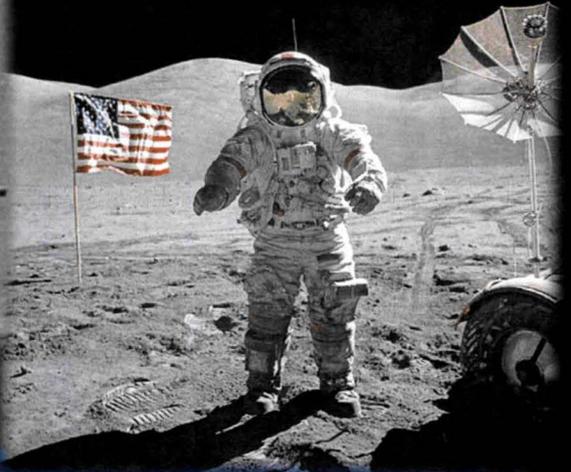
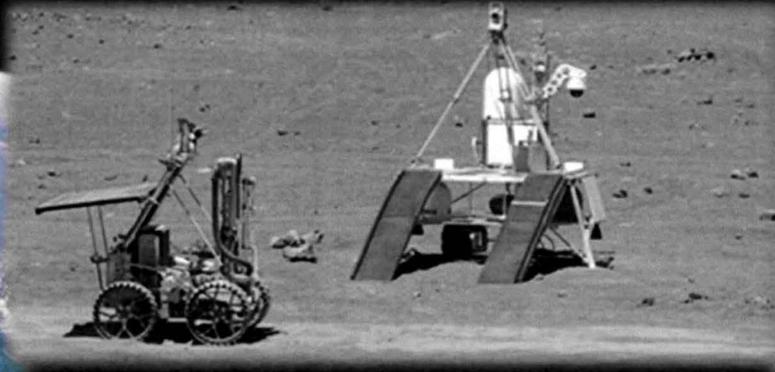




