



## Article Side

Understanding the importance of geophysical surveys, void detection and resistivity imaging by [Wendyaguiza](#)

Article published on June 30th 2012 | [Business](#)

Due to environmental and health and safety issues, a range of geophysical surveying techniques need to be used in order to deliver effective investigations and problem resolutions.

A great deal of knowledge is required in order to conduct a high quality survey, which is why it's a good idea to enlist the help of a surveying company to ensure you get a thorough survey with time and cost efficiency.

### Geophysical Surveys

Geophysical surveys can be used to investigate different types of substances and structures below ground. Discovering these structures is most relevant in the engineering design and problem resolution stages of a project.

Substances and structures found below ground can include air voids, cavities, buried historical sites, mine shafts, water fronts, air raid shelters and unexploded ordinance (UXO).

A geophysical survey can also be used to evaluate the strength of an existing foundation and find a suitable location for new foundations.

### Void Detection

Voiding can create serious problems in existing buildings. Sewers, heating ducts, buried vaults, culverts and crypts are just some of the reasons why voiding can occur. Swallow holes are one of the main indicators of void existence in roads, brown, and greenfield sites. If you are unsure whether or not your site has voids you must contact a surveyor, as the voids must be found before they can be resolved.

### Resistivity Imaging

Resistivity surveys are used to measure variations in the electrical resistivity of the ground. They are conducted by applying small electrical currents across a range of ground electrodes. The data from this survey is then processed to produce graphic depth sections, representing the thickness and resistivity of subsurface electrical layers.

Resistivity imaging is sometimes referred to as electrical resistance tomography (ERT). The process is often used in areas with clay-rich soils where other surveying methods, such as ground penetrating radars, are not as effective.

This type of survey can also be used to measure bedrock and water table depth, locate buried alluvial channels, find abandoned mine shafts and workings, map leachate contamination and detect solution features and voids.

### UXO Survey

UXO surveys are particularly useful for discovering hidden items which could potentially create serious health and safety and cost problems in later stages of a project. These surveys are often used during design and construction stages, as this allows for effective precautions to be put in

place to avoid or subvert serious issues.

UXO stands for unexploded ordinance and is used to support a site investigation. A UXO survey will ensure that boreholes, window samples and trail pits can be put in place safely.

Leave it to the Experts

Using a multi-disciplinary survey business is key to ensure you receive a high standard survey. Requesting a survey couldn't be easier, simply visit the surveyor's website and click on the type you require or give them a call.

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[Wendyaguiza](#) - About Author:

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Article Keywords:

Geophysical surveys, void detection, resistivity imaging, UXO survey

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