

# Uncovering Crucial Insights into Historic African American Cemeteries

## Overview

- Nonprofit organizations, [The Friends of Lebanon Cemetary](#) and [Pennsylvania Hallowed Grounds](#) needed to pinpoint the exact locations of missing burial sites.
- Bill Steinhart, Senior Geophysicist at [RETTEW](#) conducted ground penetrating radar surveys and used [GPR Insights](#) software to post-process the data.
- The team achieved detailed visualizations of the burials at the cemetery and identified unmarked interments so the caretakers can place monuments.

The Friends of Lebanon Cemetery is a 501(c)(3) nonprofit organization dedicated to the promotion of African American cemeteries in York County, Pennsylvania by honoring the memory of those interred in their folds through historic research, documentation, education, preservation, restoration and community engagement.

The mission of the Pennsylvania Hallowed Grounds (PAHG) is to honor, interpret, and preserve African American cemeteries and the burial sites of Civil War African American Sailors and United States Colored Troops in Pennsylvania.

Founded in 1969, RETTEW is an industry-leading engineering consulting firm headquartered in Lancaster, PA. Their Senior Geophysicist William (Bill) Steinhart focuses on subsurface engineering and utility locating. His skills in subsurface mapping also comes in extremely useful for working on important historic projects such as this one...

## Challenge

The Midland cemetery in Pennsylvania was founded in 1795, a historic burial site for slaves, black freemen and women, Buffalo Soldiers and veterans from many eras. The cemetery had been left to be swallowed by thick vegetation until 1993 when the PA Hallowed Grounds started the restoration. Unfortunately, many of the monuments had been lost to time. Additionally, the exact boundaries of the cemetery were in question. Bill was contacted by PA Hallowed Grounds to scan a portion of the cemetery in an attempt to locate graves that may have been covered by a road.

The Friends of Lebanon Cemetery were put in contact with Bill Steinhart through his connection with Pennsylvania Hallowed Grounds. The Lebanon Cemetery in York, PA had lost track of some of the burial locations over time and unfortunately burial plots thought empty were excavated. Together, Bill and the Friends of Lebanon Cemetery set up a plan to scan for deeper insights into unmarked burial sites.

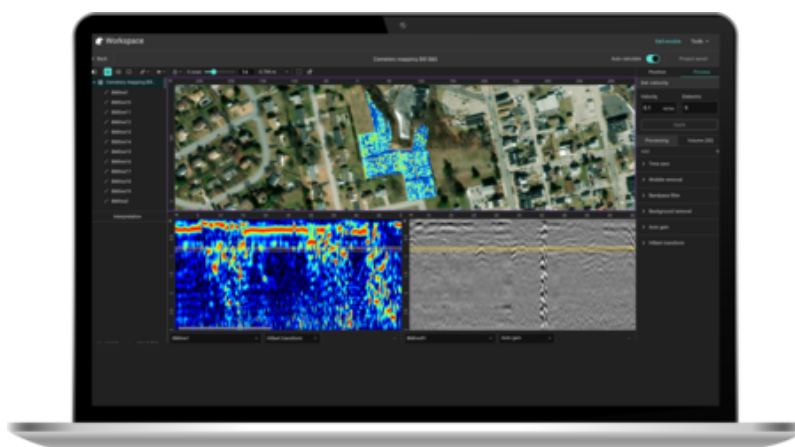
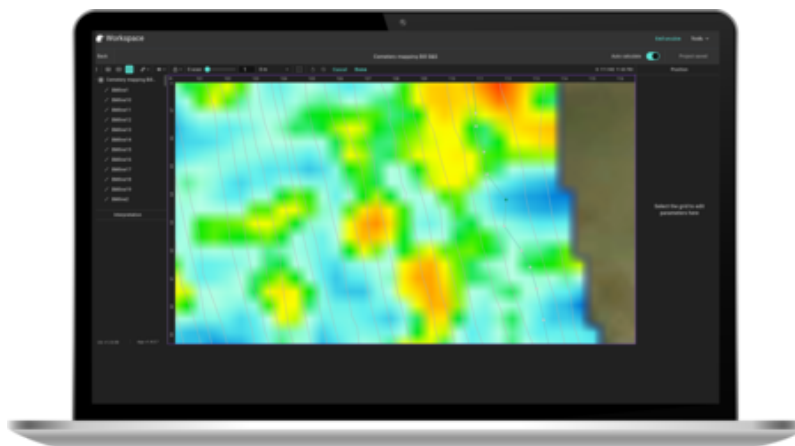
## Solution

Bill used GPR Insights software on this project to post-process the data from the GPR survey. This step was crucial to analyze the soil variations, common for historic burials, in order to know if a grave was there or not, and to map the unexcavated 'missing' burial sites that were located under the street and soil.

[GPR Insights](#) is a web-based post-processing and analysis software for all types of GPR data. Bill had used other advanced GPR post-processing software in the past, but had found the process to be complicated and time consuming. This time he chose GPR Insights with an intuitive interface and many automatic processes that saved him hours of time in the office.

## Results

With GPR Insights, Bill was able to create detailed 3D visualizations and geolocated maps of the burial sites in just minutes. The software allowed him to take the raw GPR data and almost instantly extract insights that would otherwise be hidden to the human eye.



- Bill Steinhart, Rettew.

With the information extracted from the project, celebrations for the 150th anniversary of the cemetery were made even more impactful as the locals were able to truly honor all those who had been buried there.

See more articles and real case studies about GPR data post-processing and analysis in our [Tech Hub](#).



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