

# AUV

ACCURATE UNDERGROUND VERIFICATION

Cemetery Burial Location Rediscovery

Record Verification  
Just got easier!

AUV ONLINE  
**GPR** Data Capture  
Access Your Cemetery GPR Data Online

## 3D GPR Analysis

**Pioneer Cemetery  
Sections 5 (8'x80')  
New Berlin, WI**

**Accurate Underground Verification, LLC.**

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# AUV

Leading The Way in Burial Location Rediscovery for U.S. Cemeteries  
Through The Accuracy of Ground Penetrating Radar.

# Table of Contents

Team / Members .....	2
Location & Area Analysis .....	3
<b>Section 5 - Subsurface Scan</b> .....	3
Section 5 - Subsurface Summary .....	4
Contours 0 ft to -1 ft.....	4
Contours -1 ft to -2 ft.....	5
Contours -2 ft to -3 ft.....	5
Contours -3 ft to -4 ft.....	5
Contours -4 ft to -5 ft.....	6
Contours -5 ft to -6 ft.....	6
Section 2 - Objective Summary .....	7
Section 2 - Deliverables.....	8
Burial Location Summary.....	8
<b>Conclusions</b> .....	8

## Team / Members

Our GPR division has a combined 7 years of experience in GPR verification, sub-surface image scanning, radar data interpretation, and 3D modeling.

The services division is headed by a project manager/data analysis whose skill set is outlined below.

### Todd Szymkowski

**Company:** Accurate Underground Verification, LLC

**Email:** [todd@accurateuv.com](mailto:todd@accurateuv.com)

**Phone:** (office) 888.886.4215

### Project Manager & Data Analyst

- Responsible for Sub-surface Scanning
- 2D/3D Radar Data Interpretation
- Anomaly Discovery
- Data Compilation and 3D Vector Modeling
- Project Analysis
- Summary Creation and
- Liaison between Cemetery and Accurate Underground Verification, LLC

The primary methods of communication are via phone calls, emails, and scheduled meetings (online and offline).

## Location & Area Analysis

On August 17, 2011, Accurate Underground Verification (AUV) conducted a 3-dimensional subsurface scan of (2) 8' x 40' areas noted below as Section 5, located at Pioneer Cemetery 4041 Racine Ave. New Berlin, Wisconsin.

The analysis in this report provides findings in this section, which is outlined in green below. You'll find this section located just north of section 2 and section 3.

After 10 hours of analyzing all subsurface data, it has been determined that numerous burials exist within the areas scanned.

A summary of those findings are listed below.

Section 4	Section 1
Section 3	Section 2
Section 5	

## SECTION 5 – Subsurface Scan

Section 5 contains numerous anomalies determined to be in-ground burials.

We have outlined the locations of determined burials and other objects located below the surface down to 6'. These burials and objects have been accurately noted to the best of our knowledge and ability.

Listed below is a summary screen capture of the area scanned showing the areas with the largest burial activity.

### Notes on the Subsurface Scan

- The scan shows an overhead view of the area
- When visiting the cemetery, please note that the **GREEN** arrow points South and the **RED** arrow points West.
- The **BLUE** dot in the lower left corner is your Starting Marker, which is located in the Northeast corner of the area scanned. This is also physically noted at the cemetery by an orange flag. There are 2 flags placed in the ground and 2 orange plastic stakes representing the four corners of the area scanned.
- The **GREEN** arrow denotes scans taken in an North to South manner
- The **RED** arrow denotes scans taken in an East to West manner
- Not all objects shown in GREEN and GRAY are burials... some may be anomalies located in the subsurface. Those anomalies are not noted as burials.

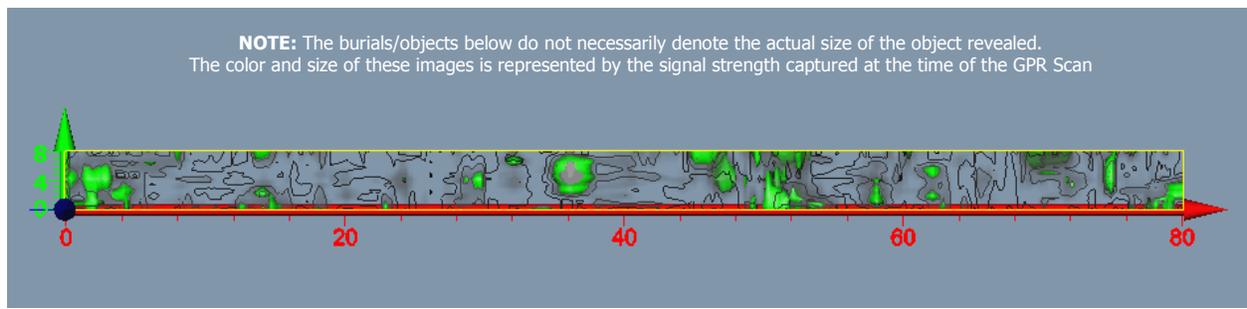
Please take caution when excavating all areas outlined in green and gray.