**NASA Kennedy Space Center
RESOLVE**

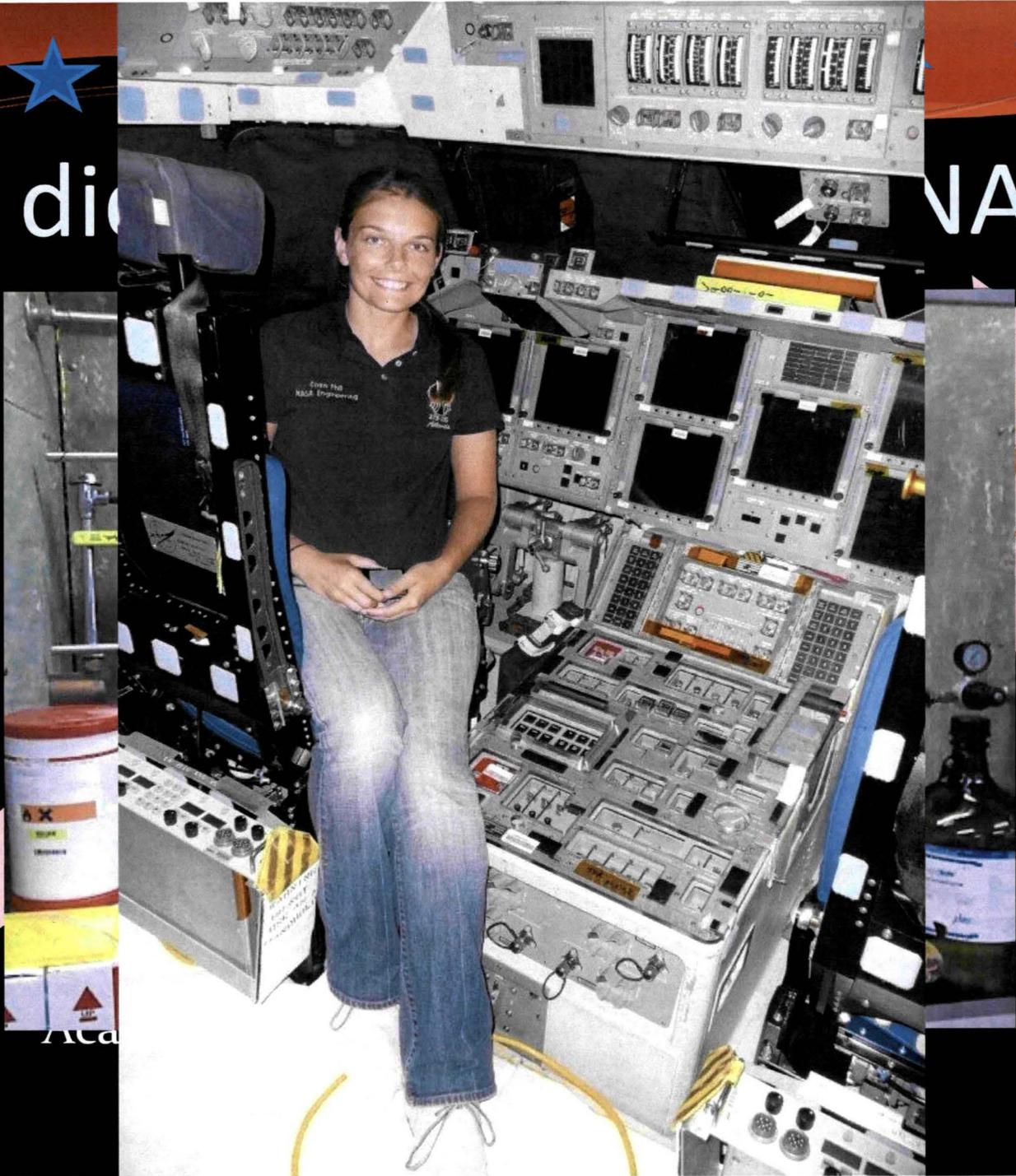
Dr. Mary R. Coan

NASA Kennedy Space Center



How did

NASA?



St. Louis School

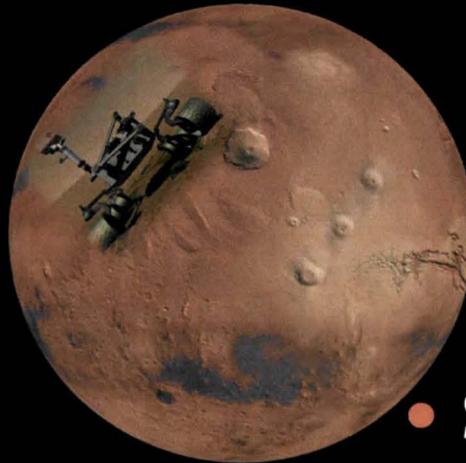
NASA

In-Situ Resource Utilization (ISRU)

Moon



Mars



Asteroid



- Rocket fuel
 - Oxygen to breath
 - Water to drink and grow food
 - Metals for construction
 - On Earth & Moon
- Scientists
 - Biologists, Chemists, Physicists, Material
 - Engineers
 - Aerospace, Mechanical, Electrical, Computer, Chemical, Civil

Back in 2009...



