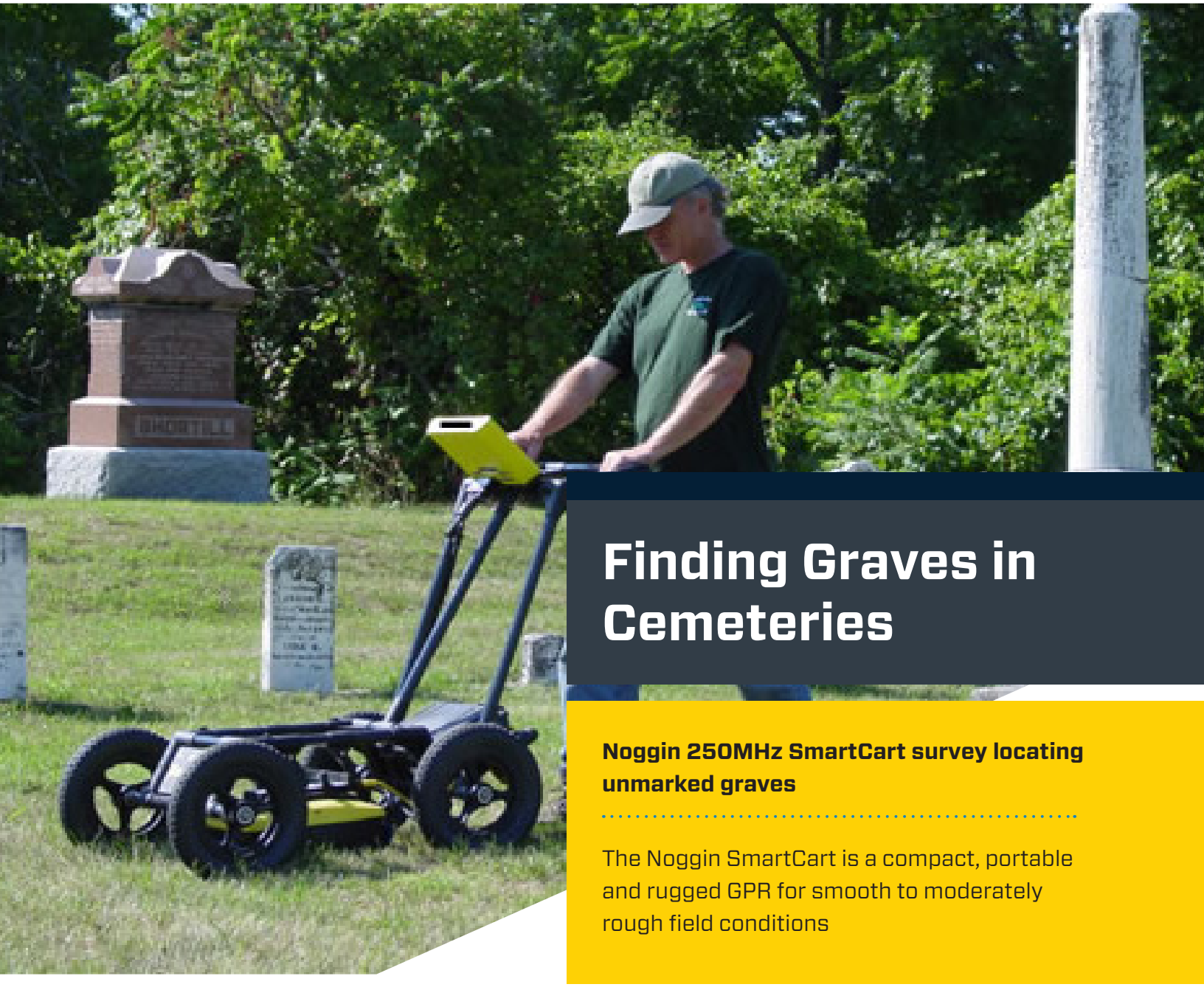

Finding Graves in Cemeteries

Noggin 250MHz SmartCart survey locating unmarked graves

The Noggin SmartCart is a compact, portable and rugged GPR for smooth to moderately rough field conditions

SEE THE FULL STORY ON THE NEXT PAGE.

Sensors & Software

Cemetery in Alabama unmarked

Detailed grid survey was carried out

Overview

Encountering unmarked or improperly marked graves can be difficult and create embarrassing problems for those responsible for cemeteries. While headstones and markers are normally positioned over burial sites, these makers can be lost or miss-positioned as time passes. Some cemeteries are hundreds of years old, encountering unmarked graves is a common occurrence. This case study from Alabama, USA shows effective use of GPR for locating graves.

Problem

Locating graves can be challenging. There is often no surface expression of the burial location. Even if markers are present they may be inaccurately positioned. The challenge is to explore the subsurface without disturbing the soil.

A grave is a relatively well defined target, the size is typically 0.5 by 2m and depth is normally less than 2m. Further, the act of excavating the soil for burial radically disturbs the natural soil structure.

In this case study, a cemetery in Tuscaloosa, Alabama was unsure of the locations of graves in an older section of the property.

GPR Contribution to Solution

The most practical way to sort out the site was to carry out a detailed grid survey. A Noggin 250 MHz Smart Cart configuration was employed. Survey grid was 26 by 20 ft with line spacing of 2 ft.

