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# Moon-orbiting craft makes interesting finds

BY JAMES DEAN • FLORIDA TODAY • SEPTEMBER 18, 2009

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CAPE CANAVERAL — From miles above, the moon's Shackleton crater appears deep, dark and smooth — an ideal place for explorers to search for water ice.



Among the Lunar Reconnaissance Orbiter's surprising early findings reported Thursday is that the hydrogen is not limited to the floors of permanently shadowed craters, but is more widespread. (Artist's rendering)

But newly released data from a NASA spacecraft orbiting the moon, after launching this summer from Cape Canaveral, shows the crater's steep sides and lumpy surface would present treacherous terrain.

"It looks very smooth in the bottom of that crater there, but actually that is deceiving," said David Smith, principal investigator for the Lunar Reconnaissance Orbiter's laser altimeter instrument. "These slopes are sufficiently steep that you want to be extremely careful with them."

It's that sort of detail NASA's Constellation program wanted when it launched the mission June 18 from Cape Canaveral and this week began a yearlong effort to map the moon, hoping to find the best locations for astronauts to land and explore by 2020.

A presidential panel's review of NASA's human spaceflight program this summer determined that any such mission would take years more to fly without significant budget increases, and also offered alternative destinations.

But NASA managers and scientists on Thursday said the increased uncertainty didn't diminish the \$500-million mission's value to science or exploration.

"The moon doesn't change really, really quickly," said Mike Wargo, chief lunar scientist for the Exploration Systems Mission Directorate. "We're going to have an atlas that is going to be valuable to NASA and to all of the space-exploring nations

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### FERRY FLIGHT DELAYED

Space Shuttle Discovery's ferry flight from Edwards Air Force Base to the Kennedy Space Center in Florida has been postponed by at least a day because of weather conditions.

High temperatures at Edwards and stormy weather over the South and Southeast portions of the country led them to hold off on having Discovery depart Edwards to no earlier than early Saturday morning.

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whenever we decide that the missions to the moon will bring our return, both robotically as well as with human crews "

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A panel of mission representatives said the spacecraft and its seven instruments were performing flawlessly and already revealing what Wargo said were some "tantalizingly complex" secrets.

The orbiter was launched atop a United Launch Alliance Atlas V rocket together with a \$79-million sister spacecraft that soon plans to smash into a crater not far from Shackleton.

On the morning of Oct. 9, the Lunar Crater Observation and Sensing Satellite is scheduled to separate from the Centaur rocket stage it has remained attached to and hauled around Earth since launching.

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PatrickP wrote:

Do you really think ANY of those private companies will have a man rated system ready in less than 7 to 10 years that is funded ON THEIR OWN?

To those moronic dolts who harrange about killing off NASA...you are saying that you would like to see yet more if not tens of thousands of your neighbors and fellow citizens to lose their jobs and see YOUR and theirs property values plummet even more. ARE YOU INSANE?

Of ALL government departments in terms of popularity with the American people NASA is rated as Number 1.

This is The Space Coast...lets not see it turn into the Space Ghost.

Write your Congressmen and women and your Senators to REALLY fund NASA !!!!!!!

9/19/2009 11:35:00 AM

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BeastMaster wrote:

I dont' know why it didn't come out on my post but, I was refering to destinationspace as one of the qualified.

9/19/2009 9:42:27 AM

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BeastMaster wrote:

Moon-orbiting craft makes interesting finds - the moon is still made of rock. Exciting news, stop wasting taxpayer money on the moon. Get rid of NASA and privatize space exploration.

bigjohn1=dufus

Launch services can be privatized. Beyond-LEO Exploration cannot. There are profits to be made in space launch services. There may even be profits to be made in private space tourism. However, actual private space exploration/research is expensive and not profitable. The big old dogs in the industry have the capability to build craft to explore beyond LEO, but do not do so without gov't contracts because it is high risk/low (no) profit to do it on their own. The start-ups are working on LEO access, and making progress, but have a long way to go to get to capabilities beyond LEO. Their sights are really just set on LEO at this point.[QUOTE]

This guy is probably the only qualified person, so far, to give real insight on this subject.

9/19/2009 9:40:32 AM

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FTWatcher wrote:

Replying to PaulDF:

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OK, suppose you're an astronaut; you're on this nifty lunar base having a great time, and the lunar ice recovery plant churns out a bunch of ice that melts into a clear liquid. You're an engineer, you rationally know it's processed, you know it's filtered, you know it's tested...but you get the be the first to drink it! Kind of makes the whole urine processing thing make more sense! Would you really want to be the first human to drink "aqua del luna"?

Astronauts have been drinking the "waste" from fuel cells since the Apollo days. Mir and ISS cosmonauts and astronauts have been drinking water "reclaimed" from the cabin atmosphere - exhaled breath and condensed sweat for a long long time.

Processed lunar water would likely be more pure than any bottled water you buy in the grocery store.

9/18/2009 5:39:57 PM

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PaulIDF wrote:

OK, suppose you're an astronaut; you're on this nifty lunar base having a great time, and the lunar ice recovery plant churns out a bunch of ice that melts into a clear liquid. You're an engineer, you rationally know it's processed, you know it's filtered, you know it's tested...but you get the be the first to drink it! Kind of makes the whole urine processing thing make more sense! Would you really want to be the first human to drink "aqua del luna"?

9/18/2009 12:26:19 PM

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