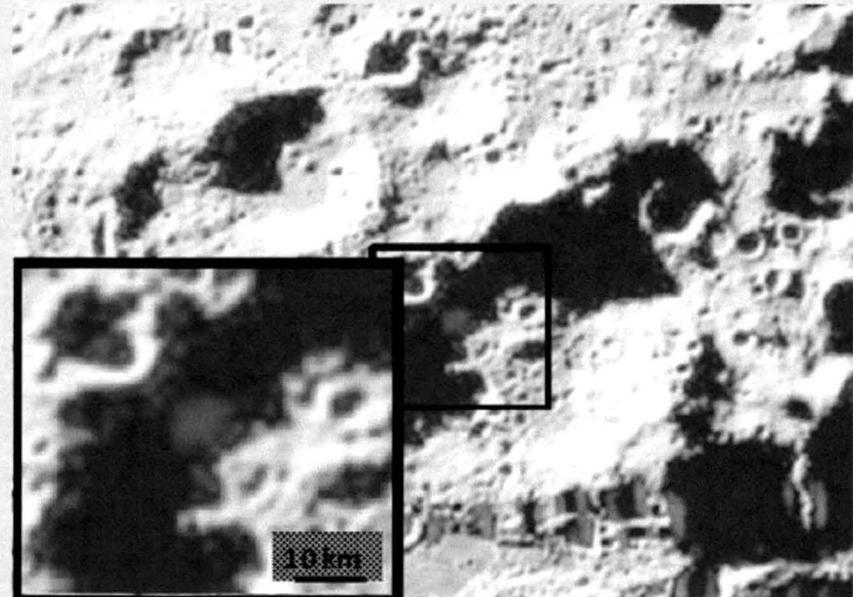
LCROSS FINDS WATER ON THE MOON

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November 13, 2009: The argument that the Moon is a dry, desolate place no longer holds water.

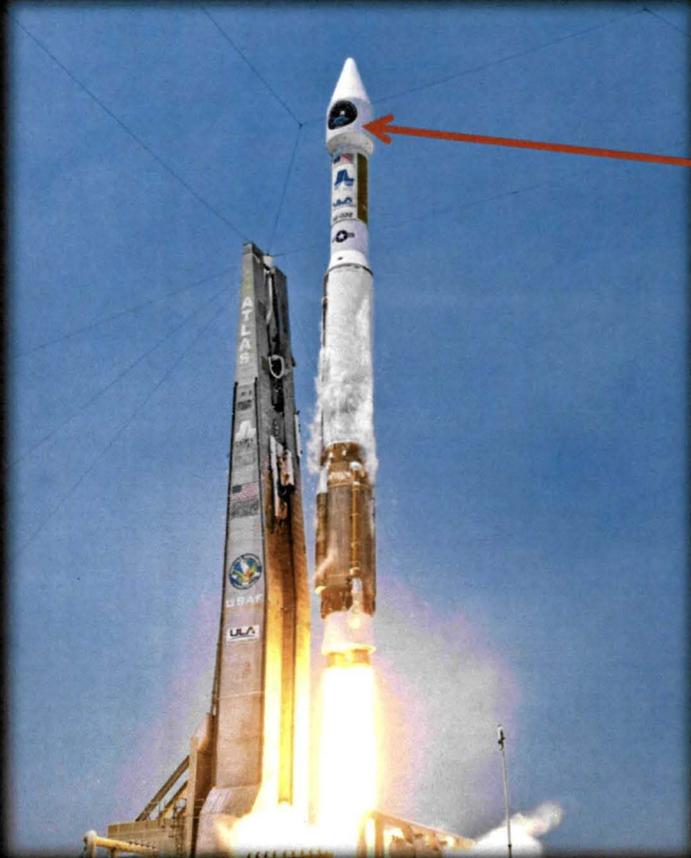
At a press conference today, researchers revealed preliminary data from NASA's Lunar Crater Observation and Sensing Satellite, or LCROSS, indicating that water exists in a permanently shadowed lunar crater. The discovery opens a new chapter in our understanding of the Moon.



