



1  
00:00:00,930 --> 00:00:04,470

[Music]

2  
00:00:09,190 --> 00:00:06,630

this beautiful mosaic is the most

3  
00:00:11,350 --> 00:00:09,200

detailed image ever taken on the surface

4  
00:00:13,270 --> 00:00:11,360

of mars it captures some of the

5  
00:00:15,270 --> 00:00:13,280

sedimentary rocks that scientists came

6  
00:00:17,349 --> 00:00:15,280

to the red planet to study

7  
00:00:19,189 --> 00:00:17,359

only the very edges of the rover are

8  
00:00:21,830 --> 00:00:19,199

visible in this mosaic

9  
00:00:24,070 --> 00:00:21,840

nasa's perseverance mars rover is now

10  
00:00:25,830 --> 00:00:24,080

exploring a really important part of

11  
00:00:29,029 --> 00:00:25,840

jezreel crater

12  
00:00:31,750 --> 00:00:29,039

around 3.5 billion years ago a river

13  
00:00:34,310 --> 00:00:31,760

flowed into lake jezreel depositing mud

14

00:00:36,709 --> 00:00:34,320

and sand on the crater floor forming an

15

00:00:39,030 --> 00:00:36,719

ancient delta what you see are some of

16

00:00:40,869 --> 00:00:39,040

the hills and cliffs at the edge of that

17

00:00:42,869 --> 00:00:40,879

delta

18

00:00:45,430 --> 00:00:42,879

here you can see some of perseverance's

19

00:00:47,510 --> 00:00:45,440

wheel tracks showing where we came from

20

00:00:53,750 --> 00:00:47,520

on the crater floor where we spent the

21

00:00:58,389 --> 00:00:55,830

take a look at the darker gray layered

22

00:01:00,950 --> 00:00:58,399

rocks that make up the roughly 32 foot

23

00:01:03,029 --> 00:01:00,960

tall cliff in front of the rover you can

24

00:01:05,990 --> 00:01:03,039

see very clear horizontal layers in

25

00:01:08,630 --> 00:01:06,000

these rocks and you'll also notice

26

00:01:10,710 --> 00:01:08,640

pieces of the cliff have broken off and

27

00:01:13,109 --> 00:01:10,720

tumbled downhill

28

00:01:15,109 --> 00:01:13,119

one of the more interesting ones is the

29

00:01:17,350 --> 00:01:15,119

three foot tall boulder called betty's

30

00:01:22,200 --> 00:01:17,360

rock which perseverance was able to get

31

00:01:30,469 --> 00:01:28,630

[Music]

32

00:01:34,149 --> 00:01:30,479

these rocks have been sitting on the

33

00:01:35,749 --> 00:01:34,159

surface of mars for billions of years

34

00:01:38,550 --> 00:01:35,759

and over that time

35

00:01:41,030 --> 00:01:38,560

wind erosion has shaped the surface into

36

00:01:41,980 --> 00:01:41,040

pretty interesting forms like this

37

00:01:50,389 --> 00:01:41,990

balanced rock

38

00:01:52,710 --> 00:01:50,399

[Music]

39

00:01:55,030 --> 00:01:52,720

immediately surrounding the rover is an

40

00:01:57,510 --> 00:01:55,040

area called hog wallow flats

41

00:01:59,350 --> 00:01:57,520

previously known as the bacon strip

42

00:02:00,400 --> 00:01:59,360

based on its appearance in orbital

43

00:02:01,749 --> 00:02:00,410

images

44

00:02:03,350 --> 00:02:01,759

[Music]

45

00:02:05,670 --> 00:02:03,360

take a look at the bright rocks the

46

00:02:07,830 --> 00:02:05,680

rover is sitting on we think these are

47

00:02:11,110 --> 00:02:07,840

some of the finest grained sedimentary

48

00:02:13,030 --> 00:02:11,120

rocks deposited in the delta

49

00:02:15,190 --> 00:02:13,040

fine grain rocks are important because

50

00:02:17,670 --> 00:02:15,200

they're typically really good places to

51  
00:02:20,390 --> 00:02:17,680  
look for signs of ancient life

52  
00:02:22,869 --> 00:02:20,400  
we'd plan to do up to five abrasions on

53  
00:02:25,990 --> 00:02:22,879  
the rocks in this area that's where we

54  
00:02:28,390 --> 00:02:26,000  
use our drill to expose a fresh surface

55  
00:02:29,910 --> 00:02:28,400  
which allows us to analyze the chemistry

56  
00:02:32,150 --> 00:02:29,920  
and mineralogy

57  
00:02:33,670 --> 00:02:32,160  
but mars threw us some curve balls and

58  
00:02:34,949 --> 00:02:33,680  
these softer rocks didn't always

59  
00:02:36,710 --> 00:02:34,959  
cooperate

60  
00:02:39,110 --> 00:02:36,720  
here you can see the result of one of

61  
00:02:41,110 --> 00:02:39,120  
our abrasion attempts the rock crumbled

62  
00:02:44,070 --> 00:02:41,120  
during the abrasion preventing us from

63  
00:02:46,390 --> 00:02:44,080

analyzing the spot

64

00:02:48,630 --> 00:02:46,400

we had two unlucky abrasion attempts in

65

00:02:50,869 --> 00:02:48,640

this area before achieving success at

66

00:02:53,509 --> 00:02:50,879

the skinner ridge outcrop

67

00:02:56,070 --> 00:02:53,519

here we collected our first two rockcore

68

00:02:58,869 --> 00:02:56,080

samples from the delta and since then

69

00:03:01,030 --> 00:02:58,879

we've collected two more

70

00:03:03,350 --> 00:03:01,040

perseverance drove to the delta because

71

00:03:05,750 --> 00:03:03,360

it is a very promising place to look for

72

00:03:07,910 --> 00:03:05,760

signs of ancient life we hope to learn

73

00:03:09,830 --> 00:03:07,920

more when a future mission brings these

74

00:03:11,830 --> 00:03:09,840

samples back to earth