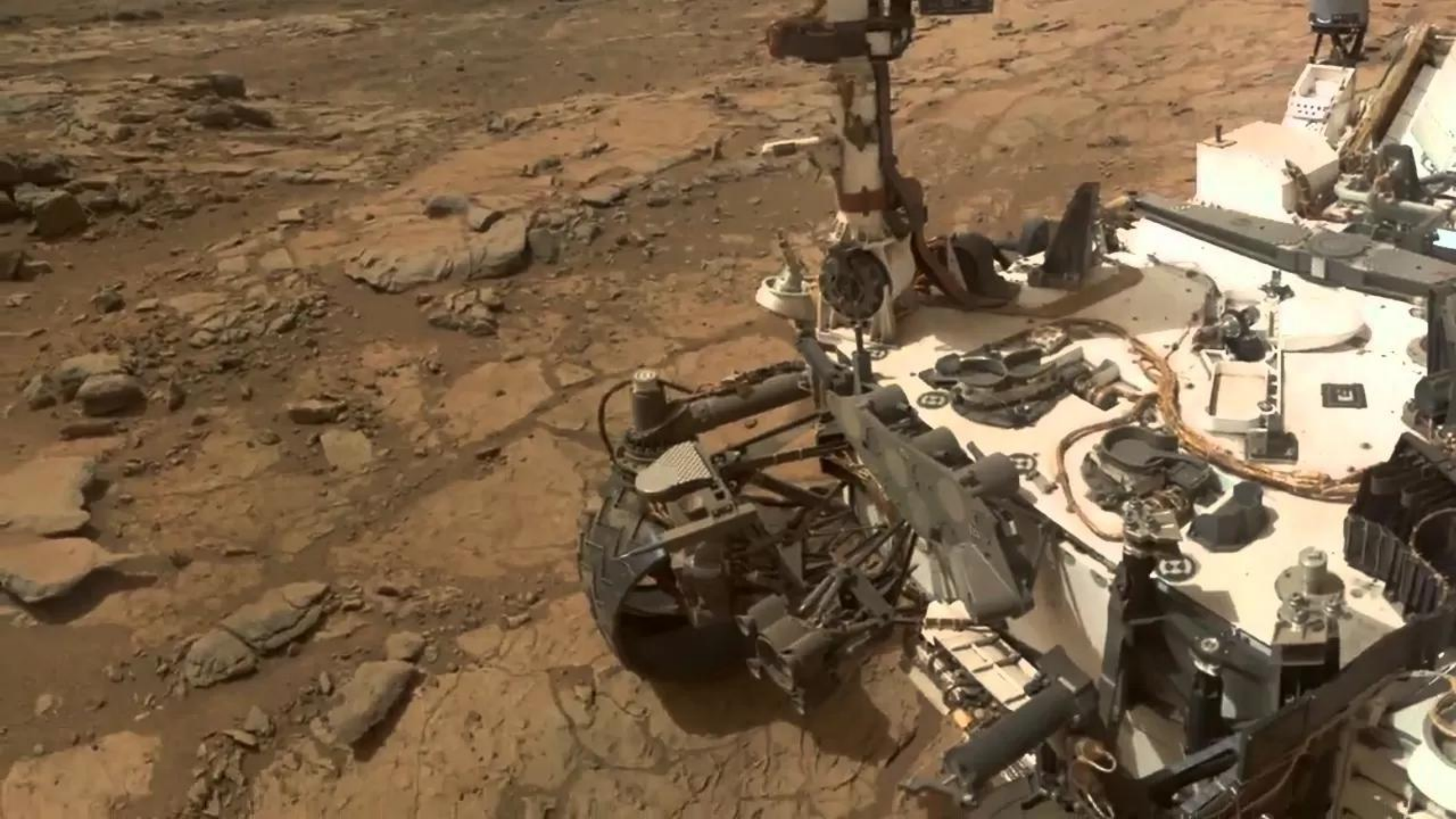

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2
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Hi I'm John Grotzinger. I'm the project scientist for Mars Science Laboratory mission

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00:00:09,000 --> 00:00:12,000
and this is your Curiosity Rover Report.

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Curiosity's got some great new findings.

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We've been able to find a place on Mars where we can actually date a rock.

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That means we don't have to have astronauts to bring them back to Earth like we did back in the 1960's.

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We simply drill the rock, put it into the instrument

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and its able to give us the age at which time the rock formed.

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One of the big things that Curiosity is trying to do is explore and find organic carbon on Mars.

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It turns out this carbon depends on how old the rock is

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that's its inside of and so some rocks have been exposed recently to the Martian atmosphere

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and others have been exposed for a long time.

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And the ones that have been exposed for a long time have received more radiation damage,

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which is bad for the preservation of organics.

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So the good thing about this is that we can now put this knowledge to use

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and as we explore in the future we're going to be able to find the younger surfaces

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where we think they might preserve better signs of organic carbon.

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As we learned how to explore with Curiosity, we discovered that the rocks

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that we have drilled are actually part of much thicker packages,

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much longer-lived intervals of geologic time.

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And so we have a long-lived habitable environment that's actually younger

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than what we may have expected when we first came to Gale Crater.

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And this means that other similar places on Mars, that are also relatively young,

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that have such clay bearing rocks, could've also been habitable.

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So in addition to this, Curiosity is now been making measurements for over a year

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on the surface of Mars of the amount of radiation an astronaut would feel

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if they were walking around on the surface of Mars.

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And what we find right now is that the levels are not too high.

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On the other hand, we haven't had any big solar storms yet,

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so most of the radiation comes from the background cosmic radiation.

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The measurements are important because they will allow NASA scientists