

## UPDATES ABOUT THE DEMOLISHED CHURCH FROM CITFALĂU (HU. CSITTFALVA) WITH GEOPHYSICAL MAPPING

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**Abstract** At the site of the church from Citfalău, destroyed in the seventeenth century, non-destructive surveys were conducted in 2010. The purpose of these measurements were first of all the precise delimitations of the church, and secondly the acquiring of new data, which did not come to light during the archaeological excavations from the past century. The geophysical surveys showed that the church had one tower, which was not identified during the test excavations from 1952; these new surveys can offer the basis for new archaeological excavations.

**Keywords** Citfalău, medieval church, geomagnetic survey, geoelectric survey

**Rezumat** În anul 2010, pe locul fostei biserici de la Citfalău, biserică distrusă și dispărută în secolul XVII, au fost realizate prospecții non evazive. Scopul principal a fost identificarea și delimitarea exactă a bisericii și obținerea eventuală a unor informații noi, care n-au ieșit la iveală cu ocazia efectuării cercetărilor arheologice din secolul trecut. Prospecțiile geofizice de aici au demonstrat că biserica avea un turn, nedescoperit prin sondajele din 1952. Noile măsurători efectuate pot reprezenta un punct de plecare pentru reluarea cercetărilor arheologice.

**Cuvintele cheie** Citfalău, biserică medievală, prospecții geomagnetice, prospecții geoelectrice

### Introduction

The disappeared village of Citfalău (Hu. Csittfalva) is situated at a distance of 10 km from Târgu Mureș (Hu. Marosvásárhely) towards SW between Morești (Hu. Malomfalva) and Sântioana de Mureș (Hu. Csittszentivány). In the early Árpád age the village pertained to the county of Turda and later to the seat of Mureș (Fig. 1). Archaeological excavations revealed the foundations of a village church of longitudinal arrangement, which consisted of a rectangular nave and to the east, a narrower semicircular apse.

The dating of the barely researched church, based on its ground plan, was difficult to define. The excavation leader defined the church as Gothic in style and dated it to the thirteenth century until the fourteenth century (Horedt 1953, 295; Horedt 1957, 308; Horedt 1958, 57; Horedt 1979, 66; Horedt 1984, 54).

Based on its ground plan some of the art historians questioned the Gothic nature of the church (Vătășianu 1959, 78); among archaeologists, István Bóna, taking into consideration the modest excavations, carefully dated it to the Angevin period (Bóna 1985, 230). Art historian, Géza Entz also dated the church from Citfalău to the thirteenth century (Entz 1994, 30). Because the foundation of the church cut earlier graves all scholars agreed that probably an earlier church existed. This hypothesis could be supported only by the use of the cemetery in the beginning of the twelfth century even if archaeological excavations could not fully attest this.

### Written Sources

The first mentioning of Citfalău comes from the 25 denar census of Mureș seat from 1567, where it appears in the form of *Chijt falwa* with 1 gate (SzOkl., II, 218). In the census of Giorgio Basta from 1603 is mentioned as a destroyed village (ÚjSzOkl., IV, 153). In the census of Gábor Bethlen figures as a separate village (ÚjSzOkl., IV, 197, 207), but its name does not appear in the military census of György Rákóczy I from 1635. The site of its church is indicated by the hill with the name *Templom dombja* (Orbán 1870, IV,

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218), in Romanian *La biserici* (Horedt 1953, 293), which means *the hill of the church*. The bell from the disappeared village of Citfalău is enlisted in a list of ecclesiastical objects from 1643 from Sântioana de Mureș (Kelemen 1977, 179). The church from Citfalău, which was a common property of a number of villages, after the destruction of the village, was still standing. In 1687, the community from Citfalău wanted to restore the church, which was already in a bad condition. For the restoration they asked for help from the patron-court from Morești, from the owner Zsuzsanna Nemes, but because of the absence of the owner they did not receive help (Benkő 1869, 316; Orbán 1870, IV, 218–219; Kelemen 1977, 179; Entz 1994, 30). Thus, the community from Sântioana de Mureș received the permission from the synod of Târgu Mureș that they take out from the ground and use the bell from the church of Citfalău in the beginning of November, in 1688 (Kelemen 1977, 179). The already ruined church from Citfalău in lack of restoration was totally destroyed, at the end of the seventeenth and the beginning of the eighteenth century. Balázs Orbán in 1870 mentioned the place called *Templom dombja* as land used for agriculture, where only wall remains and brick fragments indicated the place of the former church (Orbán 1870, 218).