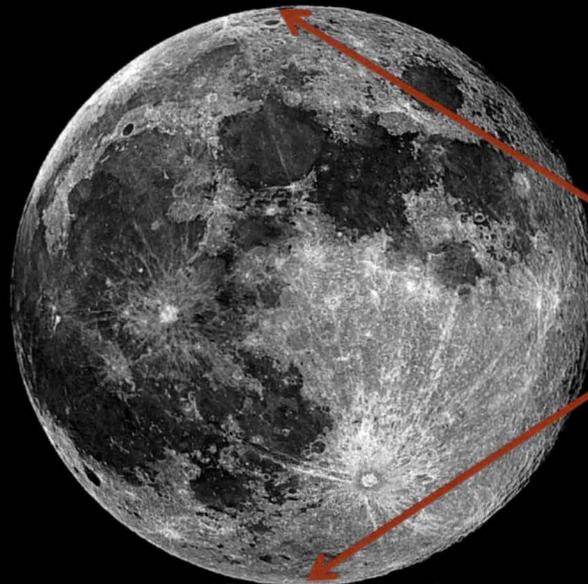
Above: Visible camera images showing the ejecta plume at about 20 seconds after impact. Credit: LCROSS/NASA [[more images](#) →]

Prospect for Water on the Moon: RESOLVE in 2018

- Search for water
- Quantify water and other chemicals in lunar soil (Regolith)



