But you can see the time difference, the style of Buddha, both of them are talking about the Buddha's where it is the hairstyle have been different, and their artistic style is also very different. In fact, some point of the time people also used to make it, this is a kind of Pitalkhora style of hairstyle you know, these are all some representative skills which has been developed through time.

Now, this is a brief about the caves and their historic aspect like the Buddhist sects and how they have been represented, but then I will also touch upon the geotechnical aspects of it, the geomorphological aspects of it.

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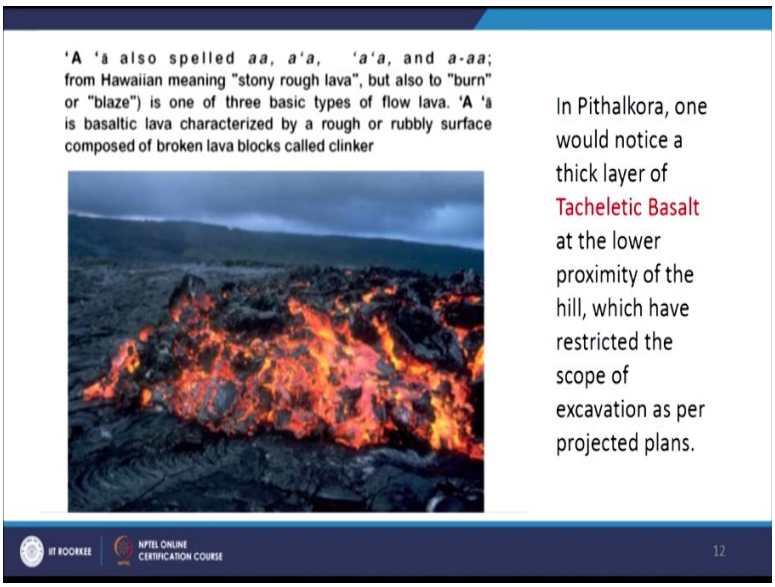

Now, in Pitalkhora we actually notice a very thick layer of Tacheletic Basalt at the lower proximity of the hill, which have restricted the scope of excavation as per projected plans because you know this is about this Basalt which actually sometimes it becomes a very soft material when keeps making an excavation it breaks into the pieces you know, that is how there is a chance that the evidence will also be losing, we will be losing some evidence.

Like now what you see here is a kind of lava where we talk about the 'Aa' which is the basaltic lava which is characterized by a rough or a rubbly surface and these lava blocks also we actually extract the clinker from this kind of rough and rubbly surface lava is called 'Aa'.

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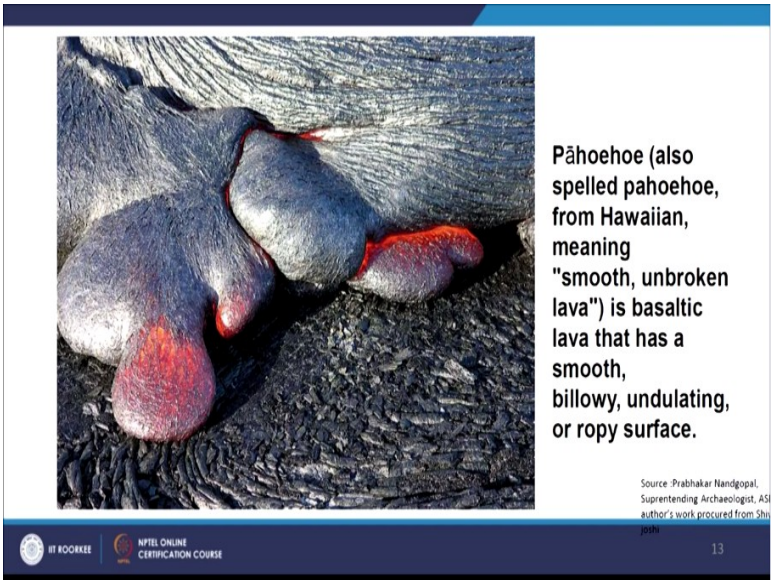

This is a very smooth surface which is unbroken lava is also a basaltic lava that has a very smooth, billowy, undulating or a ropy surface and this is called a Pahoehoe and this is a Hawaiian meaning which is called smooth and unbroken lava, it just floats in a very smooth liquid like you know when the mercury starts flowing down.

