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New results concerning geophysical and geological-engineering data. Case study Telega, Romania

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Geophysical tests
The geoelectric investigation (October-November 2009) outlines horizontally the sliding area, and vertically the elements of the landslide surface – position, depth, shape, and the bedrock's relief. The quantitative interpretation of the resistivity geoelectrical vertical tests, and the correlation with the geological structure identified 3 sliding surfaces, from which only the upper one (2-6m depth) was known before the stability works. There were localized the rainfall waters circulation and accumulation zones, areas with high sliding risk.
Same results were obtained in sliding zones, been localized the principal elements of the landslides, with practical implications in land instability and estimation of the evolution of the destructive phenomena mechanisms.
With this study we try to quantify the complex relationship between the natural factors that generate the terrain instability phenomena and the intensity of the socio-economic effects, at a regional and local scale, by correlating the engineering geology information and geophysical data.
Recent seismic research program (September 2009) conceived for "La Butoi" landslide, Telega locality, aims to a specific monitoring of the dynamic deformations, more active in the central part of the landslide, with reference to the shallow seismic refraction information obtained in the 2004 – 2005 period.
The investigations were performed on a seismic lines network, and two seismic boundaries, in the shallow seismic section, were exhibited.
As a result, one can observe the curvature tendency of the first arrivals sin-phase for the end-off shot devices, setting off the velocity increasing regime with depth; relative high variations and irregularities of the time distance curves on short intervals are interpreted as a response to the bedrock's irregular surface.
Based on the centralized time – distance curve of the L longitudinal profile, from which a fragment – 0-115 m is being reproduced in Fig. 4, the shallow section was redefined for the most part of the seismic line (Fig. 5). The picket positions are identical along the seismic line for the seismo-geological section represented in Fig. 2 and Fig. 5.
Within the section, based on the recent acquired seismic data, seismic velocities regimes associated to the main compartments are being reproduced.
Hence, a new seismic limit is imposed by the t1 refracted wave presence as a result of the apparent velocities of about 400 – 500 m/s. Therefore, underlying the intensively weathered shallow formation, defined by velocities of about 250 m/s, one can find a thin layer (1.5 – 4 m), above which the t1 wave travels; the thicknesses increases downstream.
Following the vertical distribution, the seismic velocities regime does not modify significantly comparing with the section determined by the observations made 4 years before present.
We can presume that the weathering process is continuously and gradually active in depth, leading to a dynamic

behavior of the loose material.
Complementary, we must emphasize the discreet tendency of increasing velocities (with 50 m/s) characterizing the main inferior body of the sliding mass (between 0m to 100m stakes), presumably as an effect of the high pressure exerted by the upstream unstable complex.
Additional information will be yield by the recordings over transversal profiles, located especially on the maximum development of the landslide area.
Geological-engineering data
The field trip (September-November 2009) was made to observe the changes in the studied area. After a rainy period, a lot of terrain's surface transformations were observed. Comparing with the last year situation, 2 other steps appeared on the sliding mass. Also, the landslide expended both lateral and in depth.
The excess water areas were enlarged and become deeper. Same the cracks and fissures.

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