



1  
00:00:10,950 --> 00:00:06,320

[Music]

2  
00:00:15,660 --> 00:00:10,960

Titus Kenyon an area lying in the north

3  
00:00:17,730 --> 00:00:15,670

of Death Valley National Park hundreds

4  
00:00:22,040 --> 00:00:17,740

of millions of years ago this dark

5  
00:00:24,870 --> 00:00:22,050

landscape lay beneath warm tropical seas

6  
00:00:26,790 --> 00:00:24,880

today it is the site for a field test

7  
00:00:35,090 --> 00:00:26,800

conducted by NASA's Jet Propulsion

8  
00:00:38,310 --> 00:00:35,100

Laboratory Lima 3 is a climbing Rover a

9  
00:00:50,279 --> 00:00:38,320

mechanized Explorer designed to work in

10  
00:00:55,290 --> 00:00:52,919

lemurs challenge is to find evidence of

11  
00:01:00,099 --> 00:00:55,300

the life that once inhabited this area's

12  
00:01:04,710 --> 00:01:00,109

long-lost warm waters and muddy terrain

13  
00:01:08,170 --> 00:01:04,720

a waypoint is set high on the canyon

14

00:01:12,550 --> 00:01:08,180

Lima will climb to this point analyzing

15

00:01:15,670 --> 00:01:12,560

the rock face along the way Lima uses

16

00:01:18,550 --> 00:01:15,680

lidar to choose a path bouncing laser

17

00:01:21,999 --> 00:01:18,560

pulses off the rock to determine its

18

00:01:24,820 --> 00:01:22,009

shape it holds itself in place with

19

00:01:27,639 --> 00:01:24,830

Micro spine Griffin's made up of

20

00:01:30,940 --> 00:01:27,649

hundreds of tiny hooks that can fasten

21

00:01:35,340 --> 00:01:30,950

onto any rough surface the more Lima

22

00:01:40,199 --> 00:01:35,350

climbs the better choices it makes a

23

00:01:46,930 --> 00:01:43,539

variety of instruments on board are used

24

00:01:49,749 --> 00:01:46,940

to analyze the wrong an infrared

25

00:01:52,510 --> 00:01:49,759

spectrometer on its belly detects the

26  
00:01:56,919 --> 00:01:52,520  
presence of organic compounds x-rays

27  
00:01:59,230 --> 00:01:56,929  
help identify chemical elements it can

28  
00:02:02,880 --> 00:01:59,240  
detect the tiniest fluorescence of

29  
00:02:06,190 --> 00:02:02,890  
fossilized organisms in the ultraviolet

30  
00:02:09,430 --> 00:02:06,200  
for this mission a safety cable anchors

31  
00:02:11,740 --> 00:02:09,440  
lemur to the rock it helps emulate the

32  
00:02:16,330 --> 00:02:11,750  
lower gravity lemur will be operating

33  
00:02:19,240 --> 00:02:16,340  
and away from earth away from Earth

34  
00:02:34,060 --> 00:02:19,250  
would roam free and unencumbered

35  
00:02:39,550 --> 00:02:35,559  
[Music]

36  
00:02:46,030 --> 00:02:39,560  
lemur reaches its destination the

37  
00:02:53,350 --> 00:02:49,800  
the results are fascinating

38  
00:02:56,500 --> 00:02:53,360

stromatolites fossilized balls of algae

39

00:02:59,800 --> 00:02:56,510

dating back to the Paleozoic era are

40

00:03:04,530 --> 00:02:59,810

among lemurs discoveries traces of

41

00:03:07,770 --> 00:03:04,540

organisms that once swam in warm seas

42

00:03:17,440 --> 00:03:07,780

organisms that have been dead for 500

43

00:03:20,229 --> 00:03:17,450

million years Lima represents a new

44

00:03:23,289 --> 00:03:20,239

generation of mechanized Explorer that

45

00:03:26,619 --> 00:03:23,299

could one day roam landscapes far beyond

46

00:03:29,849 --> 00:03:26,629

Earth the data it accumulates with each

47

00:03:33,490 --> 00:03:29,859

climb is passed to its descendants

48

00:03:35,570 --> 00:03:33,500

if lemur can find life in walk that is

49

00:03:38,270 --> 00:03:35,580

half a billion years of

50

00:03:41,810 --> 00:03:38,280

think how useful that skill might be at

51

00:03:45,250 --> 00:03:41,820

its ultimate destination not a rocky

52

00:03:48,070 --> 00:03:45,260

canyon wall here on earth but out there