

Life in the Atacama Field Journal

September 7-12, 2005

Salar Grande, Chile

Agenda

- Complete first science ops
- Host visitors from the public in camp
- Pack up camp and move to Site E

Status and Progress

All in all, science ops at Site D, near Salar Grande, kept the field team on its toes. Thanks to hard work and good ideas, we were able to overcome a few interesting problems with the rover. In return Zoë collected quality data throughout the valley dubbed “Puerta de Agua” by the remote science team. The rover collected many high-resolution panoramas that revealed details about micro-habitats, geology and even fog. The rover also performed numerous “transects” throughout the valley. During these transects, Zoë periodically deployed its fluorescence imager. Zoë’s onboard “science on the fly” software analyzed images from the fluorescence imager during these transects. If the rover deemed the images interesting, it would autonomously request more detailed follow-up images. Early indications tell us that on multiple occasions Zoë identified life autonomously by its chlorophyll signature.



The problems seen on Sol 3 with Zoë’s navigation cameras disappeared on Sol 4. We arrived before sunrise at Site D to carry out “early morning operations” and collected several panoramas around sunrise. After this, we spent an hour or two checking all camera connections and verifying electrical signals with an oscilloscope. All systems checked out, and the navcams continued to function for the remainder of the week.

Sols 4 and 5 were marked with logistical problems (three flat tires on the same truck) and rover hardware problems (computers rebooting spontaneously). However, the rover was still able to collect most of the data requested by the scientists during these days.

During sols 6 and 7, Zoë carried out science commands admirably. The rover suffered from very few problems and accomplished nearly all goals autonomously. Over these two sols, Zoë traveled nearly five kilometers, visited twelve science locales, collected over forty science data products and carried out at least four transects. The field team spent the majority of these days enjoying some peace and quiet as the rover went about its business. Sol 7 was particularly interesting because for the first time, the Site D valley was completely fogged in. Fortunately, Zoë's batteries maintained just enough charge to finish operations.



On the cold, foggy afternoon of sol 7, Zoë was returned to camp. The next day, four tour buses arrived in camp, bringing at least 120 visitors who traveled from Iquique and other nearby towns to see the robot. Many of the visitors were children, and many wonderful questions were asked about Zoë, robotics and space exploration. Overall, I believe that the day was a huge success.



By noon on Monday, September 12, the camp had been torn down in preparation for the move south to Site E, near the city called Antofagasta. Everything from our tents to the satellite dishes were taken down. Many crates, along with Zoë itself, were packed into a tractor trailer and sent on their way to Antofagasta. By Monday night, the field team was enjoying a night out of the weather, in warm, soft beds...

Weather

Mornings: Generally foggy and cool at camp. Rumors of increasing temperature were greatly exaggerated. The early morning weather at "Site D" varied significantly. Most days, there was no fog but on September 10 the fog was very thick and did not fully dissipate all day.

Afternoons: We've been spending afternoons at Site D, where the temperature continued to increase. The HOBO data logger reported temperatures of nearly 100 F. Wind varies from still to very windy. Very sunny, except for September 10, when the fog kept things cold all day.

Evenings: Usually cold, with the phase of the moon increasing so that even under a light cloud cover you could see your own shadow.

Quote of the Day

“We have nothing to loose but loss itself...”