

System for continuous monitoring of deformations in piled rock mass of rock dump during open-pit mining of mineral deposits includes devices for monitoring the condition of dump surface, designed to transmit data to monitoring center. System includes monitoring posts installed at pre-selected locations and designed as rod-like elements. The length of each rod element is at least one meter. Pickets are connected to cables with high tensile strength and low elongation under tension. The other ends of cables are connected to the vertices of rigid isosceles triangular structures and equipped with cable tension sensors. Triangular structure is equipped with laser module rigidly mounted on supporting node using rods. Laser module is made with the possibility of generating continuous beam with wavelength in the range of 500-550 nanometers, directed vertically downward. Triangular structure is suspended at a height of more than 5 meters using air-filled hoisting envelope made of airtight, gas-impermeable material, filled with gas lighter than atmospheric air and capable of pressure regulation. Laser beam tracking device is mounted on the surface of rock dump, designed to synchronize with GNSS system and transmit data to monitoring center in real time.