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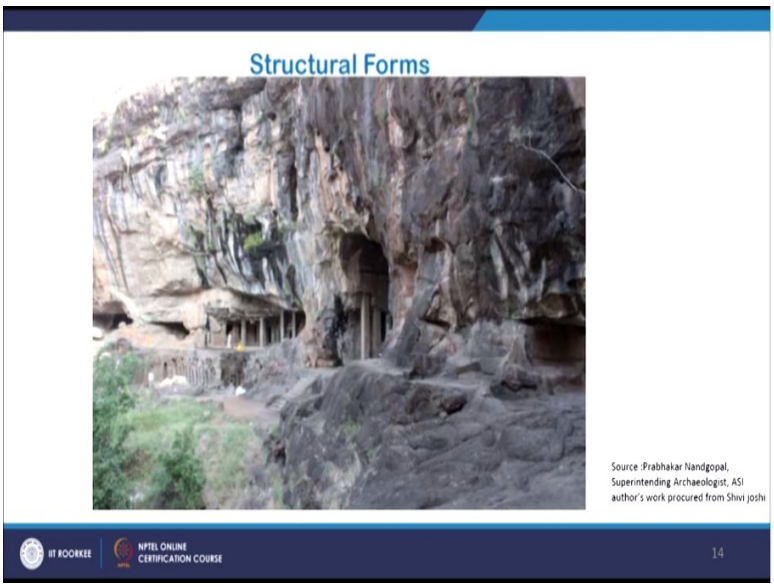

When these kind of molten lava gets cooled up that is where it develops the structural forms whether structural joints are developed and some hollow spaces are also developed and this is where the hollow spaces becomes eventually man have made his shelters.

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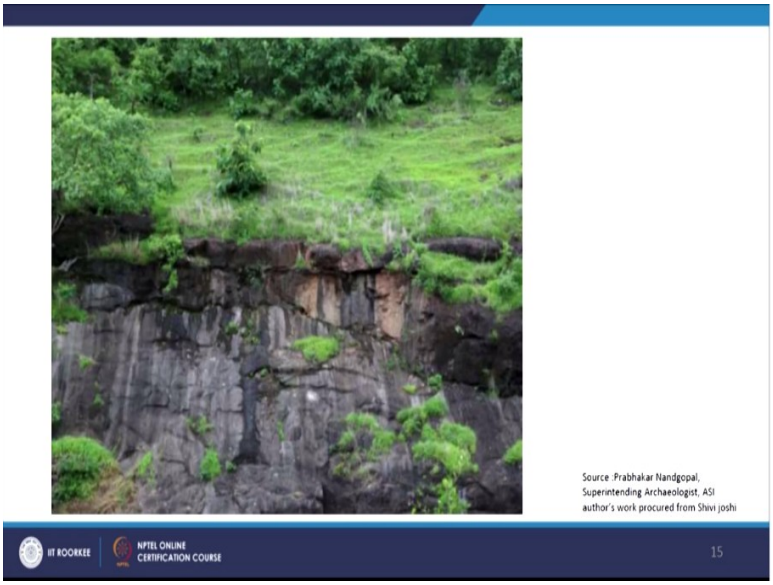

Now, what we can see is the layers of the horizontal layers of one over the another. So, these layers also talks about these beds which are talking about, so a set of lava have come down and gradually another set of lava and the by the time it cools down the another set came, another set came. So, this is how this horizontal layer started developing one over the another.

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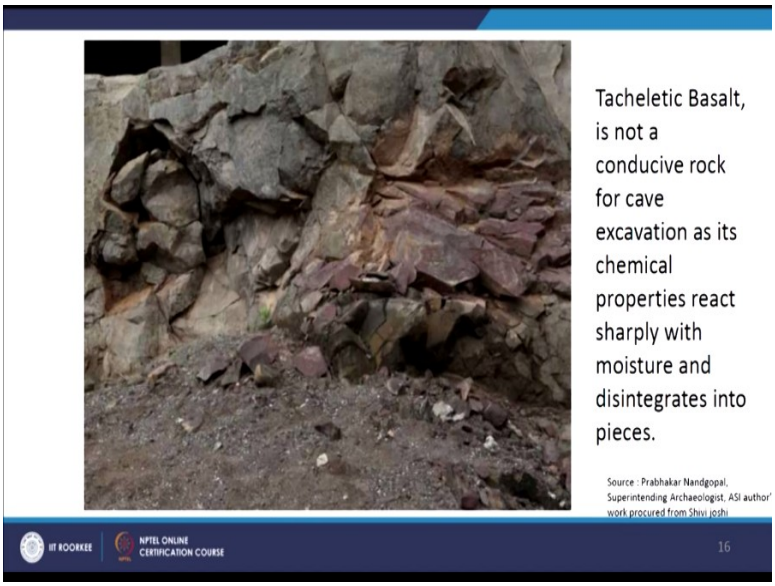

And this Tacheletic Basalt which is not a conducive rock for cave excavation as its chemical properties react sharply with moisture and disintegrate into pieces. The moment you are making an excavation process, it gradually brokes into small wedge-shaped pieces you know, that is one of the important aspect in the excavation challenges and excavation challenge especially with this kind of material.

