

PRELIMINARY GPR RECOMMENDATIONS FOR RESCUE PLANNING IN MINING

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The method of GPR location allows determining the location of the pit from the side wall [1] in non-visual and non-mechanical, non-invasive contact conditions. Having determined the algorithm of the GPR data processing options, the location of the pit can be determined from the radio image [2]. The GPR radio image of the pit model observed from the side wall [2] was processed using the “Zond 12-e” GPR software, “Prizm 2.5” software, an algorithm developed by the Institute of Geophysics, the sector of applied and experimental geophysics in the GPR location and electrometry laboratory.

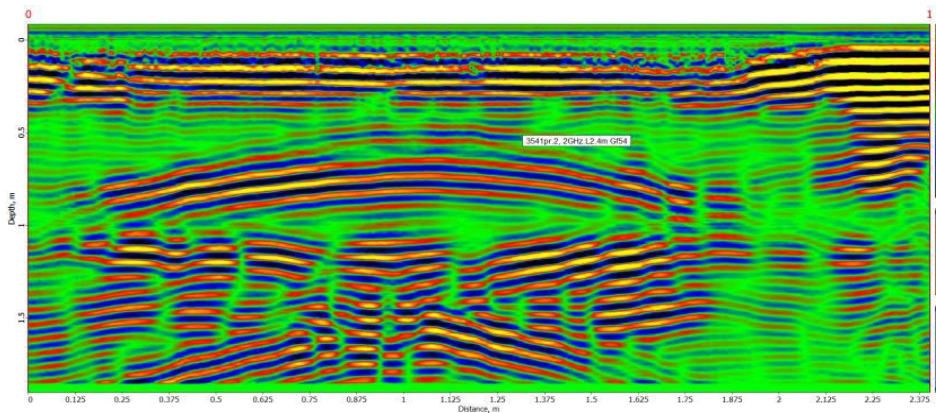


Fig.1. Radarogram made on the installation of modeling bulk solids from the side surface [3], when the model is located in the center of the simulated area. The presented GPR profile passes along the vertical wall of the model installation and crosses the pit model.

After applying the options algorithm for the same profile, we obtained the following GPR picture given in Fig. 2.

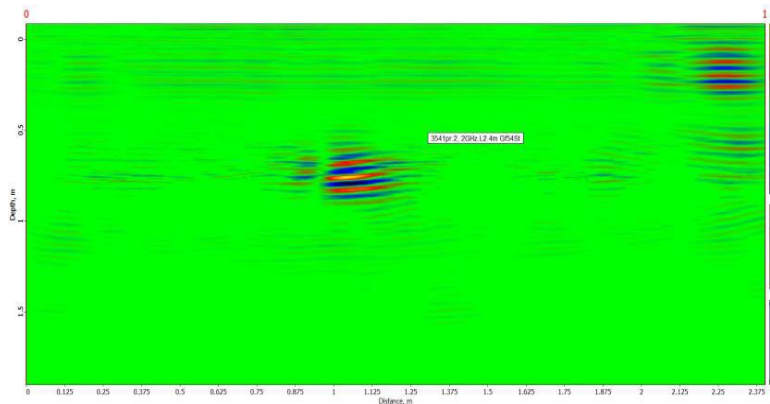


Fig. 2. The georadarogram shows a radio-processed image of the GPR model of a pit (an air-filled plastic tube) processed by the algorithm with a real location and overall parameters (solution of a direct problem).

In accordance with the principles of physical modeling of the similarity of GPR fields [4] the same result are applied to the radio image and location of a real pit.

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