#### *A summary of the previous archaeological excavations*

In the framework of the excavations that took place at Morești, led by Kurt Horedt between 1951 and 1955, test sections were made also at the site of Citfalău (Fig. 2). The aim of the excavations was to identify the place of Citfalău mentioned in the written sources until the seventeenth century. For this purpose the best place was supplied by the hill called *Templom dombja*.

In 1952, with the XXXI test section they managed to find the church (Fig. 3) and to excavate 24 graves, which belonged to the cemetery that surrounded the church. The foundations of the walls of the church were missing in the excavated area but the wall traces were filled with stone and wall fragments, thus, the path of the walls could be reconstructed. For the church bricks of 4–5 x 15 x 17 cm were used, which can probably be linked to a later construction phase. The foundation of the church was at – 1,10 m depth, and the thickness of the walls was 1 m. From the cemetery surrounding the church (with a semicircular apse and one nave) E-W oriented graves were identified with bronze hairpins and S

ended hair rings. A coin from Béla II (1131–1141) was found in the filling layer, which probably originated from a disturbed grave, and dated the use of cemetery starting from the twelfth century (Horedt 1953, 293–296).

The excavations from 1954 concentrated on the cemetery and on the identification of the disappeared village. Towards the north-east from the church, parallel with the road coming from Morești to Sântioana de Mureș a 20 m long test section was excavated; in its western part graves were found at a distance of 35 m from the church. With the widening of the section towards the west, on a surface of 8 x 8 m 31 graves were identified. The graves lay at a depth of 0,30 – 0,80 m often disturbing and cutting each other. In the south-western corner of the surface a coin from István II (1114–1131) in secondary position was found, which strengthened the early twelfth century use of the cemetery (Horedt 1955, 651–653). Other eleven sections were opened further from the church but the remains of the disappeared village were not found. To 200 m to the east of the church on an 11 x 30 m surface the remains of an eleventh and twelfth century house dug into the ground were excavated, which probably was part of the early settlement. The second excavation campaign showed that more burial horizons existed, starting from the twelfth until the seventeenth century. In this way the cemetery can be dated to an earlier period than the parish church, to the very first part of the twelfth century.

#### *Results of the geophysical surveys*

In 2010 we carried out magnetic surveying and geoelectric imaging to find the remains of the ruined church and map its structure. The survey area was pointed out based on Horedt's (1984) description and field investigation (Szilámér Pánczél and Keve László). According to Horedt (1984) the church stood on a small hill bordered from south by a little stream and from the east by a dirt road running between Citfalău and Morești (Fig. 4). The area fitting the description has about 50 m x 50 m in size and is elevated above its surroundings by a few meters. On the hill many brick fragments and river stones from the River Mureș can be found. Presently, the area is under agricultural cultivation.

We measured the vertical gradient of the magnetic field in a grid with spacing of 1 meter. The results are presented together with the aerial photo of the area from the Google Earth in Fig. 4. The foundation of the church is well visible in the

middle of the picture. While the magnetic anomaly of the southern wall is relatively high ( $\sim 20$  nT/m), the northern wall is characterized by smaller magnetic anomalies (5-10 nT/m). This observation is interpreted that more debris, bricks and stones fill the trench of the former foundation of the southern wall than the trench of the northern wall, or some parts of the foundation of the southern wall remained in place. At the entrance of the church joint to the building a 5 m x 5 m rectangle can be seen, which indicates the foundation of the tower. The exploration trenches dug by Horedt (1952) have not crossed it. There are some small, 1-2 m size magnetic anomalies around the temple. They are probably due to the building materials of the church, which were scattered around when the temple was demolished. The WNW-ESE stripes in the magnetic image are caused by ploughing.

Magnetic surveying was able to detect the former walls of the church. However, the magnetic image is quite rough, and additionally, the depth of the walls is unknown. In many cases it is worth to apply different geophysical methods, because they are sensitive to different material properties. The geoelectric methods aim to determine the electric resistivity of the subsurface materials (TELFORD ET AL., 1990), and they complement the magnetic method. The results of the two methods can support each other and help the interpretation.