## Section 5 - Subsurface Summary

Summary picture shows Contours, Volume & ISO Surface scans of the area.

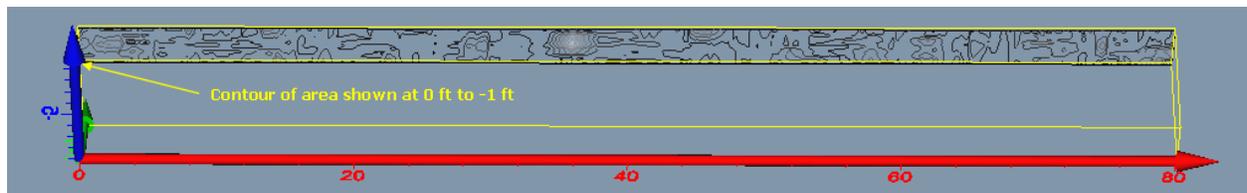
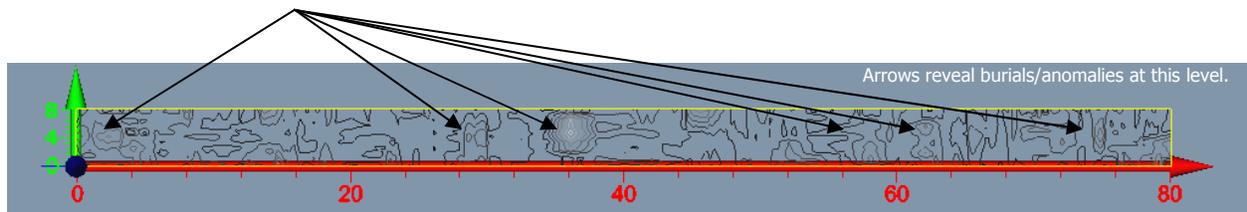
The Contours of the ground are represented by the numerous black outlines in the drawing below. In this view, Contours reveal shapes in the ground between 0 ft & -1ft.

The blurry gray areas represent the Volume of the objects and the green and gray areas represent ISO Surface, or Masses found in the ground. As the Contours at various levels reveal shapes, we support these findings by introducing the Volume Data (gray) along with the ISO Surface data (green) or Mass which reveals the burials or anomalies.



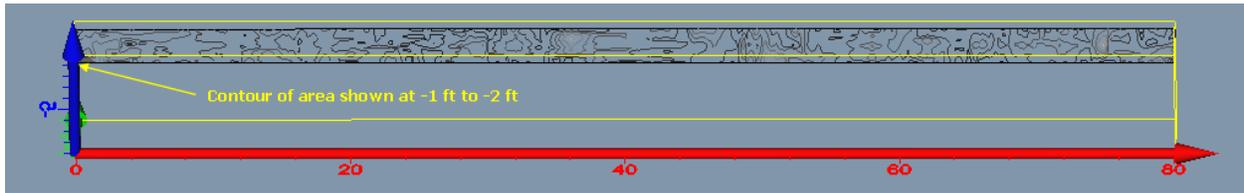
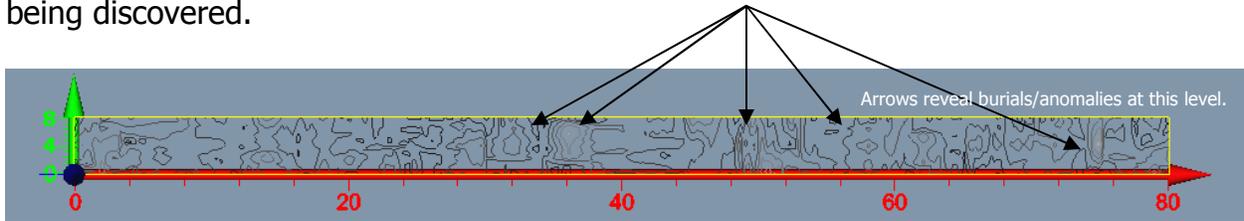
Removing the Volume and ISO Surface data, the Contours reveal objects in the subsurface. These objects are represented by layers of multiple lines surrounding it.

Given the size, location and proximity to their location in the ground, it is determined that these **stronger contours**, while shallow, are locations of starting burials between 0 ft and -1 ft.

