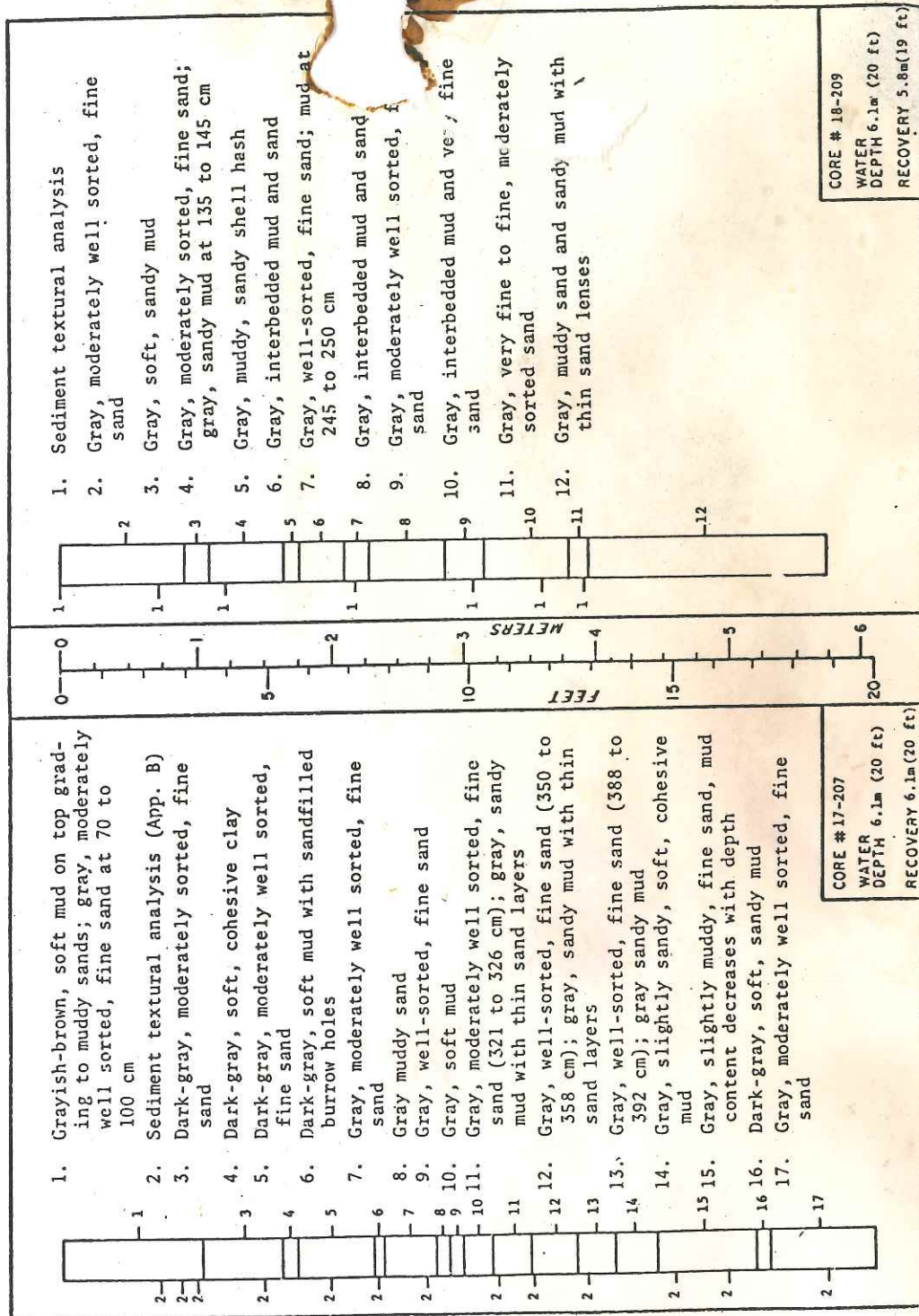




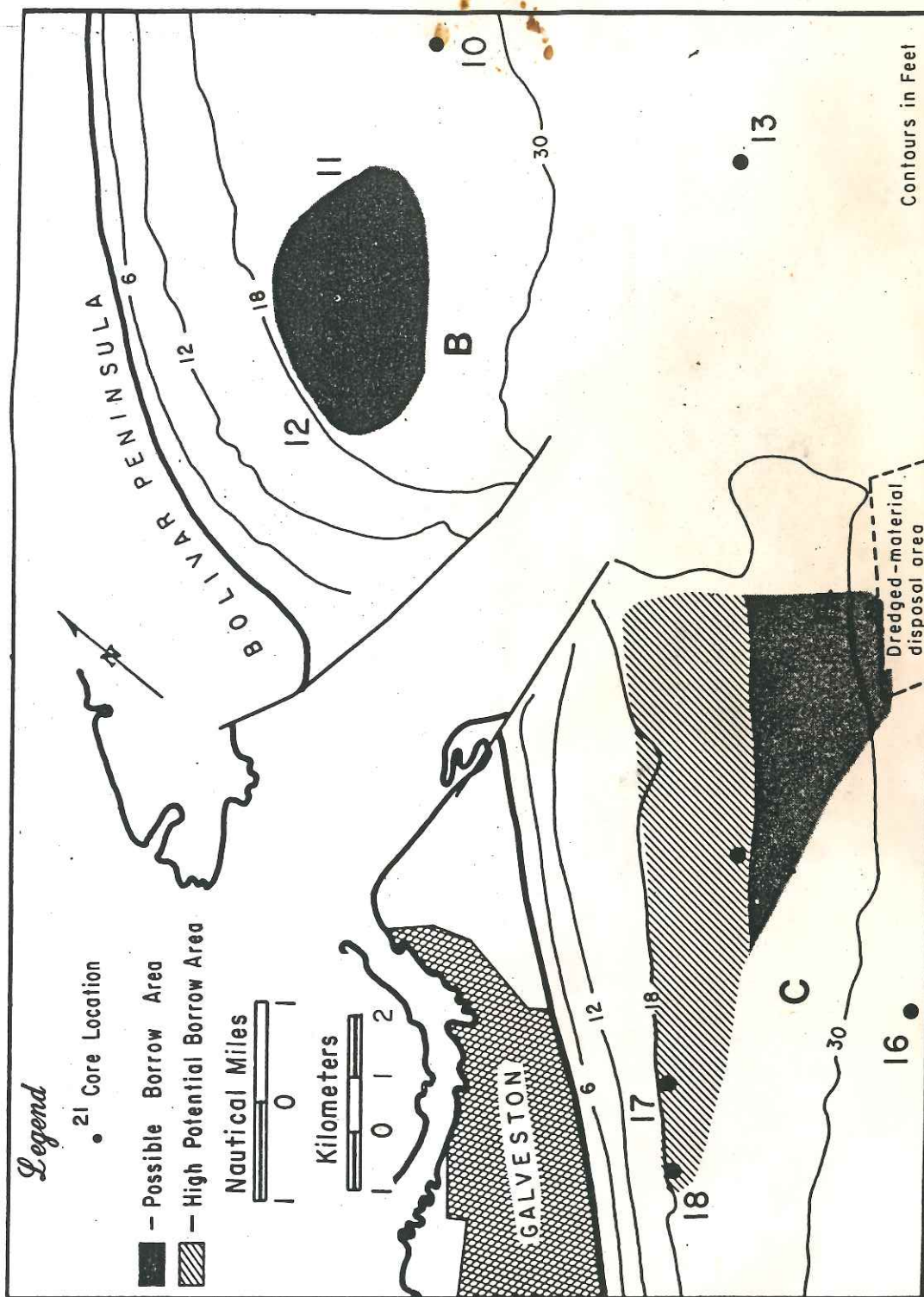


Figure 17. Map of possible borrow site B, and site C which has a high potential inshore area.

