

Location MT5

SO 739 638

Footpath-side exposures, NE of Shelsley Beauchamp



Along this part of the route, the footpath has become incised into the hillside due to many years much use by man, and also because the geological material underlying

the soil is very soft. Animals have taken the opportunity to dig burrows in the bank side for some distance along the footpath. These burrows have created exposures of the soft geological material underlying the soil.

Pick up some (a teaspoon amount) of the reddish-brown sedimentary material exposed in the bank and examine it: Is this material soft or hard?

Does the material have an even texture or does it have clasts in it?

What is the colour of the clasts?

What are they made of? Is it the same as the matrix?

Are the clasts angular or rounded?

Can you see any fossils in this sedimentary material?

Are there any structures (such as laminations or bedding) in this sedimentary material in the bank exposure?

Using your answers to the above questions, decide which of the following (a) or (b) is likely to be true:

(a) A reddish-brown weakly-cemented mud in the bedrock was exposed to, and affected by, weathering. The weathered mud was only partially broken down, resulting in a soft muddy matrix containing coarse angular fragments. This weathered material was then transported as a jumbled mass to, and deposited where, it is seen today. The transporting was no great distance, as the fragments have not been rounded and they are made of

weakly-cemented mud which would have easily disintegrated.

(b) A reddish-brown weakly-cemented mud in the bedrock was exposed to, and affected by, weathering. The weathering process produced a layer of even-textured, thinly-bedded sand-grade material. This weathered material soon hardened and became a resistant layer. The layer was broken up by fast-flowing water into fragments mostly over 10mm in length that abraded each other into rounded shapes as they were carried many kilometres downstream, and deposited in water inhabited by shellfish.

This type of deposit seen at Location MT5 usually forms a layer on top of the underlying bedrock; you have seen it before - it is head. Head forms on land affected by frosts in a cold climate.