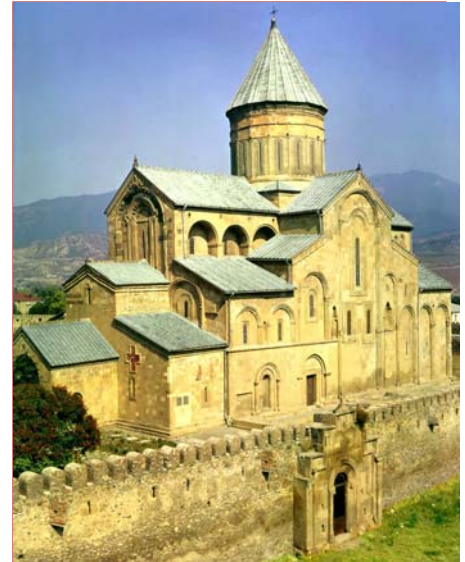


**Cvetitskhoveli Cathedral - Mtskhetha City - Museum**

Engineering geological conditions and problems:

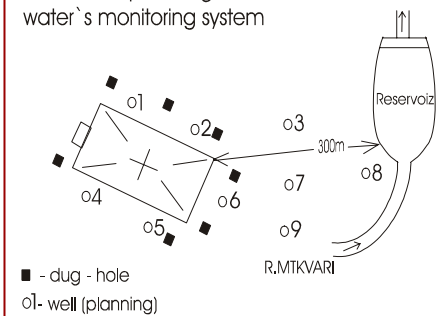
- The Cathedral is built on the terrace of r.Mtkvari; cross-section: the “cultural” layer, then different character, clays and on the bottom – almost 3m thickness alluvium which is disposed in a depths of 5-6m on the weathering zone of “Maikop” age rocks ( boundary of Neogene-Paleogene). The foundation of construction is situated on the different levels (except the “cultural” layer); this circumstance is a source of instability-uneven subsidence. The deformation of the construction was observed after the reservoir on the r.Mtkvari was built on the distance of 300m from the Cathedral. The level of underground water is rising and changing properties of rocks. This area is also typical tectonic “knot” and have a seismic problems – here were catastrophic earthquakes (force 8-9) in 1275, 1293, 1318 and the last one in XIX century.



Protection measures have to be taken:

- Using date of existence dug-holes and future drillings give as possibility to draw a geological picture in details.
- The net of wells will form the monitoring system of underground waters surface.
- The foundation has to be bring to the moist rocks level.
- Impermeabilization of the rocks around foundation.
- The wall`s fissures jet-grouting.

Schematic plan of ground water`s monitoring system



Historical information:

Svetitskhoveli Cathedral is the striking example of medieval Georgian and Eastern-Christian architecture. This largest church in Georgia was built from 1010 to 1029 by the architect Arsukidze on the place where the Robe of Christ was buried, the chronicles narrate. On the beginning of IVc. the newly baptized King Mirian built here the first wooden church made from the cedar of Lebanon, which had grown on that grave and name of Svetitskhoveli means “life - giving pillar”. The new cathedral incorporate the remind of the old bases of the pillars (at present protected under a glass floor). Svetitskhoveli is faced with smooth cut sandstone tiles which is decorated with a rectangular frame; inside still surviving murals dated mostly XI - XVII century. Svetitskhoveli - the Cathedral of the Catholicate still remains the holiest shrine of the Georgians.