

GROUND PENETRATING RADAR

In our quest to be pioneers in our field, Murphy Surveys is the first Irish based company to apply a 3D Array Radar System in the field. Our experience combined with this powerful technology utilising non-intrusive surveys produce excellent results.

WHAT IS IT?

Ground Penetrating Radar (GPR) is a non intrusive surveying technique used for the evaluation of subsurface structures. It enables the location of utilities, rebar, conduits, voids and other features below the surface. Common uses for GPR include:

- Utility Mapping & Detection
- Refineries
- Unmarked cemetery and grave location
- Underground tank mapping and leakage studies
- Pavement Investigations Identification and Risk analysis of natural obstacles

HOW IT WORKS:

GPR systems use radar pulses to image the subsurface. Tiny pulses of energy are sent into the material via an antenna. An integrated computer records the strength and time required for the return of any reflected signals. Subsurface variations will create reflections that are picked up by the system and stored on digital media. These reflections are produced by a variety of materials such as geological structure differences and man-made objects like pipes and cable. Being a non-intrusive survey, GPR can be used on a variety of media, including rock, soil, ice, fresh water, pavements and concrete structures.

Our systems non-intrusively explore the subsurface of the ground for a wide variety of industries and needs and to inspect your infrastructure systems. GPR surveys are cost effective, fast, efficient and accurate; they offer on site real time data with 3D imaging capabilities.

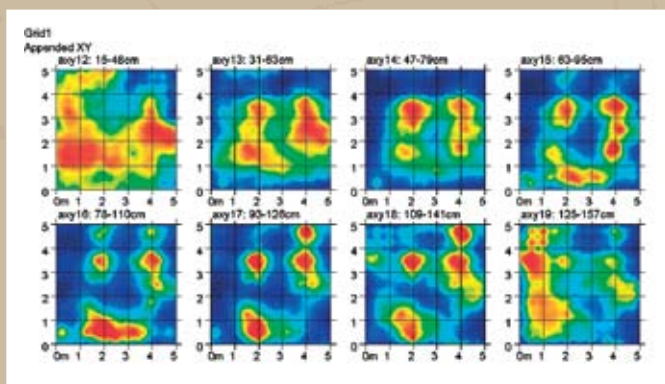
WHY INCLUDE A GPR SURVEY IN YOUR PROJECT?

- Geophysics is an essential part of any site investigation & will pay dividends throughout the life of a project
- GPR surveys are non intrusive and an inherently safer method of mapping
- It avoids the requirement for heavy plant digging and the disturbance of sensitive sites.
- GPR is used before cutting, coring or removing concrete from existing structures
- Numerous advantages over systems such as x-ray include cost and time savings, scheduling benefits and safety.
- Non destructive methods offer early detection of warning signs
- GPR provides a quick reliable diagnosis of problems
- Ideal for measuring the likes of asphalt pavement thickness & concrete damage beneath the pavement.
- GPR is of huge benefit when looking to establish the physical dimension & arrangement of a structure compared to traditional inspection and investigation methods
- Non-destructive methods are typically quicker to acquire and less disruptive to the user.

We provide our clients with unrivalled services to solve their subsurface detection requirements using the latest proven technologies available.

COMMON APPLICATIONS

- Rail Bed Inspections
- Refineries
- Road inspections
- Concrete Inspection and Evaluation
- Underground Tank Mapping & Leakage Studies
- Identification & Risk Analysis of natural obstacles
- Utility Mapping and Detection
- Archaeological Site Mapping
- Geology & Geophysics
- Environmental Surveys
- Trenchless Technology & Directional Drill Support



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