



1
00:00:00,000 --> 00:00:04,000
(Music)

2
00:00:04,000 --> 00:00:08,000
I'm Ashwin Vasavada, the Mars Science Laboratory deputy project scientist,

3
00:00:08,000 --> 00:00:11,000
and this is your Curiosity rover report.

4
00:00:11,000 --> 00:00:15,000
Curiosity has been continuing the analysis of the John Klein area

5
00:00:15,000 --> 00:00:18,000
where it drilled into rock and acquired its first sample of rock powder.

6
00:00:18,000 --> 00:00:22,000
After delivering a number of small portions to SAM and CheMin,

7
00:00:22,000 --> 00:00:25,000
Curiosity dumped the remaining material in two piles.

8
00:00:25,000 --> 00:00:30,000
One pile is made up of material that went through a sieve; the rest wasn't sieved.

9
00:00:30,000 --> 00:00:35,000
We put those piles near the original holes so that instruments on Curiosity's arm and mast,

10
00:00:35,000 --> 00:00:38,000
like ChemCam, could study them all together.

11
00:00:38,000 --> 00:00:40,000
Curiosity's science team reported their progress

12
00:00:40,000 --> 00:00:44,000
in unraveling the different chemical compositions of rocks, soil, and dust.

13
00:00:44,000 --> 00:00:46,000

The ChemCam team fired a series of laser shots,

14

00:00:46,000 --> 00:00:48,000

(zap, zap, zap),

15

00:00:48,000 --> 00:00:52,000

right down the side of the drill hole, revealing how composition changes with depth.

16

00:00:52,000 --> 00:00:58,000

Inspite of all the busy work on the rocks and dust,

17

00:00:58,000 --> 00:01:00,000

Curiosity occasionally does take time to stop and smell the atmosphere.

18

00:01:00,000 --> 00:01:05,000

The SAM instrument took a deep breath last week in order to look at a gas called Argon.

19

00:01:05,000 --> 00:01:13,000

SAM compared the amount of light Argon, Argon-36, and a heavier form, Argon-38.

20

00:01:13,000 --> 00:01:17,000

SAM found that the mix of Argon at Mars today is heavier than

21

00:01:17,000 --> 00:01:21,000

in the Earth's atmosphere, the sun, and in Jupiter.

22

00:01:21,000 --> 00:01:25,000

These measurements are evidence that Mars once had a thicker atmosphere,

23

00:01:25,000 --> 00:01:28,000

and much of it was lost long ago.

24

00:01:28,000 --> 00:01:31,000

That would help explain the evidence for rivers and lakes in the past,

25

00:01:31,000 --> 00:01:35,000

in spite of the cold and dry conditions today.

26

00:01:35,000 --> 00:01:39,000

Through the month of April, Mars will be behind the Sun, as seen from Earth.

27

00:01:39,000 --> 00:01:43,000

This planetary alignment, called solar conjunction, happens every 26 months.

28

00:01:43,000 --> 00:01:47,000

Because the Sun can disrupt radio signals between Curiosity and Earth,

29

00:01:47,000 --> 00:01:52,000

we won't send any more commands to Curiosity until we know they'll be safely received.

30

00:01:52,000 --> 00:01:56,000

In the mean time, the operations team will listen for a daily signal from the rover

31

00:01:56,000 --> 00:02:01,000

letting us know that it's healthy and continuing to study the weather and space radiation all on its own.