minor scrapes.

Rick Hall, the San Bernardino County Science Coordinator, made a surprise visit to Zzyzx. Given some very specific directions – "drive down Kelbaker Rd until you see a pile of 3 rocks and turn left" -- he drove out and found us in the field. It was great to be able to thank Rick in person for giving me this opportunity to be part of Spaceward Bound.

We returned to the field station, ate our sack lunches, and then I met up with Maite and Jane, the leaders of the Rover Team.

I am so excited to finally be able to work with the Rover. It was built by Carnegie Mellon and is on loan to Spaceward Bound. Jane showed us everything we need to know to set up the Rover. We connected all of the wires and changed the batteries and then logged onto the computers and set them up to communicate with each other.

Finally we had the camera working, but struggled with maintaining the connection with the wireless network. Eventually we called it a day having not really succeeded in running the Rover outdoors. I will certainly get on this team again, hopefully tomorrow, so I can really understand how this special tool works. I see such tremendous potential in using this as a platform for students to really understand and get excited about science exploration first hand.

As exploration teams returned to the station during the afternoon they shared tales of wind, rain, and even snow. An inch of snow was reported in the town of Cima and snow blanketed Mountain Pass.

Dinner was served inside tonight because of the cold weather and this was followed by an All Hands summary of the research and explorations to date. It was incredible to participate and share in the spontaneous collaboration that was occurring between the scientists.

Tonight no one was found sitting out on the balconies talking with one another. Tonight everyone stayed in the dining hall sipping coffee and visiting and laughing. What a day!

Good night.

Meg Deppe
Apple Valley