1
00:00:08,310 --> 00:00:06,150
[Music]

2
00:00:10,629 --> 00:00:08,320
nasa's perseverance rover recently

3
00:00:12,950 --> 00:00:10,639
successfully sealed and stored the first

4
00:00:15,190 --> 00:00:12,960
two rock samples from mars one of the

5
00:00:17,349 --> 00:00:15,200
ways the rover analyzes the rocks it's

6
00:00:19,910 --> 00:00:17,359
sampling is with the sherlock instrument

7
00:00:21,990 --> 00:00:19,920
and its camera watson this detective

8
00:00:24,390 --> 00:00:22,000
team studies rock surfaces and building

9
00:00:26,310 --> 00:00:24,400
blocks of ancient life to learn more we

10
00:00:28,470 --> 00:00:26,320
are joined by eva scheller who is part

11
00:00:30,070 --> 00:00:28,480
of the instrument science team eva what

12
00:00:32,150 --> 00:00:30,080
is sherlock and how does it help pick

13
00:00:34,310 --> 00:00:32,160

which rocks are worth sampling

14
00:00:36,229 --> 00:00:34,320
sherlock is a really amazing instrument

15
00:00:38,069 --> 00:00:36,239
it actually stands for the scanning

16
00:00:40,549 --> 00:00:38,079
habitable environments with ramen and

17
00:00:42,950 --> 00:00:40,559
luminescence for organics and chemicals

18
00:00:44,869 --> 00:00:42,960
it has two components one is a very good

19
00:00:46,950 --> 00:00:44,879
camera called watson and the other is

20
00:00:49,029 --> 00:00:46,960
sherlock itself which is actually an

21
00:00:51,270 --> 00:00:49,039
ultraviolet laser that we use to

22
00:00:53,830 --> 00:00:51,280
characterize the mineralogical compounds

23
00:00:55,590 --> 00:00:53,840
and organics on the martian surface and

24
00:00:57,750 --> 00:00:55,600
that tells us whether a particular rock

25
00:00:59,349 --> 00:00:57,760
is worth sampling or not so what has

26
00:01:01,430 --> 00:00:59,359
sherlock told us about the rocks of

27
00:01:03,110 --> 00:01:01,440
jezreel crater so far

28
00:01:05,350 --> 00:01:03,120
sherlock has made really amazing

29
00:01:07,429 --> 00:01:05,360
discoveries we now know that these rocks

30
00:01:09,350 --> 00:01:07,439
derive from a volcanic environment and

31
00:01:11,590 --> 00:01:09,360
that there was liquid water there in

32
00:01:13,830 --> 00:01:11,600
mars's past that form salts that

33
00:01:15,670 --> 00:01:13,840
sherlock has seen and that actually has

34
00:01:17,990 --> 00:01:15,680
let us know that the samples we've just

35
00:01:20,149 --> 00:01:18,000
taken could have formed in an ancient

36
00:01:22,469 --> 00:01:20,159
habitable environment now looking to the

37
00:01:24,390 --> 00:01:22,479
future what role will sherlock play in

38
00:01:26,390 --> 00:01:24,400

the search for ancient life

39
00:01:28,710 --> 00:01:26,400
sherlock is a very important instrument

40
00:01:30,710 --> 00:01:28,720
for two reasons the first is that

41
00:01:33,190 --> 00:01:30,720
sherlock is the only instrument that can

42
00:01:35,190 --> 00:01:33,200
directly detect organics or building

43
00:01:37,910 --> 00:01:35,200
blocks for life and we're always looking

44
00:01:40,230 --> 00:01:37,920
for organics in the samples we're taking

45
00:01:42,310 --> 00:01:40,240
the second is that because sherlock

46
00:01:44,149 --> 00:01:42,320
characterizes the chemical composition

47
00:01:46,310 --> 00:01:44,159
of the rock that helps us understand

48
00:01:48,069 --> 00:01:46,320
whether any samples formed in an ancient

49
00:01:49,749 --> 00:01:48,079
habitable environment

50
00:01:52,310 --> 00:01:49,759
well thank you so much for joining us

51
00:01:56,069 --> 00:01:52,320
today eva to get the latest updates

52
00:01:58,149 --> 00:01:56,079
follow at nasa jpl and at nasa persevere

53
00:02:01,350 --> 00:01:58,159
on social media and on the mission

54
00:02:03,670 --> 00:02:01,360
website mars.nasa.gov

55
00:02:05,830 --> 00:02:03,680
perseverance where you can also find all