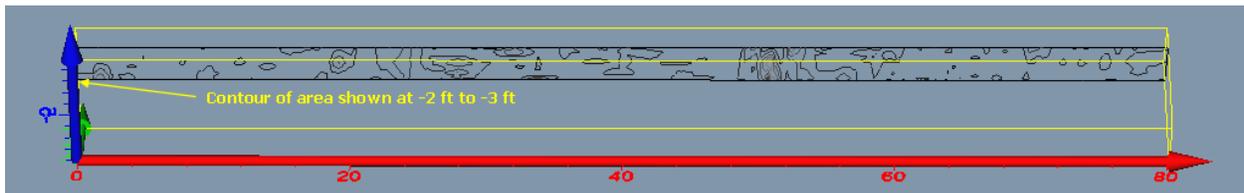
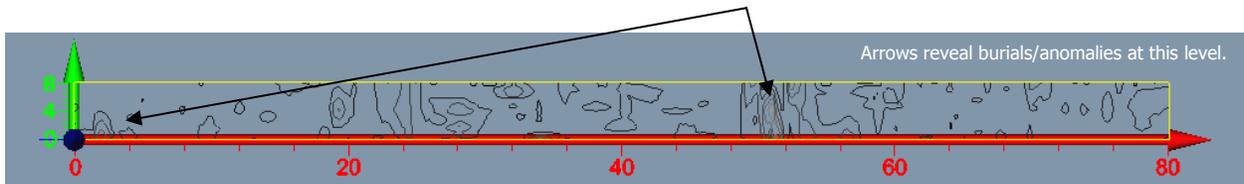


As we proceed into the ground from a depth of -1 ft to -2 ft, you'll notice other burials start to reveal themselves. The arrows below only outline a number of them.

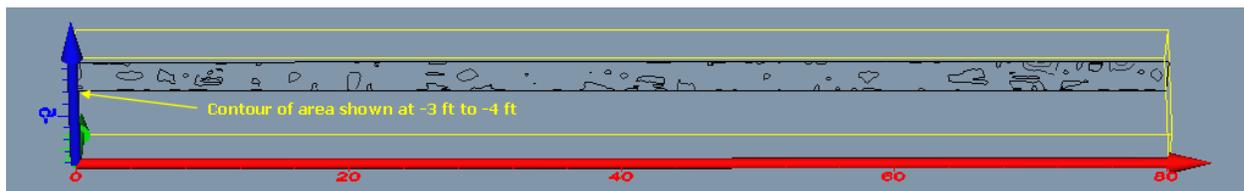
These are also noted by the increase in the number of lines surrounding the burials being discovered.



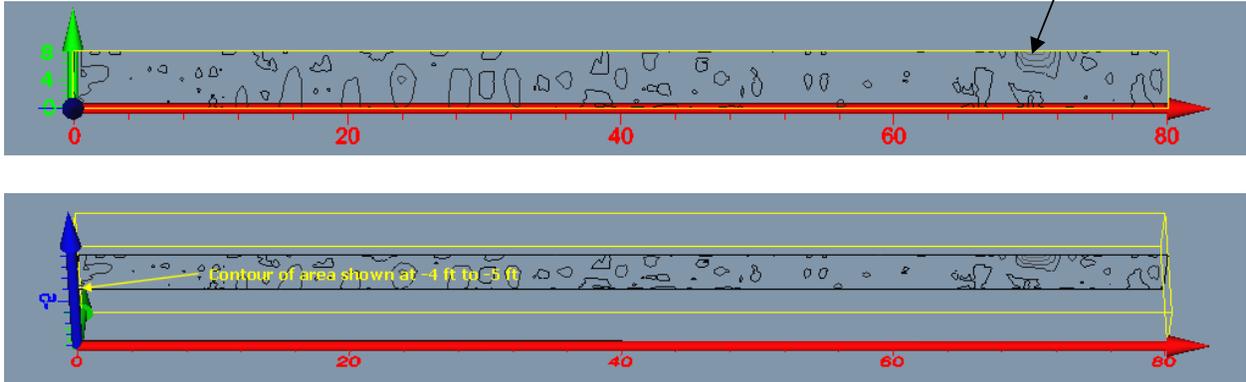
From -2 ft to -3 ft, the scan records additional burials and anomalies. Most burial activity lies in the center area and west in this scanned section.



Analysis of the data between -3 ft to -4 ft reveals fewer signals of burials. Additional burials are just starting to reveal themselves.