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This is another form we talk about the ropy structure, so that is where this is again a Pahoehoe sort of thing which actually twist into a trend of ropy format.

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And you can see also as time passes on the spheroidal weathering takes place because this layers on the top layers keeps coming like a chip by chip and this is again in a spheroidal manner, this is called spheroidal weathering.

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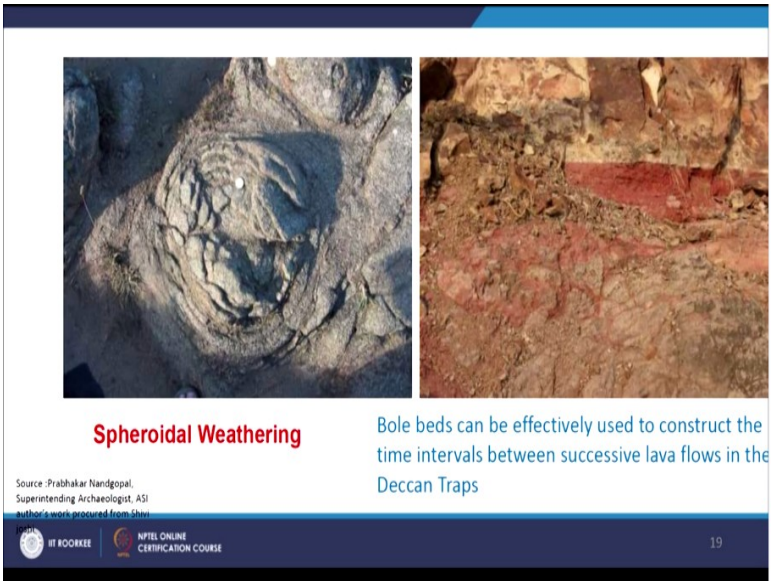

And on the left-hand side, you see an example of how the whole rock formation and because of the weathering aspect how it chips down. On the right-hand side what you see is a kind of Bole beds which is actually look at the time intervals of how these successive lava flows have been trapped in the Deccan Trap you know.

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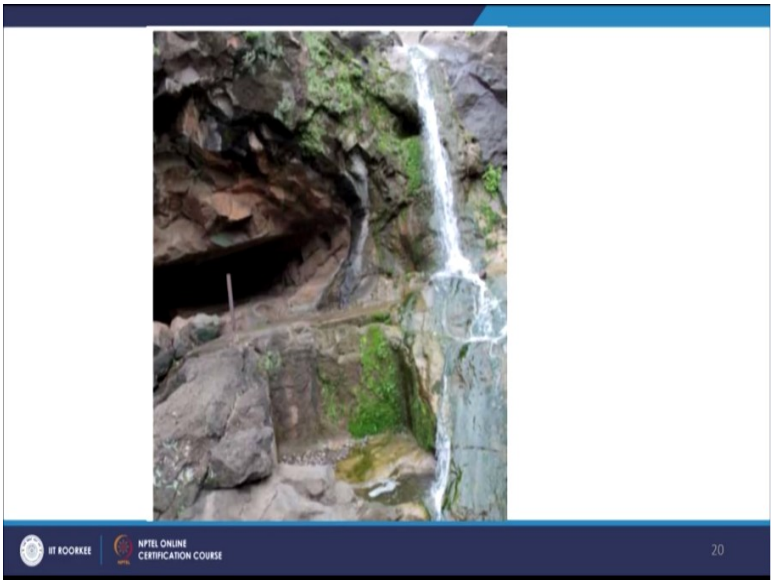

And as the time passed on obviously there has been some water bodies, small waterfalls or they keep channeling it as per the slope and the gradient which has been a natural form. But then it has been there for ages and until people have discovered no one have realized it, and it has been there since many decades. Now, things are the water is following and the seepage has started within the caves and this is one aspect.

Now, what they did was the archaeologists team they have actually mapped down, they have actually documented the whole set of caves including the analysis of the cracks this is where they talk about a geological mapping of the ceiling of the caves and this is one of the Chaitya where they have documented where are the cracks coming into it, what are the categories, they have classified the categories of the risk.

So, depending on the nature of the crack and from the stable to the most unstable level, so that is how they leveled crack category 1, 2, 3, 4, 5 and that is where they classified and categorize these risk aspects and similarly this is again, they again categorize with what are the different aspects of the risk.

