APPENDIX IV

DELAWARE AIRPARK PALEONVIRONMENTAL RECONSTRUCTION

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Delaware Airpark Paleoenvironmental Reconstruction
By: Dorothy M. Peteet

Summary:

Field research:

On June 12, 2006, I drove from Lamont Doherty Earth Observatory to Delaware Airpark, Delaware with 2 types of coring equipment in order to expore the possibility of getting a good wetland sediment core to reconstruct the environmental history of the area. I met with Peter Siegel, Tim and Mark. We looked at the archeological site and then found a nearby wetland where we probed to about 1 m depth in 2 different locations, separated by about 2 meters. The wetland contained *Liquidambar, Ilex, Acer rubrum,* and *?Clethra* at the surface. We took 2 sediment cores, using the Hiller peat corer to retrieve the top sediments which are difficult to retrieve with the Livingstone corer. All samples are stored in refrigeration at LDEO.

Site 1, Core 1: We extracted the top 25 cm of a sediment core with the Hiller corer, and subsampled it at 2-cm intervals, put the samples in plastic bags, and refrigerated the samples at the end of the day. We used the modified Livingstone piston corer to retrieve a sediment core from the same hole at 0.25-1.0 meter depth, and the core retrieved compressed to 50 cm length. It was wrapped in saran and foil and refrigerated.

Site 2, Core 2: We extracted the top 22 cm of a sediment core with the Hiller corer, and subsampled it at 2-cm intervals, put the samples in plastic bags, and refrigerated the samples at the end of the day. We used the modified Livingstone piston corer to retrieve a sediment core from the same hole at 0.22 -1.0 meter depth, and the core retrieved compressed to 47 cm length. It was wrapped in saran and foil and refrigerated.

At the archeological site, 5-cm augered samples from a previous investigation were also put into bags and refrigerated.

Lab research:

To assess the potential of the wetland core for pollen analysis, the basal sample of Core 1 was screened for plant macrofossils and a sedge stem was sent for C-14 AMS dating to Lawrence Livermore Labs, paid for by Peteet. The C-14 date (#127225) unfortunately was -515, indicating that the sample was modern and was contaminated. This unfortunate result, and the shallow depth of the peat, led us to abandon the project.