Once the data were collected, it could be presented in map and 3D form. Most commonly graves are detected by the presence of response of the defined size (long and thin) in the top 2 m.

Data were acquire in 1 hour and first order maps were created on site.

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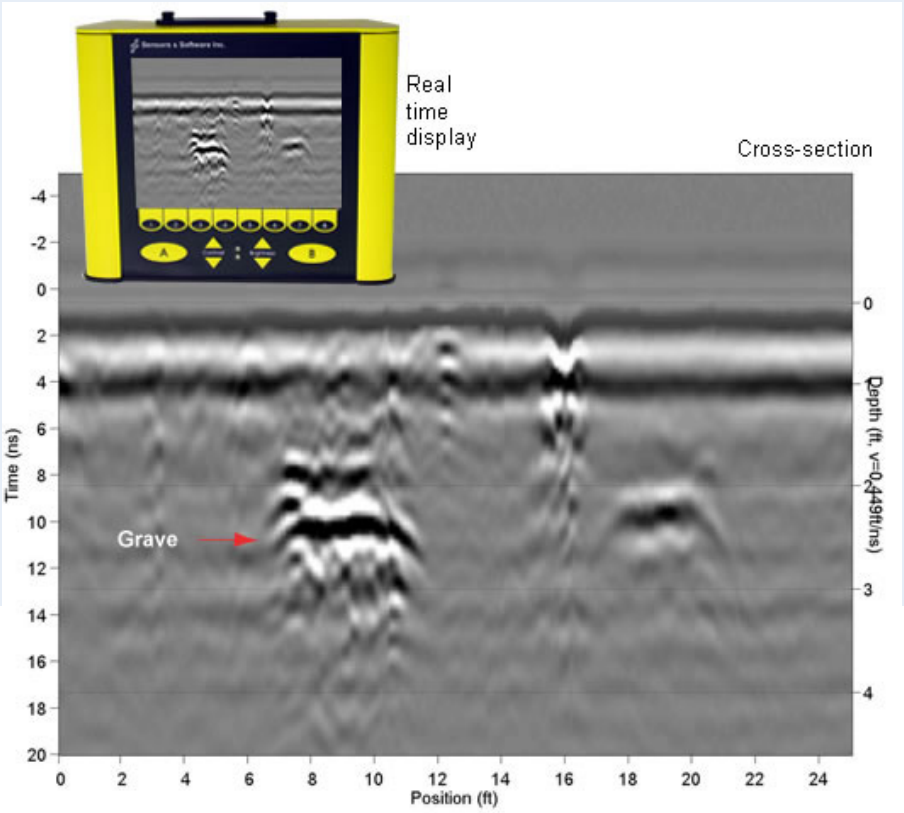
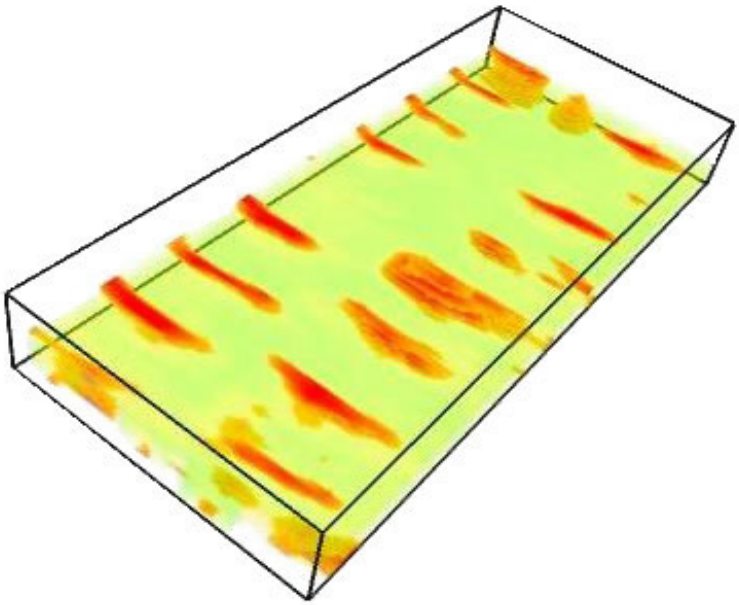


GPR cross-section showing the depth and position of an unmarked grave.



3D GPR image showing unmarked graves.

Results & Benefits

The above cemetery mapping demonstrates the value of GPR for confirming grave locations. Some key benefits are:

- The Noggin SmartCart is a compact, portable and rugged GPR for smooth to moderately rough field conditions
- Operation is simple and intuitive
- Users can be effective with only a few hours of training
- Systematic search protocols are available as best practice guides
- Locate and mark provides rapid and immediate zone of interest identification
- Grid mapping simplify data analysis and reduces false alarms

GPR responses vary greatly depending on the target being sought and the host material. GPR response variability can be challenging to new GPR users. When learning about GPR, the best practice is to review several similar case studies to develop an understanding of variability. Check for other insightful information on the resources tab to learn more. Use Contact Us or Ask-the-Expert to reach our Application Specialists who can help you tap into Sensors & Software's vast array of technical information.

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