Phoenix Gets Bonus Soil Sample

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This image shows four of the eight cells in the Thermal and Evolved-Gas Analyzer on NASA's Phoenix Mars Lander. Image: NASA

(PhysOrg.com) -- The Mars Phoenix Lander's robotic arm successfully delivered soil into oven six of the lander's thermal and evolved-gas analyzer (TEGA) on Monday, Oct. 13, or Martian day (sol) 137 of the mission.

The delivery to oven six is a "bonus round" for Phoenix, as the mission goal requirement of filling and analyzing soil in at least three of the ovens has already been satisfied. Six of eight ovens have been used to date.

TEGA's tiny ovens heat the soil to as high as 1,800 degrees Fahrenheit (1,000 degrees Celsius). The lab's "nose," or mass spectrometer, then "smells" and analyzes the gases derived from heating the soil. Mission scientists will continue to research and analyze the soil samples in the

coming months, long after Phoenix stops operating on the surface.

Now in Martian late-summer, Phoenix is gradually getting less power as the sun drops below the horizon.

"My entire team is working very hard to make use of the power we have before it disappears," said William Boynton of the University of Arizona, Tucson, the lead scientist for TEGA. "Every time we fill an oven, we potentially learn more about Mars' geochemistry."

NASA's Phoenix mission is led by Peter Smith of the University of Arizona, with project management at NASA's Jet Propulsion Laboratory, Pasadena, Calif., and development partnership at Lockheed Martin, Denver. International contributions come from the Canadian Space Agency; the University of Neuchatel; the universities of Copenhagen and Aarhus, Denmark; the Max Planck Institute, Germany; and the Finnish Meteorological Institute.

Provided by NASA

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