

## Ground Penetrating Radar (GPR)

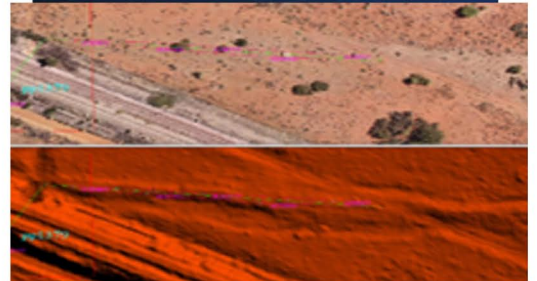
Ground-penetrating radar (GPR) is a geophysical method that uses radar pulses to image the subsurface. This nondestructive method uses electromagnetic radiation in the microwave band of the radio spectrum and detects the reflected signals from subsurface structures.

The subsurface features which cause reflections are characterized by changes in electrical properties of the soil. All radar technologies operate under the same guiding principles, dictated by electromagnetic physics. Clays and calcareous materials are electronically conductive and therefore not suitable for GPR penetration. Conversely, electrically resistive materials, such as limestone, are an ideal radar environment.

Services are primarily offered to the mineral exploration and geotechnical sectors. Working with engineering firms on geotechnical investigations often leads to GPR applications such as tunnel lining inspections and surveys for road, rail, and sewerage tunnels.

## About Southern Mapping

Southern Mapping, a Woolpert company, is based in Johannesburg, South Africa. Southern Mapping offers extensive high-accuracy lidar, imagery and remote sensing experience, as well as airborne topographic, hyperspectral, and thermal survey and mapping. We provide mapping services for engineering, infrastructure, mining, mapping, agriculture and environmental sectors in more than 45 African countries. Together with our parent company Woolpert, Inc., our talent includes a deep bench of worldwide, industry-leading experts that acquire, process and evaluate aerial, terrestrial, and bathymetric lidar and survey data. Through that alignment we employ our own fleet of manned and unmanned aircraft and cutting-edge sensors for both public and private applications. Southern Mapping is proud to be part of this powerful geospatial team, applying a wealth of unparalleled services across the globe.



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