RESOLVE
Payload



Lunar Poles

RESOLVE

1. Lander to safely arrive on Moon's surface

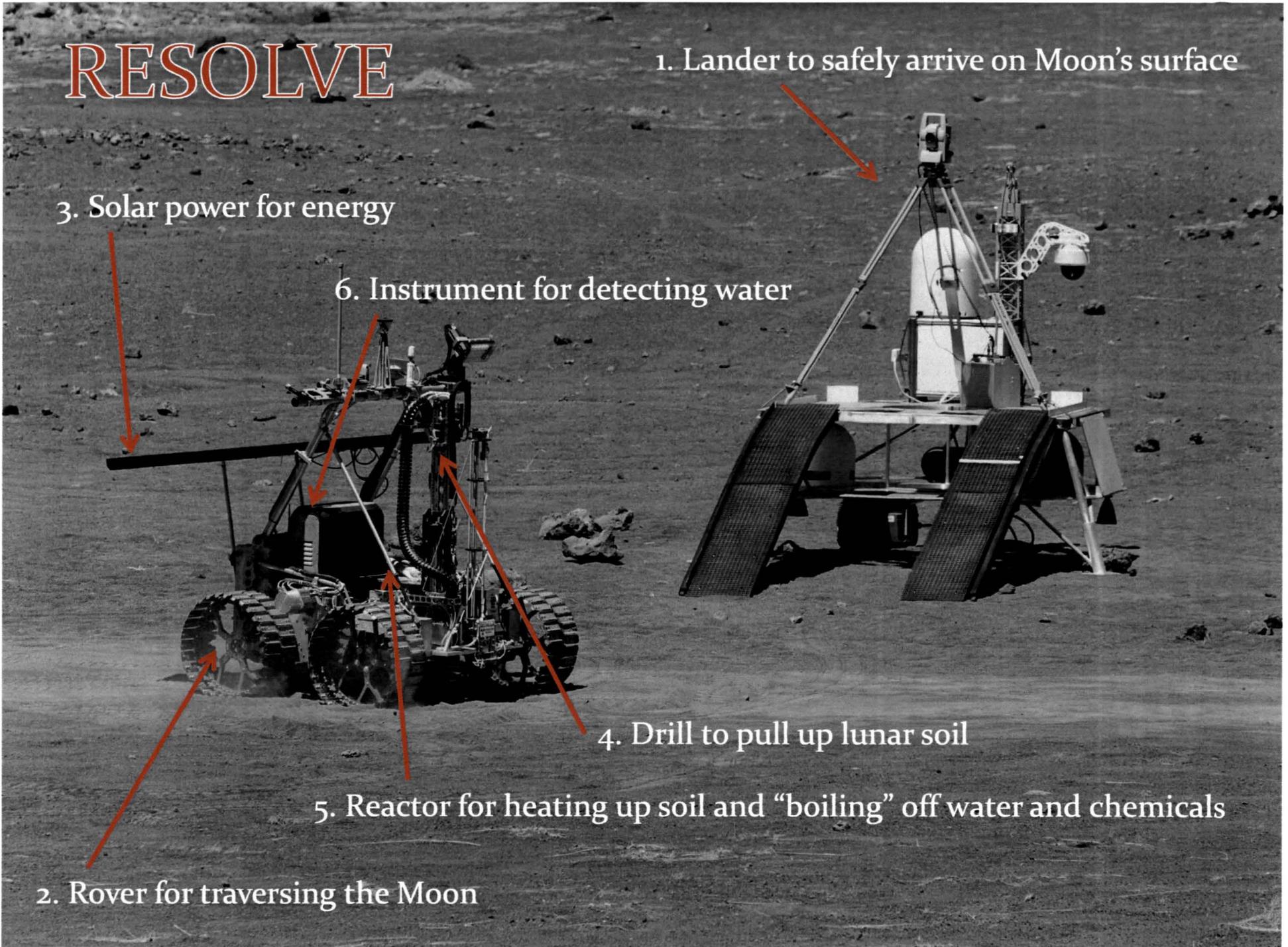
3. Solar power for energy

6. Instrument for detecting water

4. Drill to pull up lunar soil

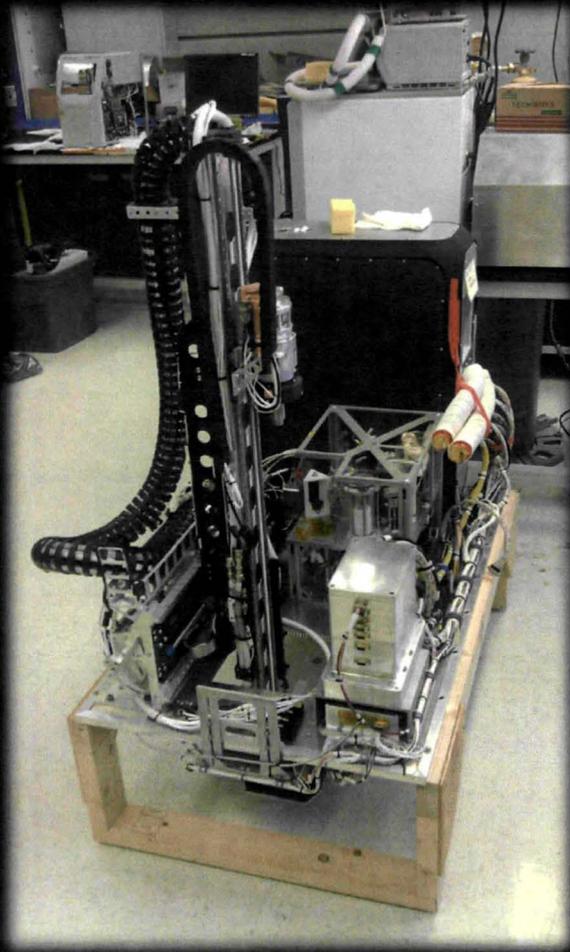
5. Reactor for heating up soil and "boiling" off water and chemicals

