GEOLOGY AND NATURAL HISTORY OF THE OKEFENOKEE SWAMP AND TRAIL RIDGE, SOUTHEASTERN GEORGIA-NORTHERN FLORIDA

EDITED BY FREDRICK J. RICH & GALE A. BISHOP

33RD ANNUAL FIELD TRIP
GEORGIA GEOLOGICAL SOCIETY
OCTOBER 9-11, 1998

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The members of the Georgia Geological Society wish to thank E.I. DuPont de Nemours for their cooperation in arranging the visit to the Starke mine and for their generous financial support of the fieldtrip.

Also the Okefenokee National Wildlife Refuge for logistical support facilitating access to Chesser Prairie.

Part of the guidebook expense was defrayed by Georgia Southern University.
The proposed mining of heavy mineral sands on Trail Ridge by E.I. DuPont de Nemours and Company has provided us with the framework to develop an assessment of the status of our knowledge of the origin and geological history of the Okefenokee Swamp and the origin, accumulation, distribution, and mining of heavy mineral deposits in Georgia.

We will use this trip to focus our attention on the accumulation of heavy mineral sands on the Atlantic Coastal Plain. We will follow heavy minerals through the rock cycle in a series of contributions detailing the provenance of heavy minerals (Contribution 2; Vance) from their initial source in the Piedmont of the Appalachian Mountains to their deposition on Georgia beaches presented as a model of deposition and accumulation on St. Catherine's Island (Contribution 3; Bishop and Marsh). Then, this model is applied to the geologic history of the Okefenokee Swamp (Contribution 4; Rich) and a review of the origins of tree islands, called "hazes," (Contribution 5; Rich) is then expanded to an overview of the Quaternary evolution of the Georgia Coastal Plain (Contribution 6; Booth and Rich). The mining of the Trail Ridge deposit is brought into the classroom by modeling the use of emerging electronic teaching technologies to engage students in the learning process through role playing over the Internet (Contribution 7; Marsh and Bishop). This information is applicable to ancient Coastal Plain sediments in the Trail Ridge deposit, and its potential exploitation by wet dredge mining techniques and its beneficiation by the DuPont Starke, Florida, milling process (Contribution 8; Renner, Sandborki, Reynolds, and Mogillo).

These contributions are offered as a starting point for discussion on our field trip which will take us first to DuPont's Starke, Florida, heavy mineral sand mine to observe wet dredge mining and beneficiation processes firsthand. The second day will take us into the Okefenokee Swamp where we will observe paludal processes first hand. The field trip will place us squarely between the habitat potentially threatened by mining and the mining process itself.

The question of whether to mine or not to mine is being determined even as we explore the question ourselves on this trip. The process involves discussion of issues in a consensus-based, conflict mitigation process being managed by RESOLVE.

Recent developments in this conflict resolution process have led to the realization that we have but one Okefenokee Swamp. The uncertainties involved in mining on Trail Ridge in direct proximity to this unique habitat and the possible detrimental effects of unforeseen problems in mining seem to be leading to reevaluation of mining options, and the possible withdrawal of Trail Ridge from future mining consideration if the land is incorporated into the Okefenokee National Wildlife Refuge.
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Field Trip Itinerary

Friday, October 9  8:00 P.M. - Social Hour
   9:30 P.M.- Orientation Talk
   Jacksonville Airport Holiday Inn

Saturday, October 10  8:00 A.M.  Load Busses and Vans for
   DuPont Mine and Wet and Dry Mill Tour
   Lunch courtesy of DuPont

Sunday, October 11  7:00 A.M.  Load Busses and Vans for
   Okefenokee Swamp Tour from Camp Cornelia
   Lunch Ordered on Fieldtrip Form
   Return to Camp Cornelia by 2:00 P.M.