

Skip Pendleton and Joe Monaco

Today I explored the use of robots to investigate the surface of Mars. Robots can be used for long periods of time while humans are much more limited. Scientists sitting on Earth can use radio signals to maneuver the robots. A small camera provided the “eyes” on the robot that I used. This will also be used by scientists so that they can decide which rocks, craters, and hills to explore. A robot can also be outfitted with sensors, such as a thermometer, barometer, and ultra-violet detector.

Another portion of my day was spent learning how infrared cameras may someday be used to locate caves on Mars. An orbiting satellite would scan the Martian surface in infrared and look for temperature contrasts. We used infrared to distinguish cooler cave air from the warmer surrounding surface rocks. Scientists are interested in caves because they may be where life may exist on Mars. Caves would protect organisms from the harmful effects of ultraviolet energy.

I spent the day helping Kirstin and Rosalba locate suitable sites for future missions. Our first stop was at Silver Lake. This is a dry lake bed that appears to be totally devoid of life. It is desiccated and cracked. It also has strange depressions of five to 40 centimeters deep that are spaced about 10 to 20 meters apart. Could there be dry lakes like this on Mars?

We left Silver Lake and took a long drive to the Western Talc Site to check it out as a suitable analog for a drilling site. Our primary objective was to see the 1.6 million year old stromatolites that are found on either side of the talc pit. We examined several excellent examples of these fossils. A great majority of them were even in their proper

orientation and showed signs of, growth, death, and regrowth. After a few hours of study we walked back to the van and began the long drive to Amboy Crater.

A quick stop was made at the Little Dunes where we examined the Aeolian influences on sand in arid lands. We piled back into the van and cruised to Amboy Crater. Even though we arrived late in the day we made the mile and a half hike to the crater rim. We saw excellent examples of lava flows and cinder cones. There are two vents within the mountain itself. There is a range of tephra that ranges from cinders to bombs. We walked along the rim taking excellent pictures of the distant dry lake and the extensive lava flows.



