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Press Release

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OPPORTUNITY ARRIVES AT THE LONG-SOUGHT ENDEAVOUR CRATER

BOULDER, CO: After an epic odyssey of 1047 Martian days and over 21.5 kilometers of driving, the Mars rover Opportunity has arrived at the rim of the ancient Endeavour Crater. On Sol 2681 (1 Mars sol or day, is equal to just over 1 Earth day), the surviving Mars rover Opportunity drove 62 meters across the contact that separates the Meridiani plains, that Opportunity has been on since the start of its mission, from the terrain associated with the western rim of the giant Endeavour Crater, which is about 14 miles (22 kilometers) wide. Today begins the next exciting chapter in the surface exploration of Mars.

Three years ago, local Senior Research Scientist William Farrand (Space Science Institute) and other Mars Exploration Rover team scientists were contemplating Opportunity's next objective, to drive more than 20 kilometers, with a rover which had already more than surpassed its design expectations since landing on Mars back in early 2004. The rover itself moves at an average of 60 cm an hour, which left rover team members waiting with baited breath for the successful arrival of Opportunity at Endeavour Crater after the multi-year push across the forbidding plains of Meridiani on Mars.

While planning this ultimate goal, success was not inevitable. The Mars rovers, Spirit and Opportunity, originally designed for a 90-sol mission had already far exceeded the original expectations of designers and science team members alike. After concluding its exploration of the smaller Victoria Crater, Opportunity set out on what seemed a nearly impossible trek to Endeavour Crater. The path was made even longer with the need to avoid huge swaths of hazardous terrain to ensure the survival of the aging rover. Opportunity's final target point, a vista on the southern point of a ridge called Cape York has since been named “Spirit Point” in honor of the second rover Spirit, which ceased final operation in early 2011.

Today, Mars scientists are poised on what could be argued as the most exciting scientific objective of the entire mission, the exploration of ancient terrain containing clay minerals. These minerals may hold the clues to an ancient, habitable environment in the early, wet Noachian era of Mars. Space Science Institute Senior Research Scientist and Mars Exploration Rover science team member William Farrand notes “Opportunity will be exploring what is arguably the oldest terrain yet examined on Mars. The clay minerals found in that terrain is evidence of a very

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different Mars than the one we see today." Dr. Farrand serves on the rover science team and works most extensively with color data collected by the rover's Panoramic Camera or Pancam.

On day 1, Mars rover team members were excited about the prospects of 90 days of exploration within few hundred meters of the landing site. Today, there is the prospect of an unpredictable amount of additional exploration in new territory over kilometers of clay-rich ancient Martian terrain. A sensational new campaign of Martian exploration and scientific discovery has now officially begun.

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