We made direct current geoelectric measurements along 22 sections to obtain more detailed information about the structure of the church. The electrode spacing was 1 m along the sections, and the distance between the sections varied: it was 1 m at the ends of the church and larger (2-3 m) in the middle. The location of the sections was appointed based on the results of the magnetic survey so that they cross the walls (Fig. 5). The vertical resistivity distribution until 2 m depth was determined along the sections. Two sections are shown in Fig. 6. The foundations of the walls in the section appear as high resistivity regions. The resistivity is higher at the southern wall ( $\sim 80$  ohmm) and the width of the high resistivity region is larger than at the northern wall. These results are in concordance with the magnetic results, and their interpretation is the same: there is more construction material left in the southern wall than in the northern wall. The depth of the foundation is about 1.3 m.

The vertical sections can also be interpreted together, and the resistivity distribution can be given in horizontal sections, too, in different depths (Fig. 7). The horizontal resistivity sections

until 1.5 m depth are very similar to Horedt's (1984) plan (Fig. 3). Both the archeological interpretation and the geophysical images (resistivity and magnetic images, too) suggest that the church consisted of two segments: the eastern compartment was smaller and narrower, and the western one was wider. There are two main differences between Horedt's (1984) interpretation and the results of the geophysical mapping: the foundation of the tower is evidenced by the resistivity and magnetic images, while it is missing in Horedt's plan. The other discrepancy is that the apsis of the church has a rectangular shape in the resistivity images, but it is rounded according to Horedt (1984). In this case the results of the excavations are the decisive evidence. The resistivity method with 1 m electrode spacing and 1 m distance between the sections does not have enough resolution to indicate the rounded shape of the apsis.

There are some other interesting features in the resistivity sections. There is a wall or debris made of brick or stone, perpendicular to the southern wall at the middle of the western segment inside the temple. This feature is also visible in the magnetic image. Its function is not known. There is an outer wall-like object, too, perpendicular to the northern wall at horizontal distance 10 m. It is not visible in the magnetic image, and its resistivity is medium ( $\sim 35$  ohmm), therefore its material is not a continuous solid material, probably it consists of debris.

#### *Summary*

We were able to determine the former foundations of the walls and thus, the location of the church with magnetic surveying. The results of the resistivity measurements further refined the structure of the church. The foundation of the southern wall consists of more debris of construction material than the foundation of the northern wall. The depth of the foundation is about 1.3 m. In agreement with Horedt's interpretation the church consisted of two segments: a smaller and narrower eastern and a wider western section. The apsis was rounded as shown by archeological excavations. Some inner and outer structures are also visible in the horizontal resistivity sections, but their function is not known. Maybe they just consist of redeposited construction material, fell into their present position during the demolition of the church. The most important discovery is that both magnetic surveying and geoelectric measurements indicate the foundation of a tower of the church.

The tower, as a representative element on the western side of the churches appeared in the thirteenth century (Valter 2005, 86). In the present case it could not be detected if the tower was built in the same time as the church or it was a later addition. In the Romanesque period the majority of the village churches were built without tower.

In the thirteenth century church architecture of Mureş seat, preserved Romanesque tower is known only from Sâncraiu de Mureş (Hu. Marosszentkirály) at a distance of 9 km from Citfalău (Entz 1994, 61). Additional data concerning the dating of the destroyed church

from Citfalău and its tower could be supplied only by new archaeological excavations for which the basis had been laid by the geophysical surveys.

#### *Acknowledgements*

We are thankful for the support of the Mureş County Museum for the geophysical prospection. Further on we thank Judit Petrovszki, Ünige Bencze, Szilamér Pánczél, Koppány Bulcsú Ötvös, Alpár Dobos and Barna Pap for their assistance in the measurements.

