



Sol 3528
Before

Sol 3540
After

1
00:00:04,150 --> 00:00:02,470
this is a very strange pair of images

2
00:00:06,150 --> 00:00:04,160
these are two images

3
00:00:07,829 --> 00:00:06,160
they were taken 12 days apart and this

4
00:00:09,830 --> 00:00:07,839
just happened i mean this is going on

5
00:00:11,910 --> 00:00:09,840
right now this is where opportunity is

6
00:00:13,669 --> 00:00:11,920
currently parked and you can see

7
00:00:16,870 --> 00:00:13,679
12 days apart

8
00:00:19,269 --> 00:00:16,880
a rock just simply appeared in front of

9
00:00:21,029 --> 00:00:19,279
us in fact we've we've narrowed down the

10
00:00:22,470 --> 00:00:21,039
date of its appearance to about a four

11
00:00:24,470 --> 00:00:22,480
day period

12
00:00:25,670 --> 00:00:24,480
this is strange

13
00:00:27,910 --> 00:00:25,680

now we don't think that anything

14

00:00:29,990 --> 00:00:27,920

particularly exotic happened here the

15

00:00:31,589 --> 00:00:30,000

most likely scenario

16

00:00:33,670 --> 00:00:31,599

just uphill

17

00:00:35,910 --> 00:00:33,680

from this location as we were driving on

18

00:00:37,670 --> 00:00:35,920

some bedrock the opportunity to over did

19

00:00:40,709 --> 00:00:37,680

a kind of a pirouette we call it a turn

20

00:00:43,350 --> 00:00:40,719

in place but but drove in such a fashion

21

00:00:45,990 --> 00:00:43,360

that it would drag the right front wheel

22

00:00:48,709 --> 00:00:46,000

kind of chattering across the ground

23

00:00:50,229 --> 00:00:48,719

and we think that in the process of that

24

00:00:52,150 --> 00:00:50,239

wheel moving across the ground again

25

00:00:54,069 --> 00:00:52,160

this is speculation at this point that

26

00:00:56,069 --> 00:00:54,079

we kind of flicked it kind of tiddly

27

00:00:57,750 --> 00:00:56,079

winked it out of the ground and that it

28

00:00:58,869 --> 00:00:57,760

moved to the location there where we see

29

00:01:01,029 --> 00:00:58,879

it

30

00:01:03,590 --> 00:01:01,039

we have not found

31

00:01:04,789 --> 00:01:03,600

the divot the hole from which this thing

32

00:01:06,630 --> 00:01:04,799

popped out

33

00:01:08,149 --> 00:01:06,640

but the reason for that we think is

34

00:01:09,750 --> 00:01:08,159

because the place where we believe it

35

00:01:11,510 --> 00:01:09,760

came from is currently blocked by the

36

00:01:13,190 --> 00:01:11,520

solar arrays we can't actually see that

37

00:01:15,109 --> 00:01:13,200

spot so soon we're going to maneuver so

38

00:01:16,710 --> 00:01:15,119

we can go searching for that spot but

39

00:01:17,910 --> 00:01:16,720

what's interesting about this rock is a

40

00:01:20,230 --> 00:01:17,920

couple of things

41

00:01:22,630 --> 00:01:20,240

it appears that it may have

42

00:01:24,469 --> 00:01:22,640

flipped itself upside down and if that's

43

00:01:26,950 --> 00:01:24,479

the case what we're seeing is we're

44

00:01:28,070 --> 00:01:26,960

seeing a surface the underside

45

00:01:29,670 --> 00:01:28,080

of the rock in its original

46

00:01:31,830 --> 00:01:29,680

configuration that hasn't seen the

47

00:01:33,510 --> 00:01:31,840

martian atmosphere for perhaps billions

48

00:01:35,670 --> 00:01:33,520

of years and so we're seeing stuff that

49

00:01:37,270 --> 00:01:35,680

we don't normally get to see

50

00:01:38,149 --> 00:01:37,280

the rock is small

51
00:01:40,390 --> 00:01:38,159
um

52
00:01:41,910 --> 00:01:40,400
it is sort of white around the edge

53
00:01:44,550 --> 00:01:41,920
outside and it's got kind of a weird

54
00:01:46,230 --> 00:01:44,560
deep red color not a martian kind of red

55
00:01:49,350 --> 00:01:46,240
but but more

56
00:01:50,789 --> 00:01:49,360
a deep deep red color uh in the interior

57
00:01:52,389 --> 00:01:50,799
it looks like a jelly doughnut white

58
00:01:53,830 --> 00:01:52,399
around the outside red in the middle

59
00:01:55,429 --> 00:01:53,840
we've looked at it with our microscope

60
00:01:57,030 --> 00:01:55,439
it's clearly a rock

61
00:01:58,630 --> 00:01:57,040
uh we've looked at it with our

62
00:02:00,630 --> 00:01:58,640
compositional spectrometer and we're

63
00:02:01,910 --> 00:02:00,640

seeing a strange composition different

64

00:02:04,069 --> 00:02:01,920

from anything we've seen before there's

65

00:02:05,510 --> 00:02:04,079

a lot of sulfur in it suggesting a lot

66

00:02:07,830 --> 00:02:05,520

of sulfate salts which might have

67

00:02:10,389 --> 00:02:07,840

precipitated out beneath the surface and

68

00:02:11,830 --> 00:02:10,399

very high concentrations of manganese

69

00:02:13,430 --> 00:02:11,840

more manganese than we've ever seen in a

70

00:02:15,270 --> 00:02:13,440

martian rock high concentration of

71

00:02:17,430 --> 00:02:15,280

magnesium we're still working this out

72

00:02:19,830 --> 00:02:17,440

we're making measurements right now so

73

00:02:21,190 --> 00:02:19,840

this is an ongoing story of discovery as

74

00:02:23,110 --> 00:02:21,200

i said mars

75

00:02:25,270 --> 00:02:23,120

keeps throwing new stuff at us and it's

76

00:02:27,270 --> 00:02:25,280

these kind of unexpected discoveries