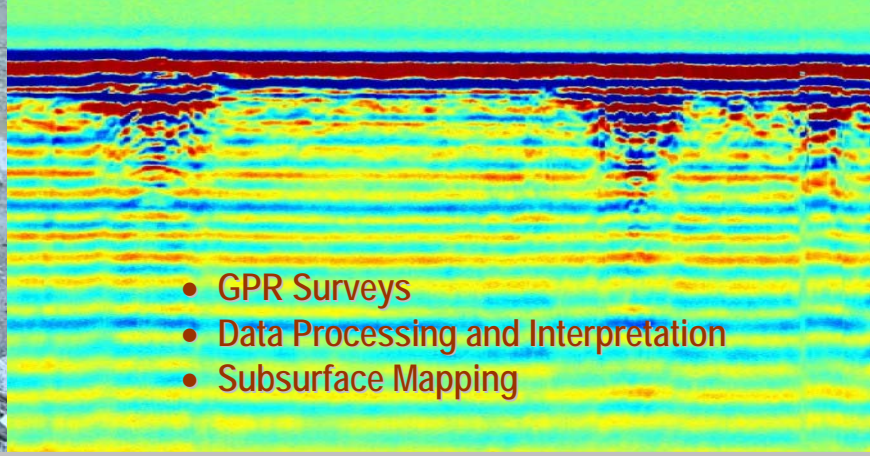


GPR

Ground Penetrating Radar

Surveys & Services



- GPR Surveys
- Data Processing and Interpretation
- Subsurface Mapping

RCS GPR System

Ground Penetrating Radar (GPR) or Georadar has been widely used in different applications as a tool for non-destructive subsurface probing. GPR transmits electromagnetic waves into the subsurface and receives the reflected signals to detect and locate any objects residing in the subsurface. **RCS** GPR system consists of low-, medium-, and high-frequency antennas and pulse generators to support various GPR applications requiring different resolutions and penetration depths. **RCS** GPR system is enhanced with advanced signal processing software to enable production of high-quality subsurface images.



GPR Services RCS Can Offer

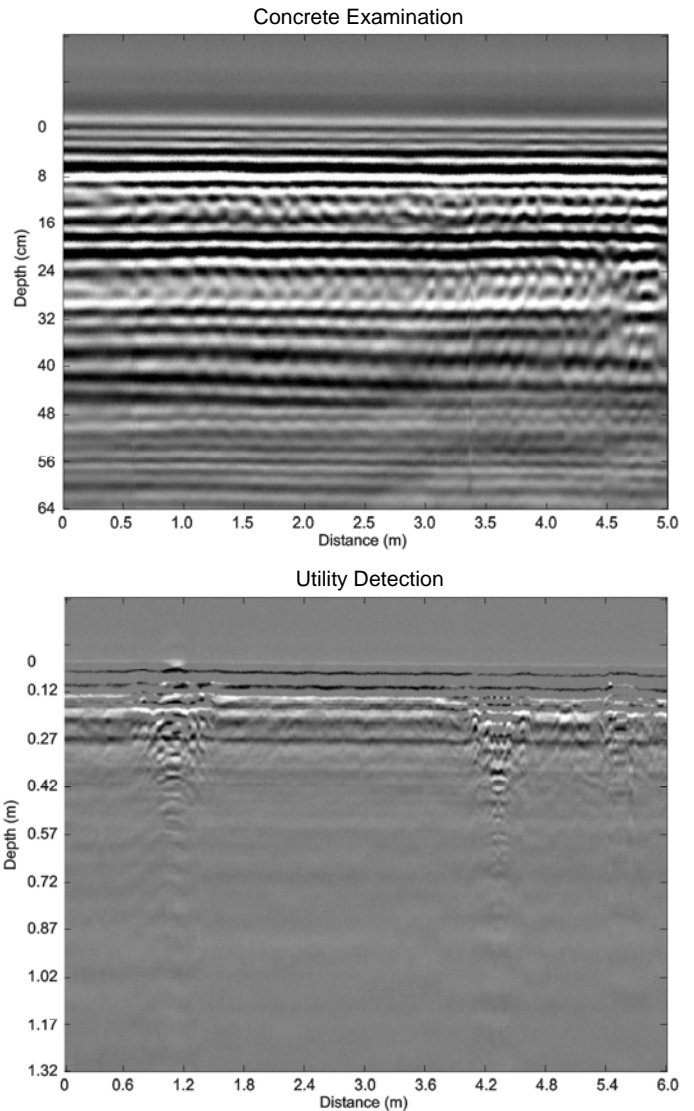
RCS offers GPR services in various applications, such as utility detection and localization (e.g. buries cables and pipes), road inspection, concrete examination (e.g. dam walls, masonry, etc.), geological prospecting, soil structure examination, underground pipeline construction, groundwater exploration, and exploration of near-surface mines (e.g. bauxite, copper, iron, coal, etc.). The offered services include:

GPR surveys: The area or surface under investigation is scanned along a prescribed grid of lines to analyze the subsurface. The scan results are used to detect and locate any objects, fractures, voids, or layers residing in the subsurface.

Data processing and interpretation: To obtain high-quality images of the scanned subsurface, processing of measured data is performed, which includes clutter reduction, background subtraction and data migration. Interpretation of the resulting subsurface images is done by **RCS's** specialized engineers and geophysicists to carry out targets identification.

Subsurface mapping: The results of data processing and interpretation are compiled to construct a 3-D map of the subsurface as the final result delivered to the client.

Examples of Scan Result



The upper image is a B-scan result of a concrete floor of about 40 cm thickness in which the reinforcing iron bars are clearly identified by the small dark spots. The bottom of the concrete is identified by the dark layers at around 40 cm depth. This result was obtained using 600 MHz antennas and pulse generator.

The lower image is a B-scan result of an underground sewage system in which the cross section of 2 wastewater channels can be clearly identified. The bottom of the channels is identified by the hyperbolas at around 40 cm depth. As the channels were empty (filled with air), the bottom was actually located about 3 times deeper due to travel time difference of electromagnetic waves propagating in the soil and in air. In this case background subtraction was applied. This result was obtained using 1 GHz antennas and pulse generator.

Radars & Communication Systems

Segitiga Emas Business Park

Jalan Prof. Dr. Satrio, Kav. 6, Jakarta 12940, Indonesia

Phone: +62-21-57951132, Fax: +62-21-57951128

Email: rcs@solusi247.com, Web: rcs.solusi247.com