

USING A METAL DETECTOR FOR LOCATING MASS GRAVES FROM WORLD WAR I AND WORLD WAR II

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Abstract

The aim of this article is to present possibility of use of a metal detector, homing objects by generating a magnetic field, to identify unknown mass graves from the time World War I and World War II.

Mass graves are usually located in difficult, usually wooded area. Therefore they are inaccessible to the majority of archaeological methods such as aerial photography. Detecting the mass graves using a detector in this case is the best solution, because inside the graves are often found metal knives, buttons from uniforms, badges, or other such items. For the prospecting research will be helpful VLF model which after appropriate setting detects a specific kind of metal.

Key words: metal detector, mass graves, metal artefacts, World War I, World War

INTRODUCTION

Some part of the mass graves from period of World War I and World War II have been found and exhumed. Although a significant number of them are still non-localized. The corroded metal of knives, buttons, medals and such items reaches directly into the soil and groundwater. An elevated concentration of heavy metals is a serious threat to human health.

The article concentrated mainly on the unknown graves on the west part of Poland and dated on periods of two tragic stages in the history of Poland: 1914-1918, 1939-1945.

Currently the investigations which are aimed at finding graves are conducted by the Commission for the Prosecution of Crimes against the Polish Nation in Warsaw. Unfortunately many cases are rejected, because of insufficient evidence and no direct witnesses of the incident. An important and the most

dubious evidence is the testimony of people which are often contradictory. Investigations there were not made immediately after the murders, and therefore the memory of the details of the day and the event is fuzzy or complemented by what witnesses they heard from others at a later time.

False memories relate also to the location of mass graves.

The another reason to not easy identify the mass graves from World War I and World War II is mostly wooded, hardly accessible area. This kind of environment has provided to criminals hidden and peaceful place, without inconvenient witnesses.

MATERIALS AND METHODS

The mass graves from World War I in Poland probably are located near to Łódź and Piotrków Trybunalski.