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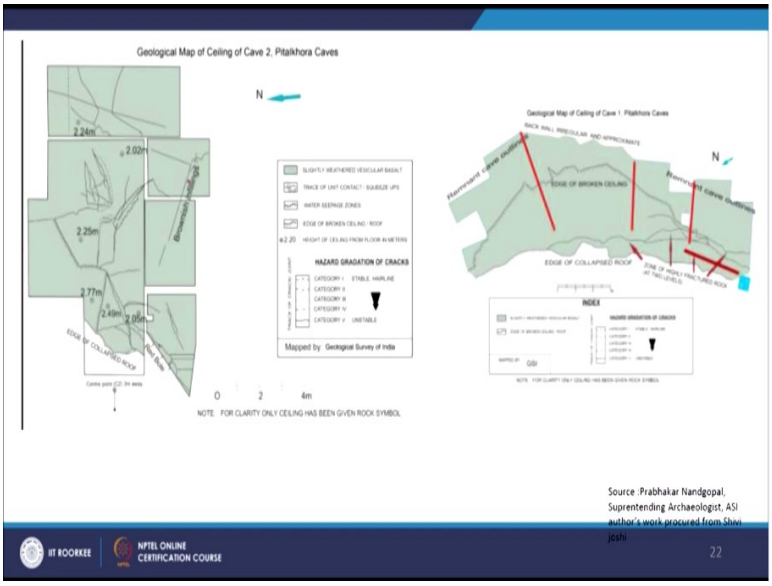

One is the slightly weathered vesicular basalt and also water seepage zones which are more of this dotted aspects of it and where the edge of the broken ceiling you know the roof, and this is where they try to again classify all these aspects and also where the cracks are also appearing continuously not only in a horizontal in the ceiling level but throughout the cave structure, how this vertical cracks are also coming up.

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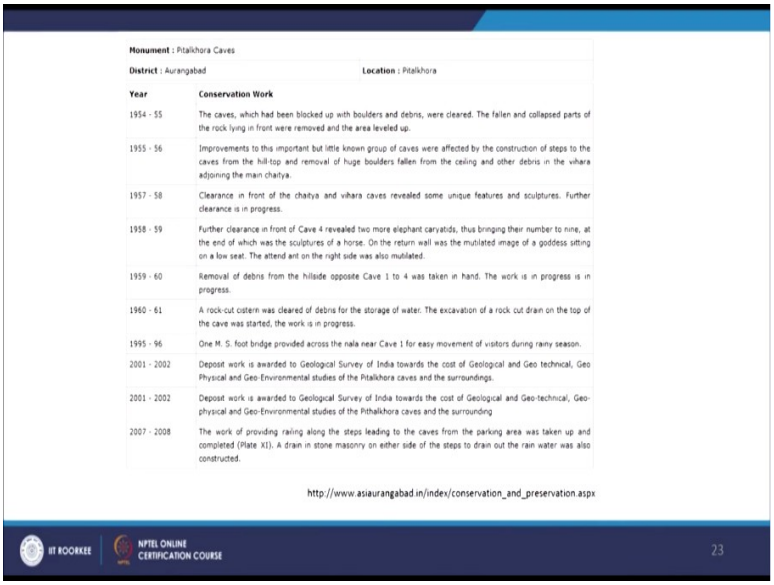

And after having this, I showed you only a small set of analysis of how one have able to document all these caves and how they were able to map down from a spatial point of it and analyze what are the root causes for it, where are the material aspects into it, where are the water seepage issues, whereas the ceiling has been broken down or if there is the pillars have been broken down, whether the floor aspect which has been chipping out because of weathering aspects or during rainy season what kind of impacts it is having.

So, all these documentations have been done. So, but then when you look at the set of activities which has been taken as a part of the conservation plan from 1954 to 2008 you see a huge span of time but then a very limited work what we can see but then one has to understand, it is not a regular building project, it is a conservation project.

So, it normally takes time because even analyzing to make a small scaffolding how to do it is also a big task you know because you might destroy the evidence like in 1954-55 this has been completely blocked up to the big boulders and debris. They have started clearing it, and then there are already some fallen and collapsed parts of rock lying in front were removed and the area has been leveled up.

And in 1955-56, so has been very little known group of caves were affected by the construction of steps to the caves from hilltop and removal of huge boulders fallen from the ceiling and other debris in the Vihara adjoining the main Chaitya. So, in 57 and 58, clearance in front of the Chaitya and Vihara caves reveal some unique features and sculptures that is where I showed you the lion and bull, the horses.