

---

---

# Leading-Edge Engineering Technology at the Georgia Tri-State Crematory

---

---

**Kent Schneider**  
**Heritage Program Coordinator**  
**Southern Region**  
**Atlanta, GA**

In early March 2002, Region 8's staff used Global Positioning System (GPS) and ground-penetrating radar (GPR) to help the Georgia Bureau of Investigation (GBI) search for human bodies buried at the Tri-State Crematory. Regional GPS Coordinator Douglas Luepke and Regional Archeologist Kent Schneider assisted the GBI and the Georgia Emergency Management Agency by obtaining radargrams (radar plots) of crematory areas likely to contain mass burials. Fortunately, they found none.

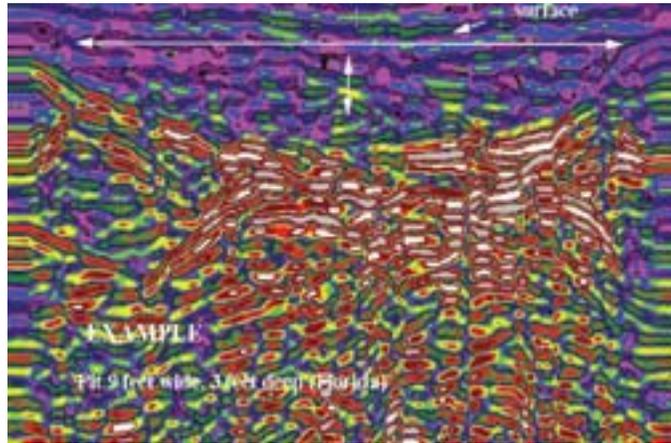
Using GPS to georeference the areas likely to have human bodies in pits rather than graves, staff members began the project by selecting the target areas, traversing the areas on foot with a Trimble GPS Pathfinder® Pro XR, and creating the map shown in figure 1.



**Figure 1.**

Staff then connected the Pro XR to a GSSI SIR2000 radar control unit with a 400-megahertz antenna, which permitted the collection of radar data to be georeferenced to its exact location at the crematory. By towing the antenna across the ground, continuous radargrams were generated for the length of each profile. The radar was set to penetrate 3 to 6 feet into the ground on the assumption that mass graves dug no later than 4 years previously would be visible in the clayey soils. Staff specialists created and studied more than 30 radar profiles, noting and subsequently examining small pits representing tree falls, but they neither detected nor found any bodies.

Radargrams clearly show whether a pit exists in the ground (figure 2). The dip in the radargram delineates where original soil was removed and other fill was used to replace it.



**Figure 2.**

Although the GPR revealed no burials (it was later determined that no burials occurred in the areas surveyed), this technique, coupled with GPS, has been used successfully to locate subsurface features on archeological and historic sites throughout the Southeastern United States. To save time and expense in locating archeological and historic finds before projects begin, the USDA Forest Service plans to routinely use these and other high-tech tools for heritage management.

**Keywords:** archeological sites, georeferencing, Global Positioning Systems, ground-penetrating radar, historic sites