

# **Results of Investigation of Archaeological Sites with Help of Geophysics, SEG Field Camp 2015: In Pursuit of the Scythians**

**Georgiy Loginov<sup>1</sup>**

<sup>1</sup>Novosibirsk State University

## **Abstract**

This article describes the results of the SEG Field Camp “In pursuit of the Skythians”, which was held in Altay Republic, Russia in August 2015. During the Field Camp a number of archeological sites were investigated with help of geophysical methods: ground-penetrating radar (GPR), magnetometry, radiometry, electrical tomography and seismic. The archaeological objects are located near the village of Manzerok. Geophysical methods were used for investigation of such sites as the ancient settlement, fortress, the complex of graves and tombs and the cave of ancient humans. This article describes the data processing and complex interpretation results of these multicultural, multi-age and polytypic sites.

The most of archaeological sites are the areas with a size of about 2500 square meters. The huge number of objects such as mounds located in forests or covered by high grass and bushes for a long time, so they were not robbed. This fact made a noise for archeological investigations. One of the sites was a complex of burial mounds, which includes about four mounds and two of them are visible on the surface. The task of investigations was to locate stone constructions in the burial mounds at the site and try to detect new mounds, which are not visible on the surface. First, the methods and data processing workflow were verified on the objects which are visible. The anomalies were registered, described and interpreted using geophysical fields. The data gathered with each method were proceeded separately. The complex interpretation was made by final images of each method. A good correlation between the GPR and electric tomography was found. The tombs are also visible in the magnetic field. As a result, the grave center was found on the depth about one and a half meters with the cover of rocks on top and its diameter is about two meters.

During the SEG Field Camp 2015 “In Pursuit of the Scythians” five multi-cultural, multi-age and polytypic archaeological sites were covered by geophysical methods. Most of the tasks on the sites related to investigation of the inner structure of the object and detection of new objects with help of geophysics. As the result of investigations a number of anomalies in geophysical fields were interpreted as new mounds.

The author presents the Novosibirsk State University SEG student chapter and is grateful to the SEG for the enormous support and help in this project.