

APPLICATION NOTE



INVESTIGATING URBAN COMMERCIAL PROPERTIES

The Project

There are many circumstances where geophysical services are beneficial for builders, landowners, lenders, and potential buyers. These include:

- Concern for buried pipes, electrical or telephone lines to avoid damage during construction. This is the most common use for geophysical methods, often referred to as “clearance”.
- Suspicion of potential buried waste, but limited budget and concern about invasive methods (drilling, excavating). Most geophysical methods utilize remote sensing tools at the surface, which are non-invasive. The depth of penetration varies depending on soil, but can be as much as 50 feet. The cost for a competent survey is very reasonable.
- Need for a quick, unambiguous property survey to eliminate the possibility of buried drums or tanks. Sometimes there is not enough time to wait for Phase I and Phase 2 Site Assessments. Geophysical surveys can be done in less than 1 week.
- Need better understanding of tank or abandoned well location, or extent of buried structures or voids, and site stratigraphy, such as buried channels, in order to direct drilling and excavating. Geophysics can locate buried objects often to less than one meter.

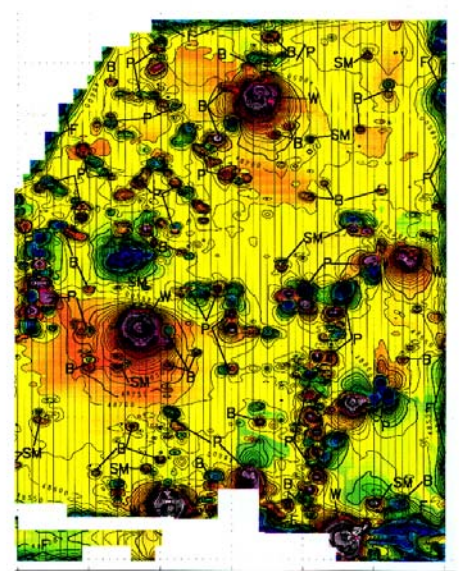


The Objective and Scope of Work

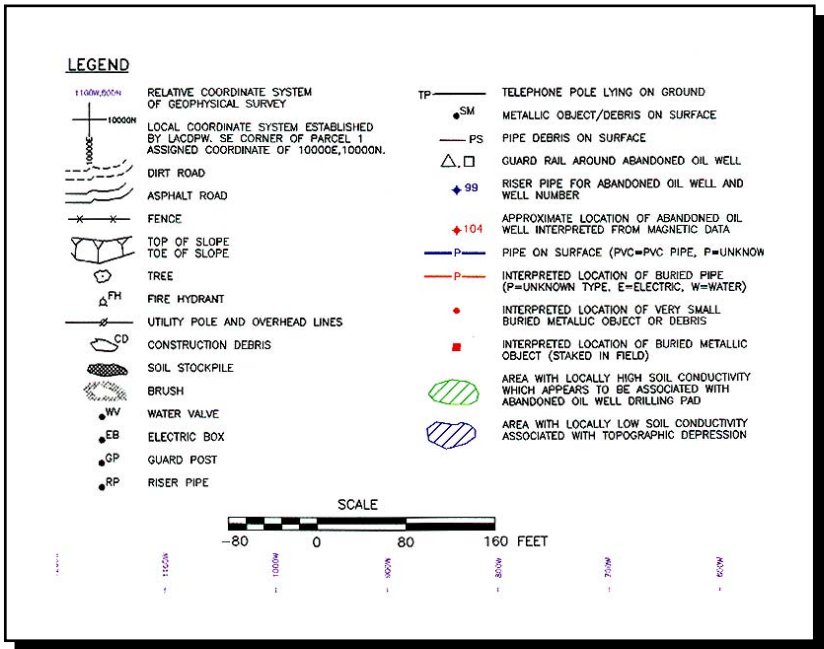
The principal objective of a geophysical investigation is to provide an accurate survey of buried objects on a site. Typically this requires a careful “gridding” of the site. The density of the grid lines will determine the resolution of the survey. If you are looking for objects smaller than 5’ across, then a 10’ grid is of little use. The quality and accuracy of the grid, and whether it is tied into a global coordinate system, will determine how easy it is for an excavation crew to come in later and find the buried objects.

Usually it is best to utilize more than one geophysical method. GEOVision will always use at least two methods. The reason is that one method may not work at a particular site due to soil conditions or other factors. Also, multiple methods will provide confirmation and quality assurance of results. GEOVision uses two or more of the following methods:

- Potential field (like gravity)
- Electromagnetic
- Ground-penetrating radar (GPR)
- Electrical resistivity
- Seismic refraction & reflection



“a bold new vision in geophysical services”



The most useful outcome of a geophysical survey is an interpretive map of the survey results in the form of a CAD drawing, accurately scaled and with global coordinates superimposed. Buried objects are located very accurately for later excavation (or avoidance). Usually, these locations are also temporarily marked at the surface with color-coded spray paint. These marks can last for weeks and are useful for excavators.

Key Benefits

The important benefits of geophysical surveys are:

- Low cost
- Non-invasive
- Accurate surveying and placement of buried objects

Example

The images in this brief illustrate a typical project. The picture on the previous page shows an example of how little can be visible on the surface. The bright yellow image is a plot of the total magnetic field, which was surveyed using a walking magnetometer. The map on this page is the interpretive result, in which previously unknown objects below the surface are marked in red, including a previously unknown oil well.