*“Research made through the project POSDRU/88/1.5/S/60370/ co-financed by the European Social Fund through the Human Resources Development Operational Sectorial Program 2007–2013”*

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## LIST OF ILLUSTRATIONS

- Fig. 1. The site of the disappeared church from Citfalău between Morești and Sântioana de Mureș on the place called *Templom dombja* (Hill of the church) on the topographic map of Hungary from the time of WWII.  
Locul fostei biserici de la Citfalău între Morești și Sântioana de Mureș pe movila *La Biserici*, pe harta topografică a Ungariei din perioada celui de al doilea război mondial.
- Fig. 2. Ground plan of the excavations from 1952 and 1954, based on the ground plan compiled by Kurt Horedt in 1979.  
Planul general al săpăturilor arheologice din 1952 și 1954 după planul lui Kurt Horedt din 1979.
- Fig. 3. Ground plan of the church from Csittfalva from 1952 with the test sections (1–excavated; 2 – not excavated).  
Planul bisericii descoperite în 1952 cu secțiunile arheologice (1–zonă cercetată; 2–zona necercetată).
- Fig. 4. Results of the magnetic survey shown in Google Earth map background.  
Rezultatul prospecțiilor geomagnetice proiectată pe harta Google Earth.

Fig. 5. Location of the geoelectric sections.

Locația secțiunilor geoelectrice.

Fig. 6. Vertical resistivity sections crossing the foundations of the walls. The foundations (shown with dark colour) are characterized by high resistivity compared to their surroundings. For location of the sections see Fig. 5.

Rezistivitatea electrică prin sondajul electric vertical. Fundația zidurilor (culoarea închisă) în raport cu mediul înconjurător apar cu o rezistivitate foarte mare. Locul secțiunilor vezi pe Fig. 5.

Fig. 7. Resistivity in different depths in horizontal sections. The depth of the sections is shown in the upper left corner. The foundations of the walls are shown with dark colour. The horizontal coordinates are in local system.

Rezistivitatea electrică la adâncimi diferite în secțiuni orizontale. Adâncimea secțiunilor este afișată în colțul de stânga sus. Fundația zidurilor este marcată de culoarea închisă. Coordonatele secțiunilor orizontale sunt redate în sistem local.

