

Field Trip 1  
(July 30, 2022)

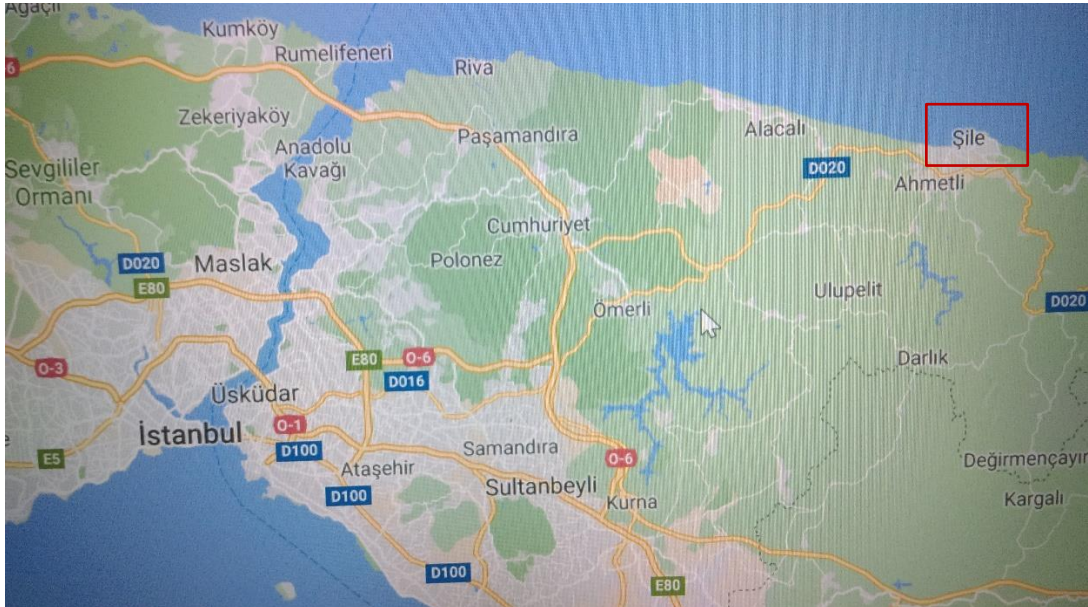
## ŞİLE CLAY DEPOSITS

*Turkey's most important raw material for ceramics*

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Şile is a district of İstanbul province on the Black Sea coast.



Şile is 80 km north-east of Maslak, İstanbul ICC meeting site.

## ŞİLE CLAY DEPOSITS

The Şile region (NE İstanbul) is part of the Şile Neogene Basin as described in the geological literature of Turkey. It is a very important place for sources of ceramic clay, refractory clay, quartz sand and coal reserves used for various industrial fields.

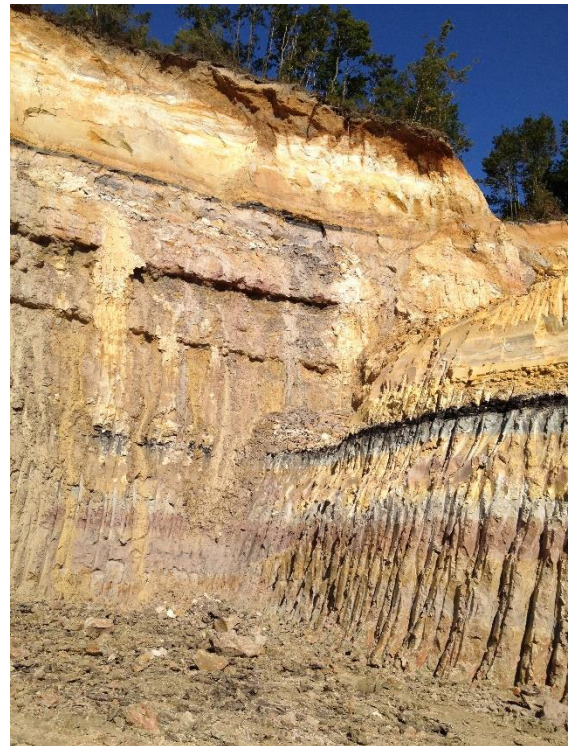


The basement rocks are Silurian conglomerates, Ordovician quartzites, Devonian limestones and Upper Cretaceous andesitic volcanics.



The kaolin deposits are comprised of disordered kaolinite, illite, smectite, gibbsite, halloysite, quartz, pyrite, anatase, K-feldspar and goethite.

Multiple types of kaolinization are hypothesized in the region; 1) paleo-residual formation from weathered andesitic rocks, 2) paleo-sediment-hosted formation, and 3) modern *in situ* weathering. Kaolinite, amorphous silica and gibbsite was formed by leaching process controlled by differential mobility of elements, ground-water movement, permeable zones and the presence of humic and fulvic acids produced in the swamp environment. Smectite was largely formed by *in situ* weathering of andesitic volcanics on the top of surrounding hills.



Additionally, fine-grained kaolinite was formed by sericitization of feldspar in late-stage alteration phenomena. The occasional presence of halloysite indicates that at least some kaolin was transported a relatively short distance or formed in place.

## References on Şile Clay Deposits

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