



Rocks in the field

Sedimentary rocks

GLYNDA:

Now let's look at some rocks that form at the surface and comprise the third group, the sedimentary rocks.

TONY:

When we look at this exposure the first thing we notice is this very broad flat surface. We call these bedding surfaces. Although it's now tilted, when it was originally deposited it was laid down horizontally and we're going to now try and show you some evidence for that.

GLYNDA:

First of all what material is it made of? It's a fine grained sandstone comprising a high percentage of quartz, but we can do better than that. Is it marine or desert deposition that we're dealing with here?

TONY:

You're not going to be convinced by this but what I'm seeing here is a trace fossil - it's a burrow structure. And in essence it's a burrow structure that has been developed roughly perpendicular to this bedding surface. What you've got to imagine is an organism crawling over the surface and burrowing its way down into the sediment to create a vertical tube. When the organism leaves the burrow, sediment can be washed in and that hardens into a rock and that's what you can see here. And being slightly harder than the surrounding rock it's now being weathered to stand out on the surface. There is other evidence though in this rock as well because if I actually look at the surface what I can see here are some skeletal fragments - this one for example is a crinoid columnal - all this material is broken up and that suggests to me that this sediment was actually deposited in a quite high energy environment, and when these organisms died all the various bits that were their skeleton gradually got broken up, moved about and you're just literally seeing the surface that's covered in debris at the moment.