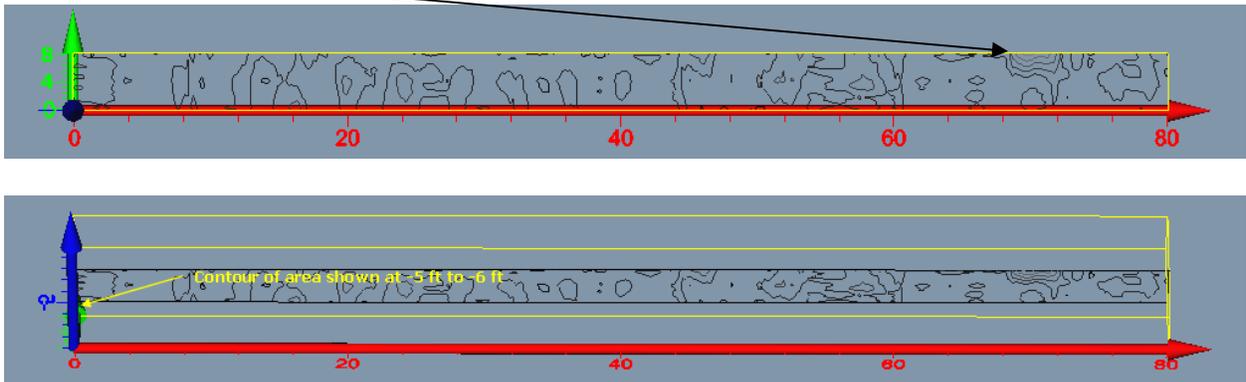


As the Contours reveal objects between -4 ft to -5 ft, we see a larger object start to form.



Our next Contour continues to discover the largest burial object within the -5 ft to -6 ft level.

Due to the thickness of this anomaly, it is determined that this is not a burial but another large rock located in the subsurface.

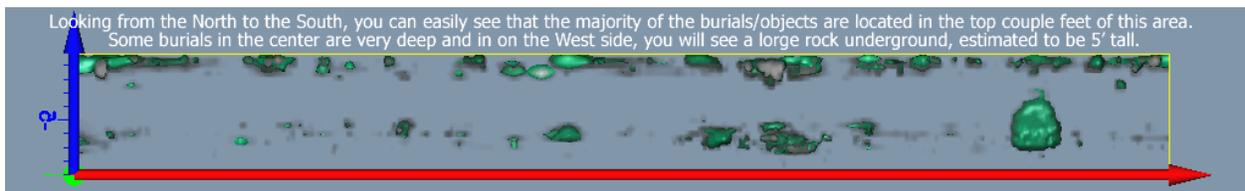


## Section 5 - Objectives Summary

Our primary objectives were to:

- 1) To provide Pioneer Cemetery with an accurate scan of verified in-ground burials, and
- 2) To identify areas of open space determined to be free from disturbance

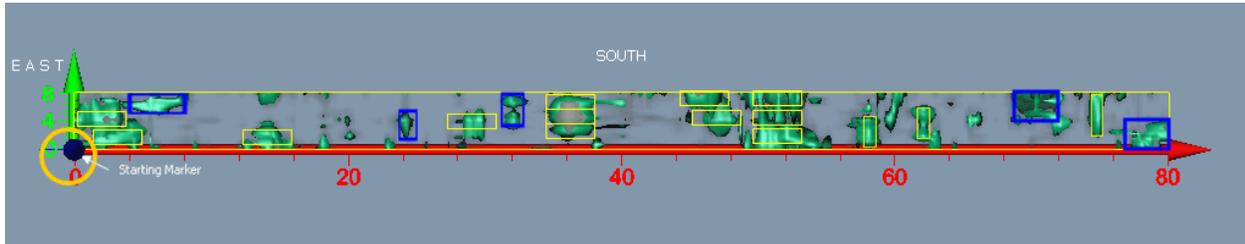
Through our GPR scan and the analysis of the data collected in Section 5, AUV believes we have accurately uncovered a number of in-ground burials. These burials/anomalies discovered along with their approximate locations are shown below.



NOTE: Due to the age of the burials, the materials used in those burials, and the decomposition factor, we recommend that excavation in any part of the cemetery be conducted with extreme caution.

## Section 5 Deliverables

Accurate Underground Verification has determined that the areas outlined in yellow are known burial locations. Areas outlined in Blue are determined to be anomalies.



### Burial Location Summary

A Starting Marker (shown as the blue dot above) is placed in the ground at Pioneer Cemetery. This Starting Marker is presently an orange flag. To locate the highlighted burials at Pioneer Cemetery, simply lay out a tape measure from the grids outlined on page 3. Section 5 is 8' north of sections 2 and 3 and runs 80' West to East along the edge of these sections.

*Grid Lines are Red and Green. Red Line is X and Green Line is Y. All measurements are to scale and hash-lines along those Grid Lines are shown in increments of 4'.*

## Conclusions

Accurate Underground Verification would like to thank you for giving us the opportunity to serve you.

Should you decide to continue this project, we hope you will keep AUV in mind, as we would be most interested in assisting you in recovering other locations.

Should you have any questions regarding this summary or questions regarding our services, feel free to contact us anytime at [support@accurateuv.com](mailto:support@accurateuv.com) or reach us by phone at 888.886.4215.

Thank you again for considering Accurate Underground Verification. We truly enjoyed assisting you.

Kind Regards,

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