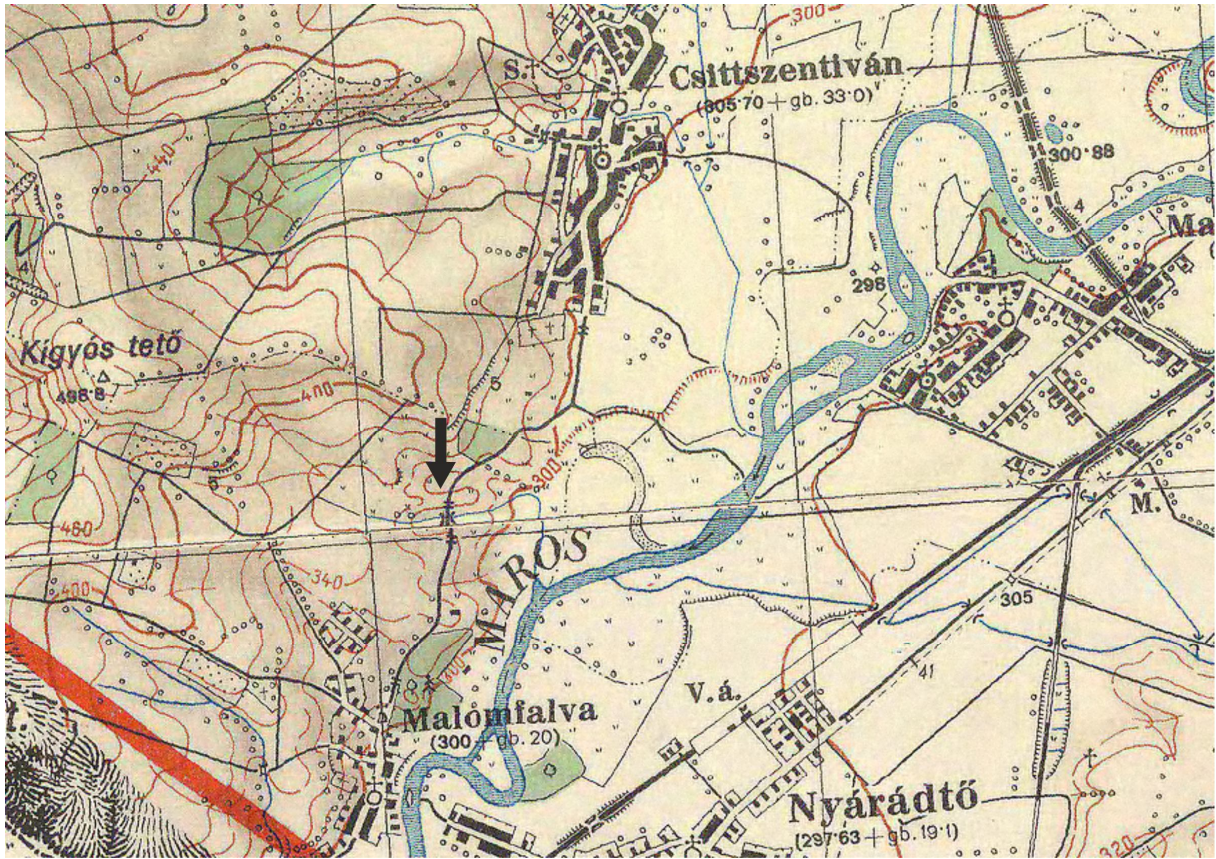


Fig 1

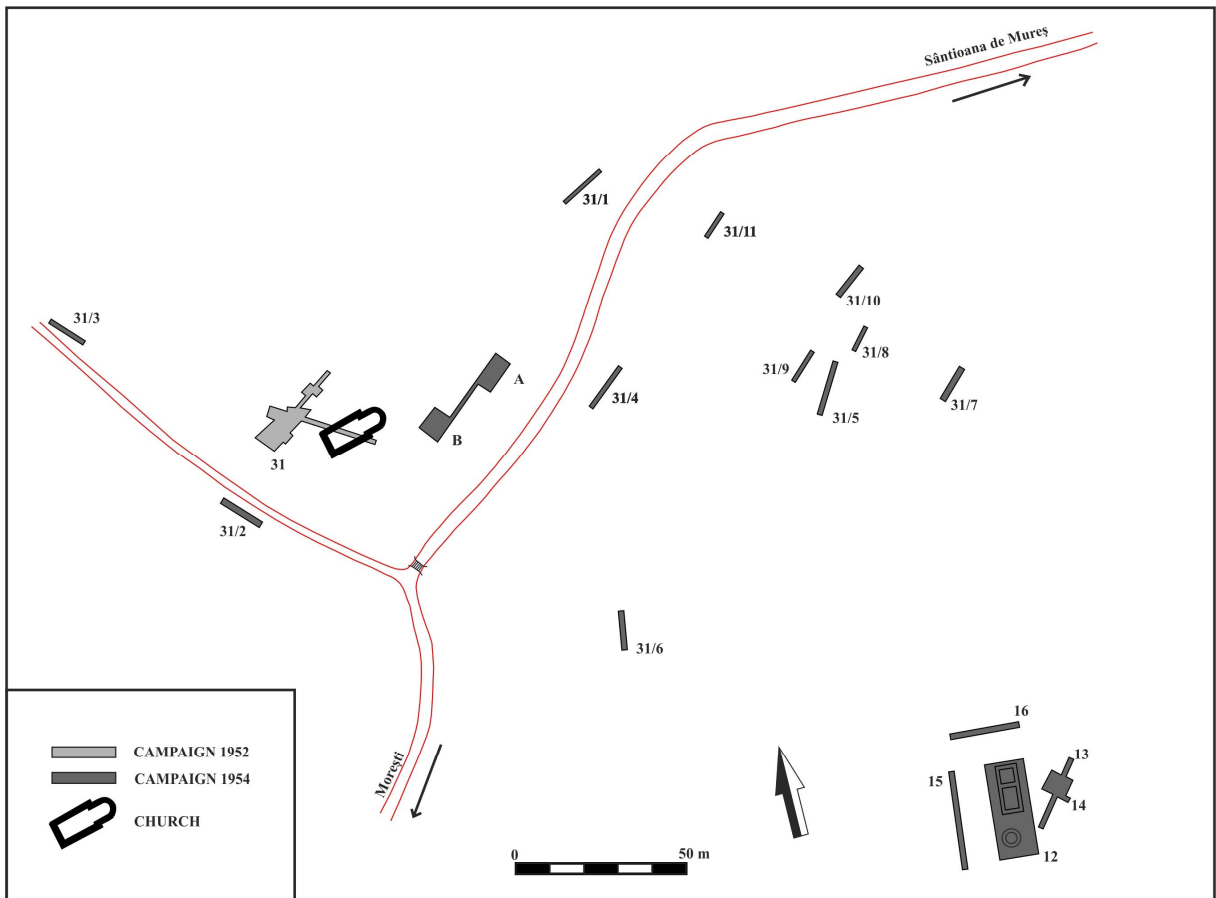


