

PROJECT PROFILE

GEOPHYSICAL CHARACTERIZATION OF HISTORIC SITES, ST. MARY'S CITY, MARYLAND

Client: Historic St. Mary's City Commission

From 1634 until 1695 Maryland's first settlement, St. Mary's City, served as the colony's capital and

principal town. The religious struggles which had given birth to St. Mary's City and Maryland led to the Calvert family losing the colony in 1689 and the removal of the capital to the

Protestant stronghold of Annapolis in 1695. St. Mary's City was abandoned and eventually converted to agricultural fields.

Since 1968, the Historic St. Mary's City Commission has been charged with the responsibility to preserve, protect, research and interpret this unique historic site by developing an outdoor museum. Historic and archaeological research has been ongoing since the founding of the Museum.

D'Appolonia conducted two surveys, one in a portion of the town known as "The Triangle" where a new museum is planned and a second in the area of the old Roman Catholic Chapel. Work at "The Tri-

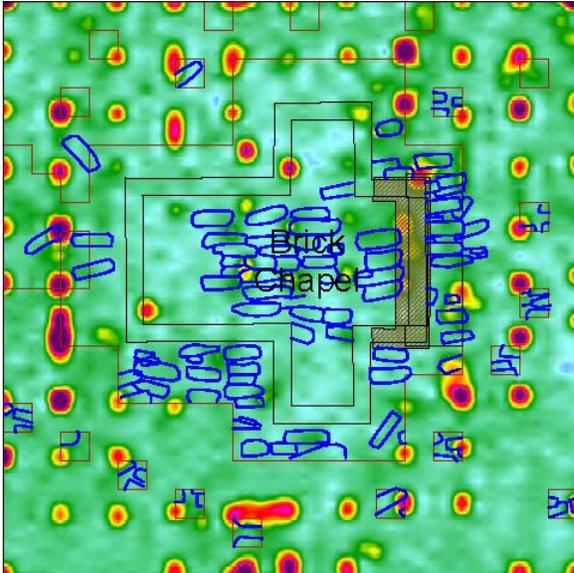


Magnetic surveying with an EG&G G858G gradiometer at the "Triangle" site

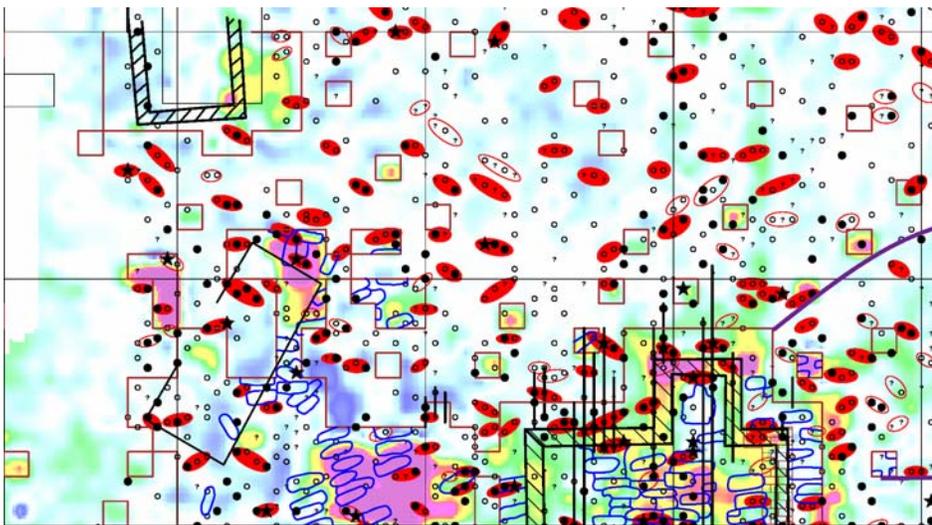
angle" led to the subsequent identification of building remains, tentatively associated with the 18th century. Most of the geophysical investigations were conducted in the Chapel area.

The Chapel is currently being reconstructed over its original foundation within which archaeologists discovered in 1990 three lead coffins containing members of the Calvert family. One of the surveys conducted in the Chapel area was deep metal detection with an EM-61 instrument that confirmed that no additional lead coffins are present, at least in the immediate vicinity of the brick chapel, but the grid of archaeological unit excavations was readily apparent due to the presence of metal survey pins. These metal survey pins also interfered with the magnetic gradiometer data and ground penetrating radar (GPR) and DC resistance measurements became the main survey tools.

The GPR data proved to be the most effective method in identifying disturbed ground that could be related to graves or previously unknown buildings. Hundreds of burials were interpreted from the GPR data, consistent with estimates from historical records.



Results of EM61 metal detection survey in the area of the Roman Catholic Chapel – this unusual distribution of metal was caused by survey pins left in the ground from past archaeological investigations, but the results confirmed that no more burials in lead coffins are present in the vicinity of this chapel.



Portion of geophysical interpretation in the area of the Chapel

D'APPOLONIA