



Proposed Route

1
00:00:07,519 --> 00:00:04,550
for almost seven years NASA's Curiosity

2
00:00:10,040 --> 00:00:07,529
rover has been exploring Mars let's see

3
00:00:11,450 --> 00:00:10,050
where it is now the rover is climbing a

4
00:00:14,749 --> 00:00:11,460
mountain Mount sharp

5
00:00:16,640 --> 00:00:14,759
that is dry and Sandy today but three

6
00:00:18,740 --> 00:00:16,650
and a half billion years ago rivers

7
00:00:21,620 --> 00:00:18,750
lakes and groundwater could be found

8
00:00:23,660 --> 00:00:21,630
here the white line shows where we'd

9
00:00:24,490 --> 00:00:23,670
like to send curiosity over the next few

10
00:00:26,570 --> 00:00:24,500
years

11
00:00:29,000 --> 00:00:26,580
curiosity recently entered a valley

12
00:00:31,070 --> 00:00:29,010
between a ridge and cliffs higher up the

13
00:00:33,889 --> 00:00:31,080

mountain we've been calling this area

14

00:00:36,410 --> 00:00:33,899

the clay unit because Mars orbiters have

15

00:00:37,100 --> 00:00:36,420

seen a strong clay signal here that's

16

00:00:38,840 --> 00:00:37,110

exciting

17

00:00:41,450 --> 00:00:38,850

because clay minerals often form when

18

00:00:43,880 --> 00:00:41,460

water is around from the ground we can

19

00:00:46,130 --> 00:00:43,890

look for clues of ancient water in these

20

00:00:48,920 --> 00:00:46,140

cliffs above the clay unit the same

21

00:00:50,420 --> 00:00:48,930

orbiters see sulfate minerals that could

22

00:00:53,720 --> 00:00:50,430

mean that water was drying up or

23

00:00:55,430 --> 00:00:53,730

becoming more acidic comparing the clay

24

00:00:57,410 --> 00:00:55,440

and sulfate layers could give us a

25

00:01:00,740 --> 00:00:57,420

better idea of how the Martian climate

26

00:01:02,540 --> 00:01:00,750

changed over time cutting through the

27

00:01:05,750 --> 00:01:02,550

sulfate layer is evidence of an ancient

28

00:01:07,850 --> 00:01:05,760

gushing River Gettis Valles channel in

29

00:01:09,560 --> 00:01:07,860

orbiter images we've seen boulders and

30

00:01:13,429 --> 00:01:09,570

other debris that were probably washed

31

00:01:15,710 --> 00:01:13,439

out by the river this channel formed

32

00:01:17,630 --> 00:01:15,720

after the clay and sulfate layers it's a

33

00:01:20,179 --> 00:01:17,640

whole other chapter in the story of

34

00:01:21,800 --> 00:01:20,189

water on Mount sharp these features

35

00:01:24,740 --> 00:01:21,810

could teach us about more than just the

36

00:01:26,719 --> 00:01:24,750

mountain they may help explain what

37

00:01:29,300 --> 00:01:26,729

changes were happening across Mars at

38

00:01:31,399 --> 00:01:29,310

the same time and how that affected its