2. Rover for traversing the Moon



RESOLVE Lab Testing

Payload Integration



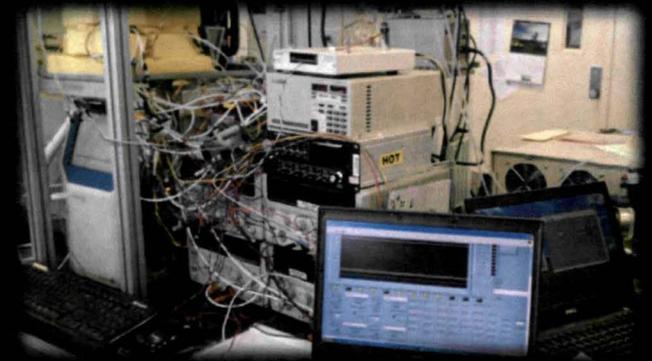
Drill



Lander & Rover



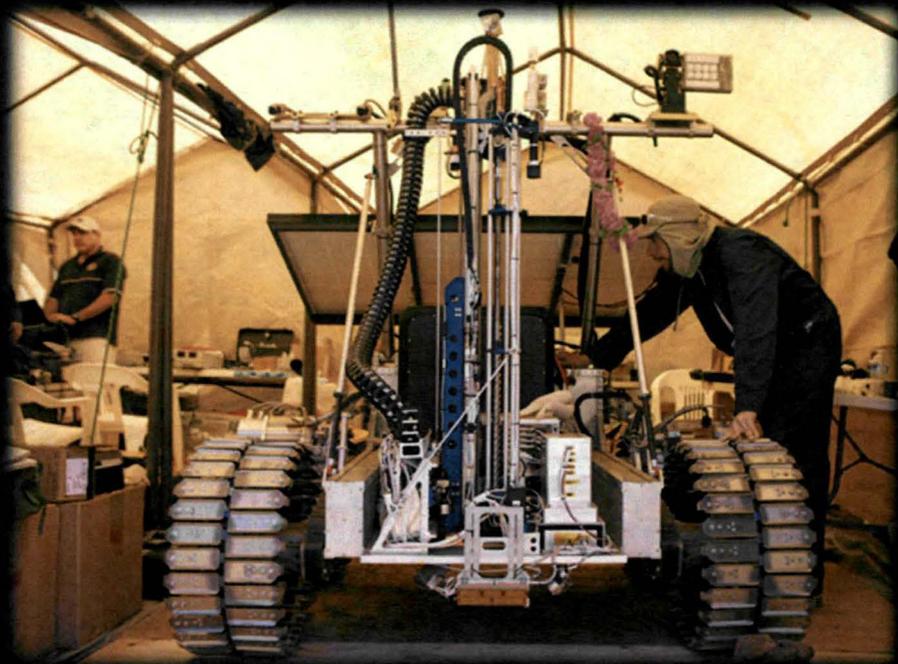
Instrument Testing



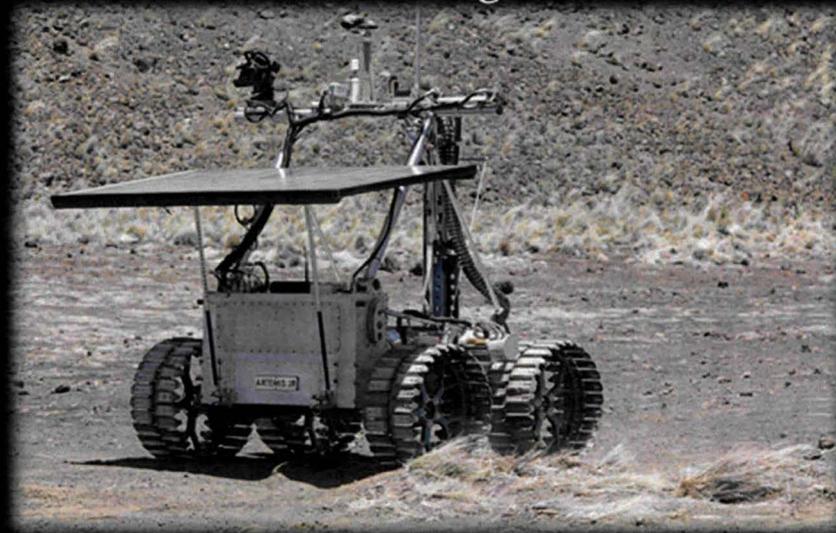
RESOLVE Field Testing

Hawaii

Field Tent



Roving



Watch for Resource Prospector
in 2018



Questions

- E-mail Kate: mary.coan@nasa.gov

Videos

- <http://www.youtube.com/watch?v=TpYbDF-8ihU>
- <http://www.youtube.com/watch?v=weVSLc3AwWw>