Fig 2

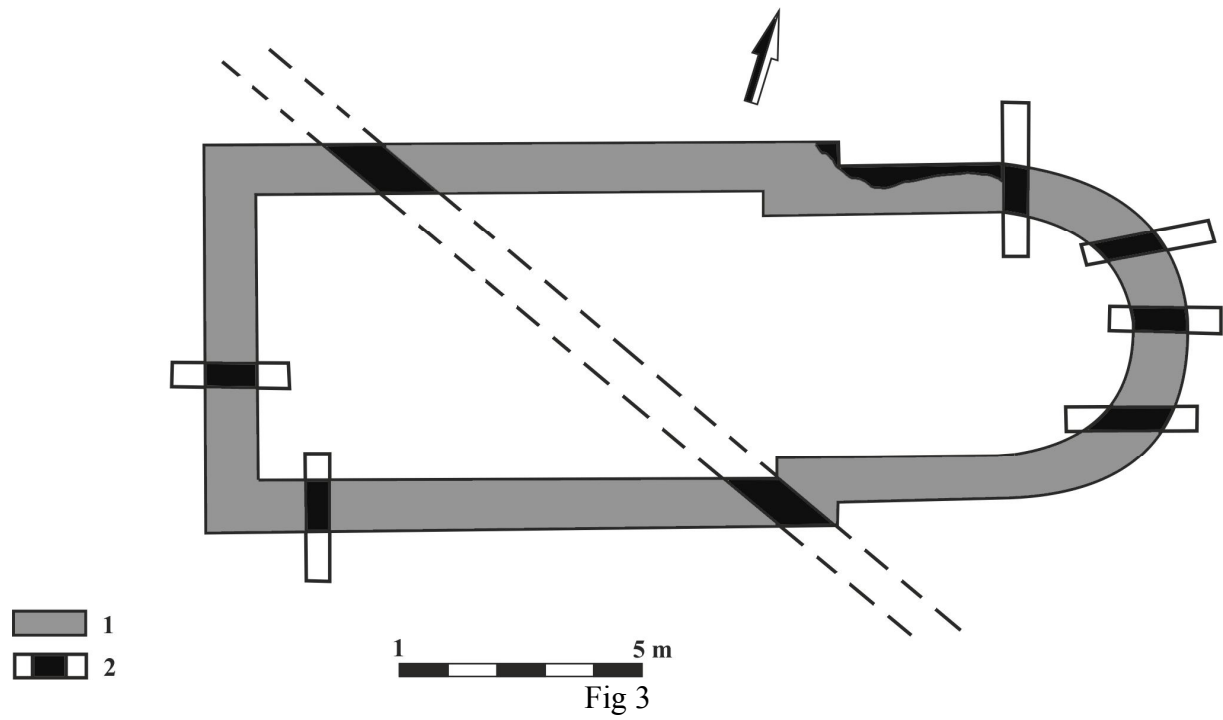


Fig 4

