

Perseverance's first month on Mars has yielded new sights and sounds

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The Perseverance rover's tracks during its 4 March drive on Mars

NASA/JPL-Caltech

Since NASA's Perseverance rover [landed on Mars](#) on 18 February, it has been doing as much science as it can during the testing phase of its scientific instruments. That has involved driving short distances and taking pictures of the rocks near the landing site.

"So far, all of this has been going exceedingly well," said Ken Farley at NASA's Jet Propulsion Laboratory (JPL) in California, during a presentation at the virtual Lunar and Planetary Science Conference on 16 March. "We've had no major technical issues." The rover's first drive on 4 March – which lasted 33 minutes and covered about 6.5 metres – demonstrated that it can, in fact, rove, and the other tests are going smoothly as well, he said.

Perseverance has a microphone, which has allowed us to hear the Red Planet for the first time. It recorded more than 16 minutes of audio as it drove around on Mars on 7 March, and some of that is below.

“If I heard these sounds driving my car, I’d pull over and call for a tow,” said Dave Gruel at JPL in a [statement](#). “But if you take a minute to consider what you’re hearing and where it was recorded, it makes perfect sense.” However, one of the high-pitched scratching noises in the recordings was unexpected and NASA engineers are now trying to figure out what is causing it.

Perseverance has also zapped several of the rocks near its landing site with its laser to determine their chemical compositions. They are similar to [basaltic rocks on Earth](#), and some of them also appear to have water locked up in their molecular structure. Many of the nearby rocks contain visible holes, some of which were probably bored by wind, whereas others may have been sculpted by flowing water.

All of these findings are exactly what scientists expected. Basalts form from molten rock and we knew that Jezero crater, where Perseverance landed, ought to have volcanic rocks that were once covered by the lake that used to fill the crater.

One of the images taken during testing even showed a [Martian dust devil](#) – a rotating column of dust – moving across the surface. These are common on Mars – most of the spacecraft we have sent there, including the Viking landers in the 1970s, have spotted them at some point.

Perseverance’s next major task will be to test Ingenuity, the small helicopter that the rover carried to Mars in its belly. For that, Perseverance will drop Ingenuity off, drive a short distance away and attempt to take a video of the helicopter as it lifts into the Martian air.

After Ingenuity’s test flights, which are expected to happen this spring, the rover will be free to drive further afield and begin its science phase in earnest. At that point, it will begin searching for signs of ancient life and take samples to be returned to Earth by a later mission planned for 2026.