1
00:00:10,310 --> 00:00:08,310
so opportunity's been wildly successful

2
00:00:12,549 --> 00:00:10,320
mission i don't think any of us ever

3
00:00:15,589 --> 00:00:12,559
guessed it would explore the myriad of

4
00:00:17,750 --> 00:00:15,599
different terrains and surprises that we

5
00:00:19,990 --> 00:00:17,760
found

6
00:00:21,990 --> 00:00:20,000
we landed right in eagle crater

7
00:00:24,230 --> 00:00:22,000
that was most of our prime mission or a

8
00:00:26,390 --> 00:00:24,240
good fraction of it we then drove over

9
00:00:28,790 --> 00:00:26,400
to endurance crater which was a slightly

10
00:00:30,550 --> 00:00:28,800
larger crater

11
00:00:31,910 --> 00:00:30,560
we then spent um

12
00:00:33,110 --> 00:00:31,920
better part of a couple years if i

13
00:00:34,549 --> 00:00:33,120

recall correctly driving down to

14
00:00:36,470 --> 00:00:34,559
victoria crater

15
00:00:38,950 --> 00:00:36,480
and we explored that and that was a yet

16
00:00:42,069 --> 00:00:38,960
even larger crater

17
00:00:43,430 --> 00:00:42,079
and now we're taking this this this real

18
00:00:45,430 --> 00:00:43,440
challenge to get to endeavor crater

19
00:00:46,790 --> 00:00:45,440
which is you know so much further than

20
00:00:49,430 --> 00:00:46,800
we ever thought the rover would be able

21
00:00:51,830 --> 00:00:49,440
to drive endeavor crater is a very large

22
00:00:53,990 --> 00:00:51,840
impact crater that much older than any

23
00:00:56,310 --> 00:00:54,000
of those we've seen and so we still have

24
00:01:01,270 --> 00:00:56,320
approximately 12 to 14 kilometers to get

25
00:01:05,429 --> 00:01:03,349
we were simply driving along we looked

26
00:01:07,670 --> 00:01:05,439
at the images that we had acquired and

27
00:01:10,149 --> 00:01:07,680
we saw this dark spot out and we said

28
00:01:13,190 --> 00:01:10,159
well whoa that's different

29
00:01:16,070 --> 00:01:13,200
let's go there and so we drive to it and

30
00:01:18,149 --> 00:01:16,080
investigate it amazingly we found you

31
00:01:19,590 --> 00:01:18,159
know three or four of these meteorites

32
00:01:22,550 --> 00:01:19,600
you know gigantic chunks of iron just

33
00:01:25,030 --> 00:01:22,560
sitting on the surface of mars

34
00:01:26,870 --> 00:01:25,040
two of them are almost they have what we

35
00:01:28,710 --> 00:01:26,880
call a cavernous weathering where the

36
00:01:31,429 --> 00:01:28,720
interiors look like they've been eaten

37
00:01:34,149 --> 00:01:31,439
out which is quite common here on the

38
00:01:37,190 --> 00:01:34,159

earth when you have water that infuses

39
00:01:40,310 --> 00:01:37,200
and weathers out the interior

40
00:01:42,389 --> 00:01:40,320
have they been buried and exhumed

41
00:01:44,630 --> 00:01:42,399
was there liquid water when it was

42
00:01:46,710 --> 00:01:44,640
buried or was there water at the surface

43
00:01:49,109 --> 00:01:46,720
and these are all the kinds of questions

44
00:01:50,710 --> 00:01:49,119
that we're asking

45
00:01:52,230 --> 00:01:50,720
then just recently we found another

46
00:01:54,149 --> 00:01:52,240
large rock that was completely different

47
00:01:55,910 --> 00:01:54,159
called marquette island we've gotten rid

48
00:01:59,109 --> 00:01:55,920
of the weathering rind and measured his

49
00:02:02,310 --> 00:01:59,119
composition and it's a very olivine rich

50
00:02:05,429 --> 00:02:02,320
basalt so it's a rock and it has big

51
00:02:06,469 --> 00:02:05,439
crystals so it probably cooled slowly

52
00:02:08,550 --> 00:02:06,479
from

53
00:02:10,389 --> 00:02:08,560
some at some depth

54
00:02:12,390 --> 00:02:10,399
and this was some some other piece of

55
00:02:14,869 --> 00:02:12,400
mars that had probably gotten

56
00:02:16,869 --> 00:02:14,879
blasted off from a meteorite strike so

57
00:02:18,390 --> 00:02:16,879
you know here's a whole other piece of

58
00:02:20,550 --> 00:02:18,400
this the planet somewhere that they can

59
00:02:22,229 --> 00:02:20,560
analyze and try to figure out how it

60
00:02:26,790 --> 00:02:22,239
fits into the whole geological picture

61
00:02:30,150 --> 00:02:28,470
i think everybody's stunned that the

62
00:02:32,550 --> 00:02:30,160
rovers are still going i mean you know

63
00:02:34,070 --> 00:02:32,560

it's it's been repeated you know so many

64
00:02:35,589 --> 00:02:34,080
times well this was a 90-day mission

65
00:02:37,270 --> 00:02:35,599
that we're six years into a 90-day

66
00:02:40,869 --> 00:02:37,280
mission

67
00:02:42,390 --> 00:02:40,879
it's exploration in its truest form you

68
00:02:44,070 --> 00:02:42,400
you know that's what's so wonderful

69
00:02:45,270 --> 00:02:44,080
about having a rover if you don't like

70
00:02:48,070 --> 00:02:45,280
where you are

71
00:02:50,710 --> 00:02:48,080
go out and go someplace else

72
00:02:52,790 --> 00:02:50,720
it's just like if i was walking around

73
00:02:54,550 --> 00:02:52,800
somewhere on earth

74
00:02:56,630 --> 00:02:54,560
except everything takes a little bit

75
00:02:58,390 --> 00:02:56,640
longer but but at the end of the drive

76
00:03:00,550 --> 00:02:58,400
you get images and you look and you say

77
00:03:02,229 --> 00:03:00,560
well what's the same what's different

78
00:03:04,229 --> 00:03:02,239
what have we discovered

79
00:03:05,990 --> 00:03:04,239
and what's better than having a rover

80
00:03:07,589 --> 00:03:06,000
that can do that