Phoenix Mars Lander

PML home page link: http://www.asc-csa.gc.ca/eng/astronomy/mars/phoenix/default.asp

Introduction Tab Text Below:

The Phoenix Mars Lander was the first mission to explore the Arctic region of Mars at ground level. Phoenix was launched from the Kennedy Space Centre aboard a Delta II rocket at 5:26 a.m. EDT on August 4, 2007. It landed near Mars's northern polar cap on May 25, 2008 in an area known as Vastitas Borealis, where it continued to operate successfully for more than five months (far beyond its planned 90-day lifespan).

The Phoenix Mission marked the first time that Canada, as a nation, landed on the surface of Mars. Canada's meteorological station recorded the daily weather at the landing site. It measured Mars' temperature and pressure, and probed clouds, fog and dust in Mars' lower atmosphere. Most significantly, the weather station confirmed that it snows on Mars by detecting snowflakes falling from clouds about 4 kilometres above the spacecraft's landing.

Picture insert to the right of above text:

images/ logo_phoenix_t.jpg

Mission Summary Tab text below:

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Phoenix used its 2.35-metre robotic arm to dig samples of the Martian soil for analysis in its on-board laboratory. Among early results, it verified the presence of water-ice in the Martian subsurface, which NASA's Mars Odyssey orbiter first detected remotely in 2002. Phoenix's cameras also returned more than 25,000 pictures from sweeping vistas to near the atomic level using the first atomic force microscope ever used outside Earth.

Phoenix's preliminary science accomplishments advance the goal of studying whether the Martian arctic environment has ever been favorable for microbes. Additional findings include documenting a mildly alkaline soil environment unlike any found by earlier Mars missions; finding small concentrations of salts that could be nutrients for life; discovering perchlorate salt, which has implications for ice and soil properties; and finding calcium carbonate, a marker of effects of liquid water.

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images/ phoenix_environ_02_t.jpg

Mission Profile Tab text below:

- Launched: August 4, 2007 at 5:26 a.m. EDT on a Delta II rocket from the Cape Canaveral Air Force Station, Florida.
- Landed on Mars: Radio signals received at 4:53:44 p.m. Pacific Time (7:53:44 p.m. Eastern Time) confirmed the Phoenix Mars Lander had survived its difficult final descent and touchdown 15 minutes earlier. The signals took that long to travel from Mars to Earth at the speed of light.
- Landing site: Near Mars's northern polar cap in an area known as Vastitas Borealis
- Distance between Earth and Mars on May 25, 2008: 276 million kilometres
- One-way radio transit time Mars to Earth on May 25, 2008: 15.3 minutes
- Distance travelled, Earth to Mars: About 680 million kilometres
- Primary mission: Planned for 90 Martian days, or "sols" (equivalent to 92 Earth days), in actuality lasted five months
- Near-surface atmospheric temperatures at landing site during the primary mission: -73°C to -33°C

Video 1:

<iframe width="680" height="450" src=" http://www.youtube.com/embed/6gftxoeH4QA" frameborder="0" allowfullscreen aling="middle"></iframe>

Video2:

<iframe width="680" height="450" src=" http://www.youtube.com/embed/bASPOIBWgQE" frameborder="0" allowfullscreen align="middle"></iframe>

Information Sources Tab links:

NASA: http://www.nasa.gov/

CSA: http://www.asc-csa.gc.ca/eng/default.asp

Wikipedia: http://en.wikipedia.org/wiki/Phoenix_(spacecraft)