

Lockheed Martin And NASA De-Orbit Twin GRAIL Spacecraft Into The Moon

DENVER, Dec. 17, 2012 /PRNewswire/ -- NASA's Gravity Recovery And Interior Laboratory (GRAIL) mission came to an end today as planned when the Lockheed Martin (NYSE: LMT) and the Jet Propulsion Laboratory (JPL) flight operations team commanded the two spacecraft to de-orbit and impact the surface of the moon. Lockheed Martin built the twin robotic spacecraft and conducted flight operations for NASA's JPL since their launch on Sept. 10, 2011.

The first of the orbiters, Ebb, impacted a predetermined mountain near the lunar north pole at 8:28 p.m. MT, with its twin, Flow, hitting nearby 30 seconds later. Both were traveling at 3,760 mph (1.7 kilometers per second).

Following a successful primary and secondary science mission of mapping the gravity of the moon, the washing machine-sized spacecraft were nearly out of fuel. JPL and Lockheed Martin worked together to send both spacecraft to the surface in a controlled manner at a known location.

"During this extended science campaign, the orbits were reduced to astonishing low altitudes. In some instances, the spacecraft flew less than 1.25 miles (2 kilometers) above the lunar topography," said Stu Spath, GRAIL program manager at Lockheed Martin Space Systems Company. "These low trajectories have provided increased science visibility into the moon's impact craters and other crustal features. Today marks a bittersweet end to a great mission."

The GRAIL primary mission yielded the highest-resolution gravity field map of any celestial body. Future gravity field models developed from data collected during the extended mission will be of even higher resolution. The map will provide a better understanding of how the moon, Earth and other terrestrial planets in the solar system formed and evolved.

NASA's Jet Propulsion Laboratory, Pasadena, Calif., manages the GRAIL mission. The Massachusetts Institute of Technology, Cambridge, is home to the mission's principal investigator, Dr. Maria Zuber. The GRAIL mission is part of the Discovery Program managed at NASA's Marshall Space Flight Center in Huntsville, Ala.

Headquartered in Bethesda, Md., Lockheed Martin is a global security and aerospace company that employs about 120,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation's net sales for 2011 were \$46.5 billion.

More information on the GRAIL mission can be found at:

- NASA GRAIL site: http://www.nasa.gov/mission_pages/grail/main/index.html
- Lockheed Martin GRAIL site: <http://www.lockheedmartin.com/grail>

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