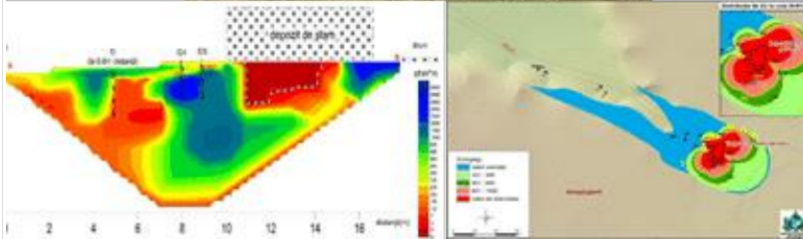


# **INVESTIGATION REPORT on “Localization of the polluted area and its depth, for determining the pollution degree and pollutants dispersion in the environment and other investigations outside the half-buried galvanic sludge deposit” – the former garbage pit of Focşani Municipality.**

The realization of a study in the area of the galvanic sludge deposit owned by the City Hall of Focşani Municipality results from a previous study focused on the determination of the physico-chemical characteristics of the galvanic sludge. The fact that the analyzed sludge was classified as hazardous waste according to HG. 856/2002 on the waste management record and for the approval of the waste list, including hazardous waste, it was necessary to estimate the potential risk of relevant land contamination and implicitly of the Milcov River.

Thus, in order to determine the pollution degree and the pollutants dispersion in the environment, it was proposed to carry out a new investigation report on manual drilling outside of the galvanic sludge deposit for soil sampling (up to a depth of about 2 m). The study conducted in 2016 by INCDPM experts highlighted the area of interest and location of the galvanic sludge deposit from the main contaminated risk areas, the working methodologies used for the sampling and investigations carried out in situ, the physico-chemical properties of the soil and water samples, data processing and interpretation through integrated analysis, decision matrices, as well as the conclusions and recommendations resulting from the corroboration of the presented data and field investigations.



- **Project leaders**

Eng. OLTEANU Marius Viorel

Eng. NEACȘU Ionel

- **Funding source**

City Hall of Focsani Municipality

## Objectives

The overall objective of the project was to determine the contaminated area by in situ measurements and chemical analyzes on the soil and water samples collected near the semi-buried galvanic sludge deposit, considering in particular the presence and concentration of the following elements: Fe, total Cr, Zn, Cd, and cyanide (CN-) ions.

The specific objectives of the project were as follows:

- identifying the polluted area and determining the pollution degree near the galvanic sludge deposit;
- establishing a possible area of contamination in the area of interest by carrying out additional electrometric investigations and topometric measurements as well as collecting soil and water samples for physical and chemical analysis to increase the confidence level.

## Obtained results

The results obtained were as follows:

- Lithological characterization of the investigated area;

- Physical-chemical quality indicators of the collected soil samples;
- Chemical quality indicators of water samples collected from both surface and groundwater;
- A 3D mathematical model, which resulted in dispersion maps for each analyzed pollutant with a high level of confidence;
- Delimitation of the contaminated area by highlighting the maximum concentrations of each pollutant for each performed drilling.