



Searching for necropolis in Kazakhstan

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This work presents and discusses the usage of a non-invasive sensing technique for the study of archaeological heritage, focused on a particular case study about a research campaign made in Kazakhstan during 2009.

The task of the campaign was to use a fast nondestructive exploration method to select the most probable Abulkhair Khan (1693-1748) tumulus. His mausoleum was constructed by his son on the place where Abulkhair Khan had been murdered. People begun to use this place as a cemetery and had built a lot of mausoleums. Nowadays all the mausoleums are destroyed by the effects of time and weather and are in the form of barrows.

Kazakhstan historians have some records about the writings on Khan's grave, thanks to people who saw them a couple of years after its construction. As other mausoleums, Khan's one was built with non-baked clay. Khan was buried in his khan's clothes together with his weapon. Empty space was left over the khan's body for religious reasons. There were several barrows that could be attributed to Abulkhair Khan for some reason or even due to memories left by old men.

An Electro-Magnetic Scanner NEMFIS has been used to search for barrows; its usage and the data about one of the researched barrows are presented in this work; it will be shown how easy is the detection of two grave pits under the surface of said barrow. They are shown as a low value of conductivity due to the empty space that was left over the bodies; this happens because of some peculiarities of Muslim funeral ceremonial.

In addition to that, this case study will show a situation of increase of the isosurface between two grave pits, presumably due to the remains of a wall between graves or a sanctuary. No information about the construction of this barrow can be visible from the surface, so NEMFIS data allowed researchers to exclude the site from the list of potential Abulkhair Khan's mausoleums.

Only one of the investigated barrows suites the description of coevals: it has only one grave pit in it, and it has remains of tombstone, constructed with not baked clay. The size of walls is close to evidence and the layout of grave pit and walls is compatible with the memories of coevals. From the daylight surface the shape of this barrow looks like a circle, but data shows it more likely to be rectangular.

Data collected by the NEMFIS hadn't shown any metal objects under the surface. It could happened due to the small quantities of metal in Khan's clothes and weapon. Or rust could destroy metal objects to non detectable sizes.

Details about this investigation and discussion of the results of this specific case study are presented in this work.