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THIN SECTION ANALYSIS OF STONE ARTIFACTS FROM THE ARCHAEOLOGICAL SITE AT MEGYASZÓ

The overwhelming majority of the samples can be defined as limnic quartzites. Some display a fine grained base rock, while others formed on rougher piroclasts. In most cases, fine classification, sometimes even fine stratification can be observed. Regarding also that structures characteristic of swamp flora are not exceptional, it may be supposed that the majority of the limnic quartzite samples came from the silicification of volcanic debris fallen into the water of a swamp. This fine grained base rock material provided the basis of a good raw material with homogenous physical characteristics in all directions.

A few samples are from obsidian.

Description of the samples:

1. Limnic quartzite, coarse grained structure with striped reddish colouring

The finely grained material is composed of opal and quartz. Chalcedony can be recognized in narrow veins. The probable rubstone and phenocrystals were mostly replaced by chalcedony.

Thin patches and stripes were coloured by goethite.

2. Light brown limnic quartzite

The very finely grained material must have originally been a finely stratified and classified piroclastite deposited in water. The microstripes are recognizable under a microscope, while the darker stripes are formed by a thick mass of roughgrained quartz crystals. The yellowish brown colouring is caused by finely distributed goethite. The black hue is due to manganese oxides.

3. Dark brown limnic quartzite

A very fine grained base material constituted mostly of opal. The tiny holes were filled with quartz.

The white weathering level on the edge of this sample is very characteristic. With 1 N it looks black.

4. Dark brown limnic quartzite

The fine grained base material is constituted of opal and quartz. The material displays an extremely fine stratification, most probably is settled in water. Parallely to these strata, "microlenses" of quartz agglomerations with larger grains can be observed. In addition, opaque phases (magnetite?) can be recognized, often rhythmically distributed parallelly to the stratification.

5. Limnic quartzite with striped colouring

It is composed of very fine grains. The base material is constituted of opal and quartz. Opaque grains and xenomorphous grains of quartz can also be observed. The rare holes were filled with quartz. The Liesegang phenomenon might be caused by finely dispersed goethite.

6. Black obsidian

Finely flowing structure. The base material is constituted of small crystallites and it contains phenocrystals of plagioclasic feldspar, biotite scales and snarls of feldspar slivers, biotite snarls and, finally, scattered grains of opaque minerals (magnetite?).

7. Light brown limnic quartzite

The base material is constituted of rougher grains of opal and quartz. Chalcedony is frequently met in holes and veins. Vegetal remains can often be observed in the base material. These are first of all structures of thin walled reed in longitudinal and cross sections.

This suggests a formation in fresh water, in swamp. The brownish hue may be due to the organic constituents.

8. Limnic quartzite with many organic remains

The base material is built of fine grained opal and quartz. Inside, the densely scattered remains of vegetation can be observed with a diameter of several mm (stems?). The organic tissue was replaced with rough grains of quartz which preserved the original structure. Idiomorphous quartz crystals are frequent in holes. The brownish and reddish colours might have been caused, beside the organic remains by iron compounds.

9. Light brown limnic quartzite

The base material is composed of fine grained quartz. Towards cavities and holes the grain size grows.

Sometimes brownish vegetal remains can be observed.

10. Grey limnic quartzite

The fine grained base material is composed of quartz and opal. It is finely stratified, probably it was deposited in water.

A rhythmical series of opaque mineral grains can be observed. Xenomorphous quartz grain aggregates appear in the base material. The brownish hue is caused by goethite.

11. Brownish limnic quartzite

The base material is composed mostly of fine grained quartz. Sometimes larger quartz aggregates and opaque mineral dispersions can be observed.

12. Brownish limnic quartzite

The base material is fine grained quartz with densely distributed (organic?) structures of rounded section. At the edges of some of them extensions can be observed in radial direction. They might be remains of protozoa.