EXECUTIVE SUMMARY

On 27 March 1984, Science Applications, Inc. (SAI) conducted a sampling cruise to the Eastern Long Island Sound (ELIS) disposal area, located approximately 3 nautical miles south of the Thames River in New London, Connecticut. The purpose of this cruise was to obtain sediment core samples over the disposal mound at the New London 1983 (NLON83) disposal site. Figure 1.0-1 depicts the depth contour chart generated from a bathymetric survey conducted on 28 December 1983. This shows quite clearly a well defined mound of dredge material approximately 23 feet high, extending to within 30 feet high of the surface and located at approximately 4l degrees l6.48'N by 72 degrees 04.56'W. The object of this study was to obtain a total of 25 core samples down to a depth of at least 45 feet mean low water in order to characterize the nature of the sediment present. Navigation during this study was provided by the SAI precision navigation and data acquisition system, utilizing a Del Norte Model 540 Trisponder microwave ranging system enabling positioning with an accuracy of 6 feet. Core samples were taken using a 15 foot, hydraulically powered vibracorer leased from Ocean Surveys Inc. of Old Saybrook, CT. All at-sea operations were done from the R/V UCONN, a 65 foot steel hulled vessel under charter from the University of Connecticut.

In order to characterize the nature of the material within the mound, a grid of 25 sampling stations was set up which covered the center of the pile as well as its flanks out to the 45 foot depth contour level. Positional stability was maintained through the use of either a one, two or three point mooring system, depending on existing ocean current conditions. Figure 1.0-2 is a depth contour chart similar to that presented in Figure 1.0-1, but with the actual sample locations superimposed. Each of these samples were taken within 35 feet of their target positions and most (80%) were 15 feet or less from their targets. Table 1.0-1 lists the geographic locations of each core sample as well as their individual lengths. Each core sample was carefully removed from the corer, labeled and capped, stored in an upright position to minimize mixing, and transported to the SAI offices in Newport, RI.

On 29 March, a storm system of significant intensity passed close to the New London disposal site and necessitated the postponement of field operations until the week of 2 April. This storm also caused considerable damage to the lantern on the SAT maintained disposal buoy "DGC". Therefore, the lantern and battery system were replaced on 3 Apri1.