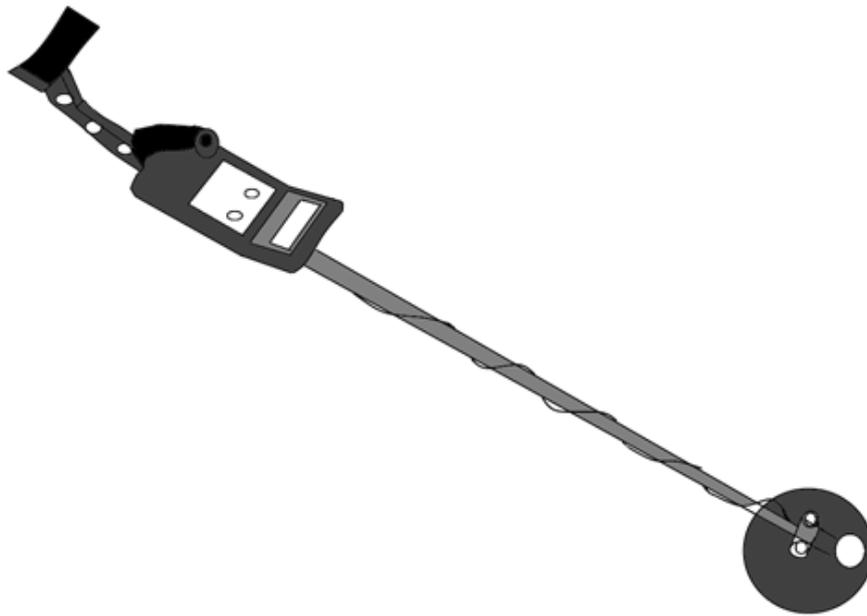


Figure 1. Metal detector, model VLF

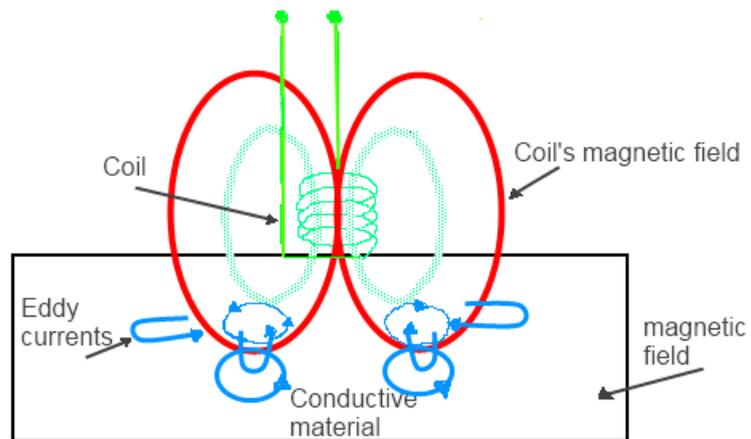


Figure 2. Discrimination level settings

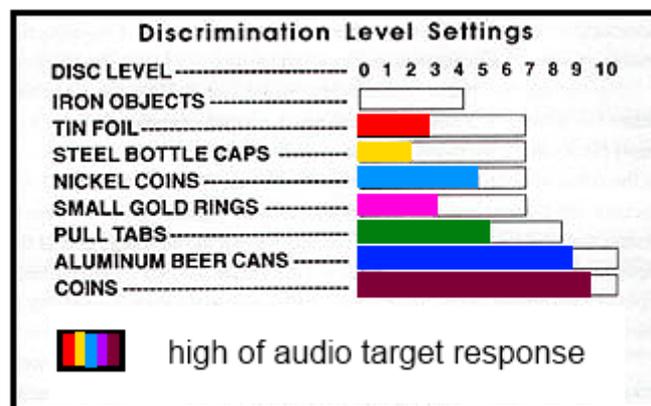


Figure 3. How metal detectors work

The location of unknown mass graves from World War II may be found on the whole territory of Poland, but mainly on the eastern part, on the borders of big cities or villages located near to them. Documents and witnesses indicate areas near to Lublin (Czechowski hills), Białystok, Przemyśl, villages near to Gniezno, probably also near to Poznań, Gdańsk and Wrocław (Szwagrzyk, 2013).

Proposed solution assumes use of the metal detector; model VLF for detecting a specific kind of metal (Figure 1, Figure 2, Figure 3).

RESULTS AND DISCUSSIONS

The information from different sources (documents and relations of people) is showing possible area of the hidden mass graves, but because witnesses have confused memories, these areas are too big to check it with traditional archaeological research method which is a trial trench. It is also difficult to use aerial photos, because studied fields in the main part are inside the forest or on the bushy hills.

The Commission leading contemporary investigations need to have clear directions about place of inhumation, in other way they will not go further in their research.

The proposed solution indicates use of metal detector to make easier finding the mass graves of World War I and World War II. With this way bigger area can be checked by a small group of people, walking alongside designated straight paths. Additionally, wooded territory is free of devices interfering with the work of detector, such as power lines.

The area of the potential research includes:

Lublin - Czechowski hills it is area of 150 ha with natural hills and gullies. The territory is considered as a natural complex. There might be place of the execution of prisoners from the Lublin Castle. It could happen on March, April, May and June 1940.

We could look here for 4 separate mass graves or one - big where new bodies were added. The collected material is not enough to open investigation, because doesn't indicate the exact place of the mass graves.

Białystok - Officers of the Office of Public Security in the years 1939-1946 killed embedded in Białystok prisoners. Inhumation places are unknown to this day.

Forests near to Mielno - commune Mieleszyn. Indirect witnesses indicate wooded area between a few villages around Mielno city (Wierzyce, Września, Kiszkowo, Oborniki, Rogoźno) as a place of mass graves.

In 1942 year, 3100 patients of psychiatric hospital called "Dziekanka" in Gniezno were killed by the Nazis. Until now, were found only grave with 500 bodies

(www.piaستowskiakorona.pl/news.php?readmore=127).

Lublin province - it is 25 155 km² big, mostly wooded lowland-hilly area.

A significant part of the non-localized mass graves from period of World War II is on the Lublin province.

Soviet prisoners of war and civilians were killed during the escape from the camps to locate partisan groups in 1939, 1941 and 1945 year. Small part of mass graves were found and exhumed in 1948-1954 and 1957-1958 year, on the base of field lists drawn up by the Ministry of Public Administration, and then called the Ministry of Public Utilities

(<http://www.archiwum.radaopwim.gov.pl/articledetails/12/groby-zolnierzy-armii-radzieckiej-poleglych--w-polsce-w-ii-wojnie-swiatowej/>).

Borders of the Przemyśl city - in September 1939 Wehrmacht troops for 3 days killed Jews living in Przemyśl.

Their number is estimated at about 20,000. First, they capture Jews and then they took them to places outside the city and nearby villages, where killed and buried bodies in mass graves. So far we found only one mass grave of 900 people (Böhler, 2011).

District sieradzki – villages: Maciejów, Szadek, Wólka Wojsławska, areas near to Łódź and Piotrków Trybunalski.

During World War I German soldiers were buried in this part of Poland. Known graves were exhumed and transferred to the cemeteries. Still we have a large number of unknown graves (Młyńska, 2015).

CONCLUSIONS

The use of metal detector, which discriminate different kinds of metal, would be easy and suitable in the case of mass graves from period of World War I and World War II on the difficult area.

Many times collaboration with other fields of science can help us to go beyond the frame and resolve the problem. In the case proposed in this article, physical methods could be useful in making planning of the surface research.

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