1
00:00:20,460 --> 00:00:17,220
just because we landed on Mars doesn't

2
00:00:23,310 --> 00:00:20,470
mean that the challenges are now over in

3
00:00:27,540 --> 00:00:23,320
fact there are a lot of things that have

4
00:00:29,040 --> 00:00:27,550
to go just right on that first day well

5
00:00:32,670 --> 00:00:29,050
I think the biggest challenge we face is

6
00:00:34,620 --> 00:00:32,680
the surface of Mars nobody knows what

7
00:00:36,810 --> 00:00:34,630
the surface of this arctic region is

8
00:00:38,690 --> 00:00:36,820
going to look like at the level that

9
00:00:41,700 --> 00:00:38,700
we're going to be interacting with it

10
00:00:43,979 --> 00:00:41,710
right after landing we've got to make

11
00:00:46,950 --> 00:00:43,989
sure that we get our solar panels

12
00:00:48,450 --> 00:00:46,960
deployed there's two of them one meat on

13
00:00:50,760 --> 00:00:48,460

each have the lander and they open up

14
00:00:53,310 --> 00:00:50,770
like a Chinese fan that's probably the

15
00:00:55,290 --> 00:00:53,320
most critical thing on that day because

16
00:00:56,970 --> 00:00:55,300
if we don't have solar rays we don't

17
00:01:00,980 --> 00:00:56,980
have power we don't have power we don't

18
00:01:04,799 --> 00:01:00,990
have a mission also critical are

19
00:01:07,530 --> 00:01:04,809
deploying the camera and the robotic arm

20
00:01:09,450 --> 00:01:07,540
without the camera there's no way we can

21
00:01:11,490 --> 00:01:09,460
have a quick understanding of what the

22
00:01:14,249 --> 00:01:11,500
environment around us looks like and

23
00:01:17,249 --> 00:01:14,259
without the robotic arm we can't start

24
00:01:20,489 --> 00:01:17,259
digging for our science samples Phoenix

25
00:01:23,520 --> 00:01:20,499
is looking for habitats on Mars places

26
00:01:25,649 --> 00:01:23,530
where life could exist or could have

27
00:01:28,289 --> 00:01:25,659
existed in the past we know that life

28
00:01:30,959 --> 00:01:28,299
needs three things to exist it needs an

29
00:01:33,809 --> 00:01:30,969
energy source like sunlight it needs

30
00:01:36,749 --> 00:01:33,819
water and it needs organic molecules

31
00:01:39,330 --> 00:01:36,759
that's molecules that contain carbon

32
00:01:41,099 --> 00:01:39,340
oxygen hydrogen we believe that if

33
00:01:44,639 --> 00:01:41,109
they're there they're likely going to be

34
00:01:47,849 --> 00:01:44,649
beneath the ground and likely to be in

35
00:01:51,749 --> 00:01:47,859
ice the ice is not at the surface it's

36
00:01:54,660 --> 00:01:51,759
not this shiny ice skating rink set of

37
00:01:57,539 --> 00:01:54,670
ice it's going to be a dirty mess of

38
00:01:59,910 --> 00:01:57,549

soil and ice mixed together kind of like

39
00:02:01,709 --> 00:01:59,920
a Alaskan permafrost we expect to be

40
00:02:02,999 --> 00:02:01,719
able to dig down as deep as about a half

41
00:02:06,109 --> 00:02:03,009
a meter or about a foot and a half

42
00:02:09,600 --> 00:02:06,119
there's going to be a real gradient and

43
00:02:11,850 --> 00:02:09,610
exploration from surface to ice that has

44
00:02:14,820 --> 00:02:11,860
never been done before that ice is going

45
00:02:17,820 --> 00:02:14,830
to be as hard as concrete so getting

46
00:02:19,380 --> 00:02:17,830
down to that ice and getting a sample is

47
00:02:22,680 --> 00:02:19,390
going to take some time

48
00:02:24,960 --> 00:02:22,690
something we don't have a lot of time is

49
00:02:27,090 --> 00:02:24,970
of the essence when we get to Mars we

50
00:02:29,400 --> 00:02:27,100
only have a few months to do all of the

51
00:02:31,770 --> 00:02:29,410
science we wanted to a point will come

52
00:02:35,070 --> 00:02:31,780
in the fall when the Sun will

53
00:02:37,590 --> 00:02:35,080
permanently set and there won't be

54
00:02:40,380 --> 00:02:37,600
enough solar energy hitting the solar

55
00:02:42,780 --> 00:02:40,390
panels to continue to power the lander

56
00:02:47,550 --> 00:02:42,790
we are in fact working against a clock

57
00:02:52,440 --> 00:02:47,560
as winter advances the north polar ice

58
00:02:54,750 --> 00:02:52,450
cap is growing until it gets closer and

59
00:02:57,660 --> 00:02:54,760
closer to our landing site and

60
00:03:01,620 --> 00:02:57,670
eventually our lander will be completely

61
00:03:04,170 --> 00:03:01,630
in tune tonight so we face a lot of

62
00:03:06,600 --> 00:03:04,180
challenges on the surface of Mars but

63
00:03:08,729 --> 00:03:06,610

the dedication of the team is there and

64
00:03:11,430 --> 00:03:08,739
it's worth it because the discoveries

65
00:03:13,770 --> 00:03:11,440
are going to be so amazing for a

66
00:03:16,320 --> 00:03:13,780
scientist this is the beginning of our

67
00:03:18,900 --> 00:03:16,330
chance to really try and understand what

68
00:03:20,610 --> 00:03:18,910
the truth the scientific truths of the

69
00:03:23,130 --> 00:03:20,620
Arctic region of Mars are all about

70
00:03:25,080 --> 00:03:23,140
we've never dug into ice have not had

71
00:03:26,580 --> 00:03:25,090
incidents like this on Mars before that

72
00:03:28,340 --> 00:03:26,590
can detect the organics like we like

73
00:03:32,300 --> 00:03:28,350
these instruments can what's more

74
00:03:35,520 --> 00:03:32,310
thrilling as a nation as a world then

75
00:03:38,130 --> 00:03:35,530
finding another world that perhaps also

76
00:03:40,199 --> 00:03:38,140
contains some form of life our mission

77
00:03:42,930 --> 00:03:40,209
is just a stepping stone in that

78
00:03:44,340 --> 00:03:42,940
ultimate search but it's an exciting

79
00:03:47,400 --> 00:03:44,350
part of the search because we're going

80
00:03:49,890 --> 00:03:47,410
from finding water to finding a