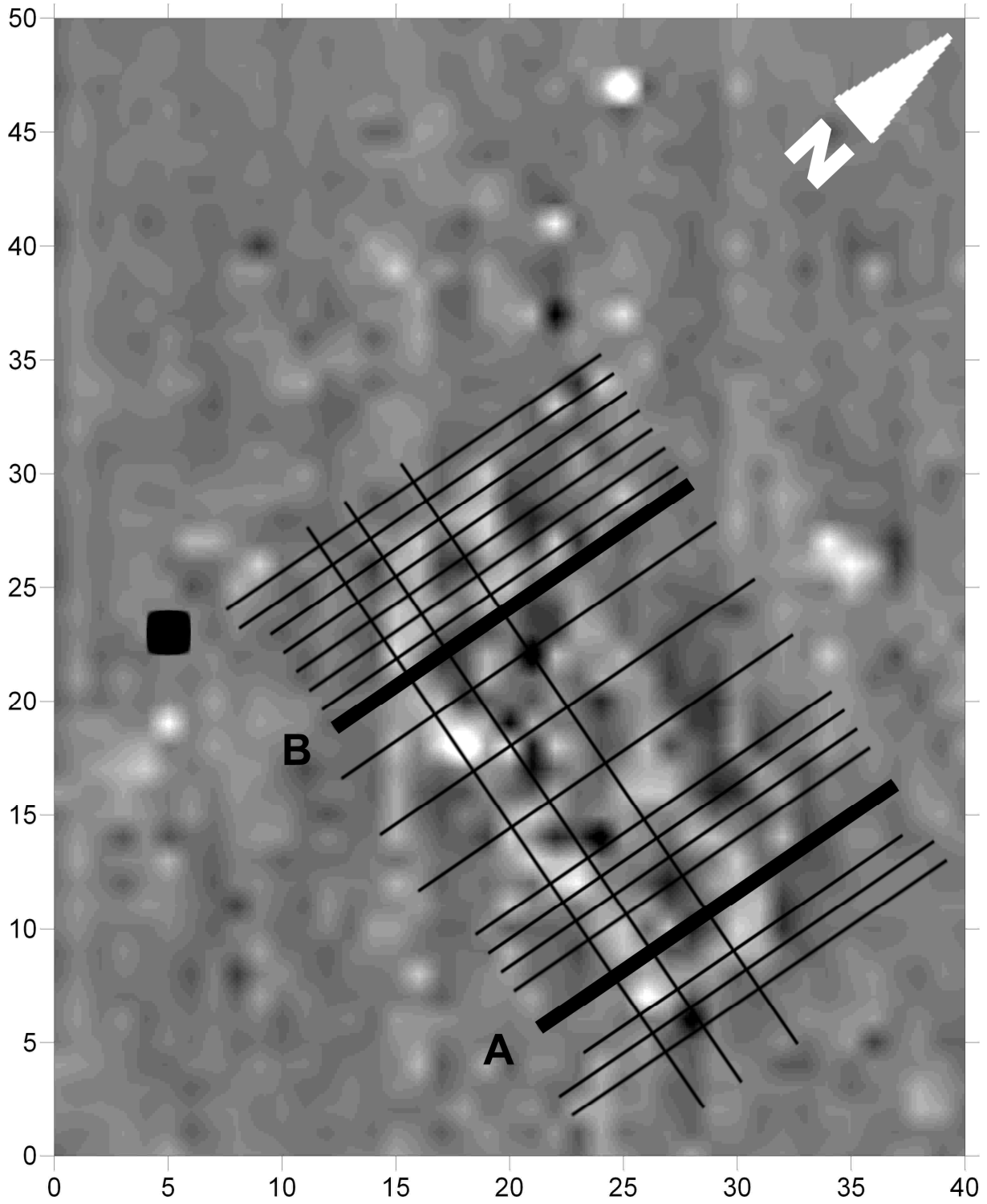


Fig 5

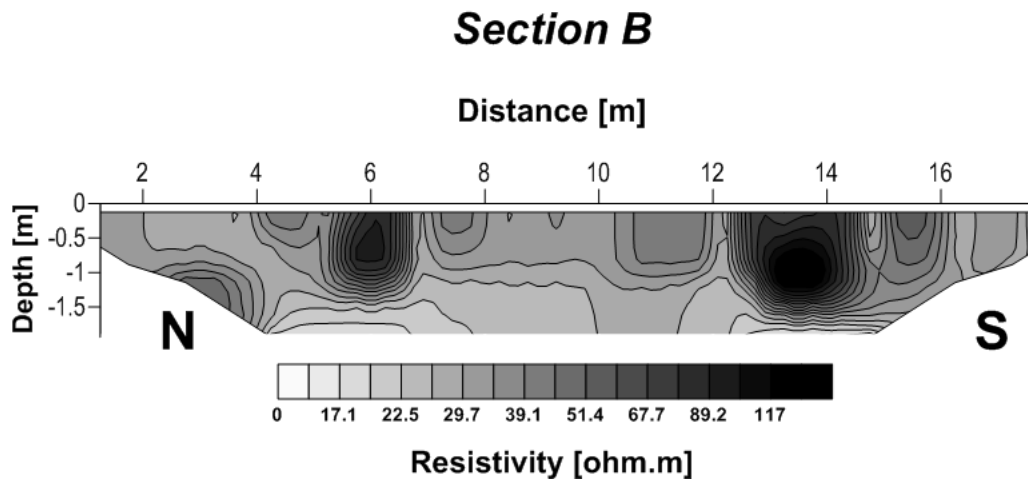
