

Transcript: March 30, 2011, Building Curiosity: Mars Rover Goes From Shake to Bake

[00:00:07]Hi, I'm Anthony Ganino and this is your Building Curiosity Update.

[00:00:10]We're up here in the 25 foot space simulator building at JPL.

[00:00:14]Here on the lab we often call the environmental test portion shake and bake.

[00:00:17]We just got out of vibration testing which is the shake portion and

[00:00:20]now we're moving onto the bake portion, which would be our thermal vacuum testing.

[00:00:24]In order to complete these tests we have to move the rover into the chamber.

[00:00:28]We do that with a series of lifts and lower it onto some ground support equipment

[00:00:33]that was previously installed into the chamber.

[00:00:37]You can see beyond this plastic shield the rover is being worked on by

[00:00:42]our technicians to get it ready for thermal tests. When we get ready to start the test,

[00:00:45] we'll remove that plastic from the door and a large field door will come in,

[00:00:51]close out the chamber, at which point we can start changing the temperature inside

[00:00:55]and pumping down the pressure to simulate Mars conditions.

[00:00:58]We take the rover down to about negative 100 to negative 130 C, which is about negative 200

[00:01:04]to negative 150 Fahrenheit and up to 30 or 40 C which is about 86 to 104 degrees Fahrenheit.

[00:01:12]Over that time we also are going to be adjusting the pressure on the rover to simulate the

[00:01:17]vacuum of deep space and then taking it to about one, one hundredth of the pressure on Earth.

[00:01:22]We only get one chance to get on Mars and drive this vehicle around,

[00:01:27]so we want to put it in the harsh environment that it's going to see and make sure

[00:01:32]that not only do all the instruments function, but all of the temperatures that we expect

[00:01:36]to see on the vehicle are accurate to what we modeled and planned.

[00:01:40]I'm Anthony Ganino and this has been your Building Curiosity Update.