Geophysical Survey of Wyatt Chapel Cemetery, Prairie View, TX

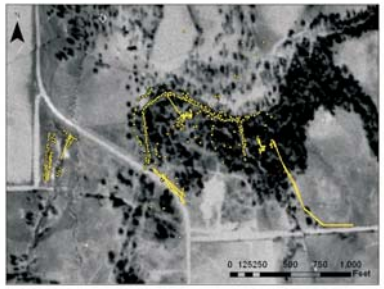
RICE

PRAIRIE VIEW A&M UNIVERSITY

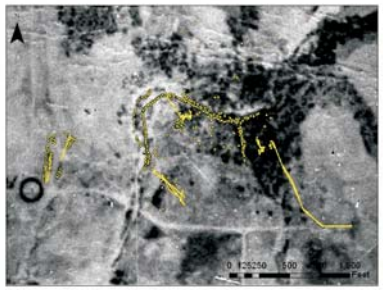
Aerial photographs of Wyatt Chapel Cemetery, which is located at the northern edge of the Prairie View A&M University campus (dorm buildings are visible in the lower portion of the 2006 photo). Yellow dots indicate GPS positions recorded during July 2009 and yellow lines indicate locations of ground-penetrating radar profiles. Over 650 GPS data points and 53 GPR profiles were acquired.

2006

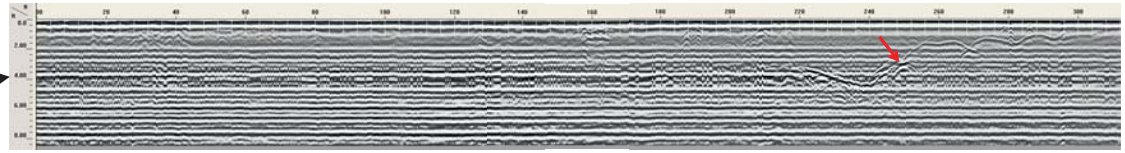
1956



1930

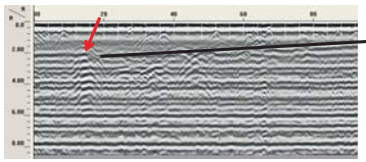


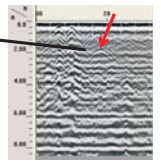
We used a 400 MHZ ground-penetrating radar system to acquire subsurface data. The radar data indicate the presence of numerous unmarked burials in the Wyatt Chapel Cemetery. We also examined the stratigraphy in order to learn more about the geologic history of the site.



The GPR data indicated a strong anomaly in the open field NE of the historical marker (red arrow on GPR profile above). This anomaly was excavated (see photo at left) and revealed a boundary interpreted to be Pleistocene sand overlying Tertiary clay. The clay layer is millions of years old and extremely hard, which is why all burials identified so far occur above this layer. Dark wavy layers near the bottom of the sand layer probably represent flooding surfaces related to geologic events thousands of years ago.

The GPR data indicated several anomalies in the main clearing of the cemetery. These anomalies are interpreted to be unmarked burials.





We performed research in the Prairie View A&M and Rice University archives. The data collected in the field were interpreted in ArcGIS.

We used a Nikon Total Station to obtain accurate position data for surface features such as locations of GPR profiles and headstones.

Thank you to Prairie View A&M for hosting our class, especially Dr. Akel Kahera, Mayor Frank Jackson, and the staff of the university archives. Davin Wallace, Xanthia Vanderford, Russ Jenkins and Dale Sawyer assisted in the field. The participants of ESCI 515 braved sweltering temperatures to acquire an impressive amount of data in only 2 weeks. This project was funded in part by the Texas Higher Education Coordinating Board.

For more information on this project, please contact Alison Henning at ahenning@rice.edu.