PHOTO 47. This contact print of an X-radiograph negative shows the internal structure of a nearshore sediment core taken during the U.S. Army Corps of Engineers Superduck Nearshore Processes Experiment at Duck, North Carolina, October, 1986. Detailed sedimentary structures in the core were not visible to the naked eye, but are well-defined by X-ray absorption integrated across the width of the slabbed core. This core was taken in 4 meters water depth, just offshore of the surfzone, during peak northeaster storm conditions of 1.5 meter significant wave height, 6 second period and 2 meter per second longshore current velocity, averaged on a 30 minute basis. The X-radiograph shows, from top to bottom, finely striated light materials in section A, thin layers of dense heavy materials in section B and alternating layers of gravel and coarse sand in section C. These structures represent an initial sequence of storm deposition, including, in order of formation (from bottom to top): (1) an initial scour to at least 25 cm depth, (2) gravel and coarse sand lag deposition, (3) selective heavy mineral lag deposition, and (4) plane-bed light mineral deposition. Interestingly, the waning storm sequence reflects decreasing longshore-current velocity rather than increasing significant wave height, which did not peak until several hours after the core was taken. Also of interest is the selective sorting of heavy minerals which is shown to occur in the offshore under high-flow regime conditions. Perhaps the most interesting aspect of this core is the periodic deposition of gravel and coarse sand in section C and of light minerals and heavy minerals in section A. Although time scales of this periodicity are not well constrained, it is assumed that the whole sequence was deposited during the several hours between coring and the time of peak longshore current velocity. (Curt D. Peterson, College of Oceanography, Oregon State University, Corvallis, OR 97331, USA.)