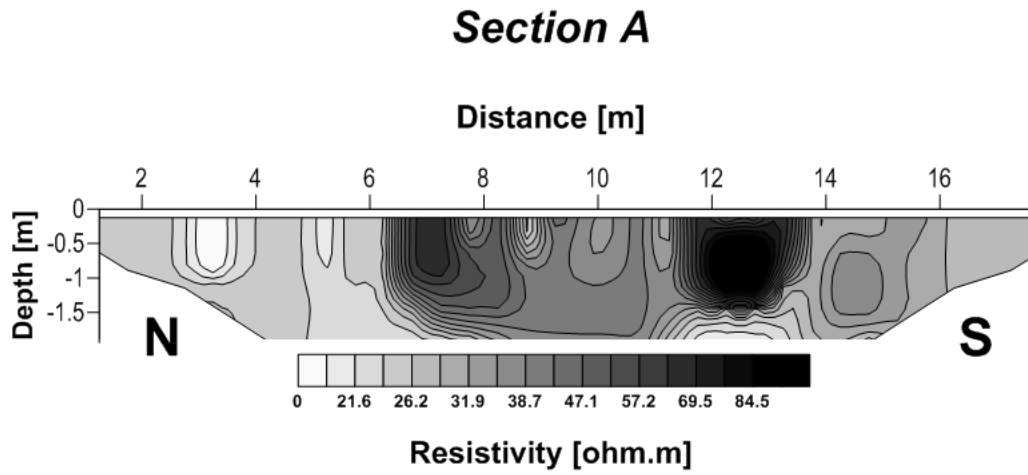


Fig 6

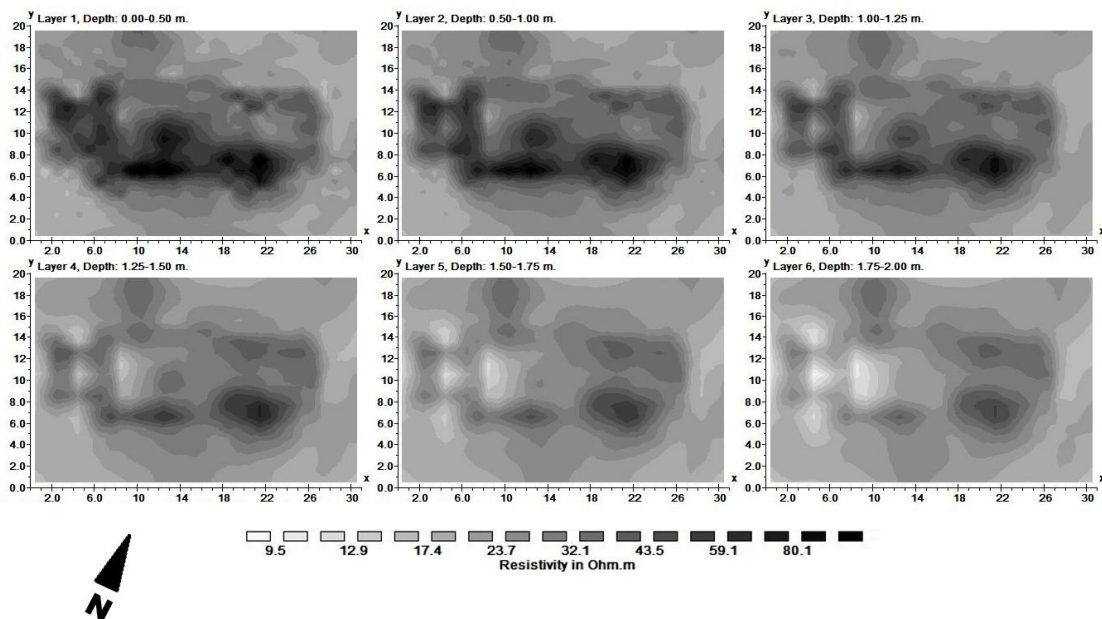


Fig 7