Ball Aerospace's Deep Impact Flyby Spacecraft Images Comet Hartley 2 for NASA's EPOXI Mission

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BOULDER, Colo., Nov. 4, 2010 /PRNewswire/ -- The Ball Aerospace-built Deep Impact Flyby spacecraft successfully completed another "first" for NASA on November 4 when its onboard cameras captured spectacular images of comet Hartley 2 as part of the EPOXI mission. This was the first time in history that two comets – Hartley 2 and Tempel 1 - have been imaged by the same spacecraft, same instruments, and with the same spatial resolution.

(Photo: http://photos.prnewswire.com/prnh/20101104/LA95250)

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The rendezvous with Hartley 2 is the third mission for the Deep Impact spacecraft. The first was in 2005 when the Impactor aboard the Deep Impact spacecraft collided with comet Tempel 1 and excavated debris from the comet's nucleus. Images captured by cameras aboard both the Impactor and the Flyby have been used by the scientific community to study the composition of Tempel 1. The second was the Extrasolar Planet Observation and Characterization (EPOCh) mission that ended in August 2008, providing observations of the Earth in both visible and infrared wavelengths.

"Deep Impact is proving to be a spacecraft that keeps on giving," saidDavid L. Taylor, president and CEO of Ball Aerospace & Technologies Corp. "When it launched in January of 2005, the Deep Impact mission was the priority, so it's extremely rewarding to see a three-peat performance six years later that provides more beneficial science data."

Science observations of comet Hartley 2 began on Sept. 5, with the mission's encounter phase commencing the evening of Nov. 3, when the spacecraft was about eighteen hours from the time of closest approach to the comet's nucleus. The spacecraft flew past the comet at approximately 8 a.m. (MDT) on November 4 when the spacecraft was re-oriented to maintain imaging of the comet nucleus while pointing its high-gain antenna at Earth in order to begin downlinking nearly 5,800 images.

Hartley 2 is the fifth time that a comet has been imaged close-up. In the months leading up to its closest encounter with Comet Hartley 2, the spacecraft responded to multiple commands to align itself for optimum viewing. Approximately the size of a subcompact car, the spacecraft had already used about half of its 85 kg of hydrazine fuel to complete the encounter with Tempel 1. Following the Hartley 2 imaging, it will still have enough useable fuel, 4kg, to support science observations from its current orbit, should NASA task it with a new assignment.

Ball Aerospace was the 2005 Deep Impactmission prime contractor, responsible for the two-part spacecraft: the Impactor spacecraft and Flyby spacecraft; and three high resolution cameras; algorithm development; environmental testing; and launch and mission support. Since its launch, the Deep Impact spacecraft and mission team have logged 3.2 billion miles. Because the vast majority of mission costs are the initial design, testing and launch, the recycled Deep Impact provided savings on the order of 90 percent that of a hypothetical mission with similar goals, starting from the ground up.

Ball Aerospace was teamed with NASA's Jet Propulsion Laboratory and theUniversity of Maryland on the Deep Impact and its subsequent missions. For more information about EPOXI visit epoxi.umd.edu/.

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