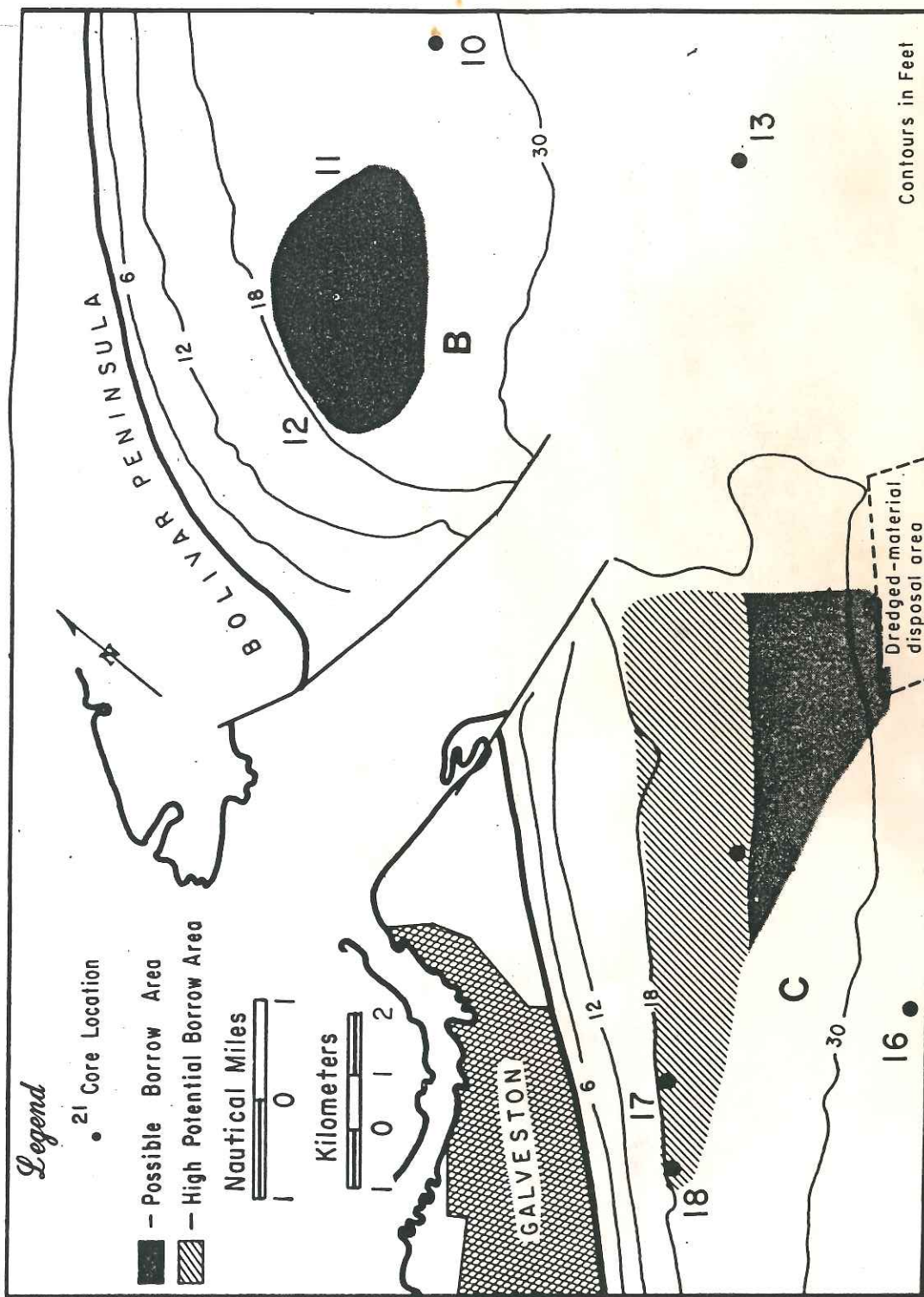
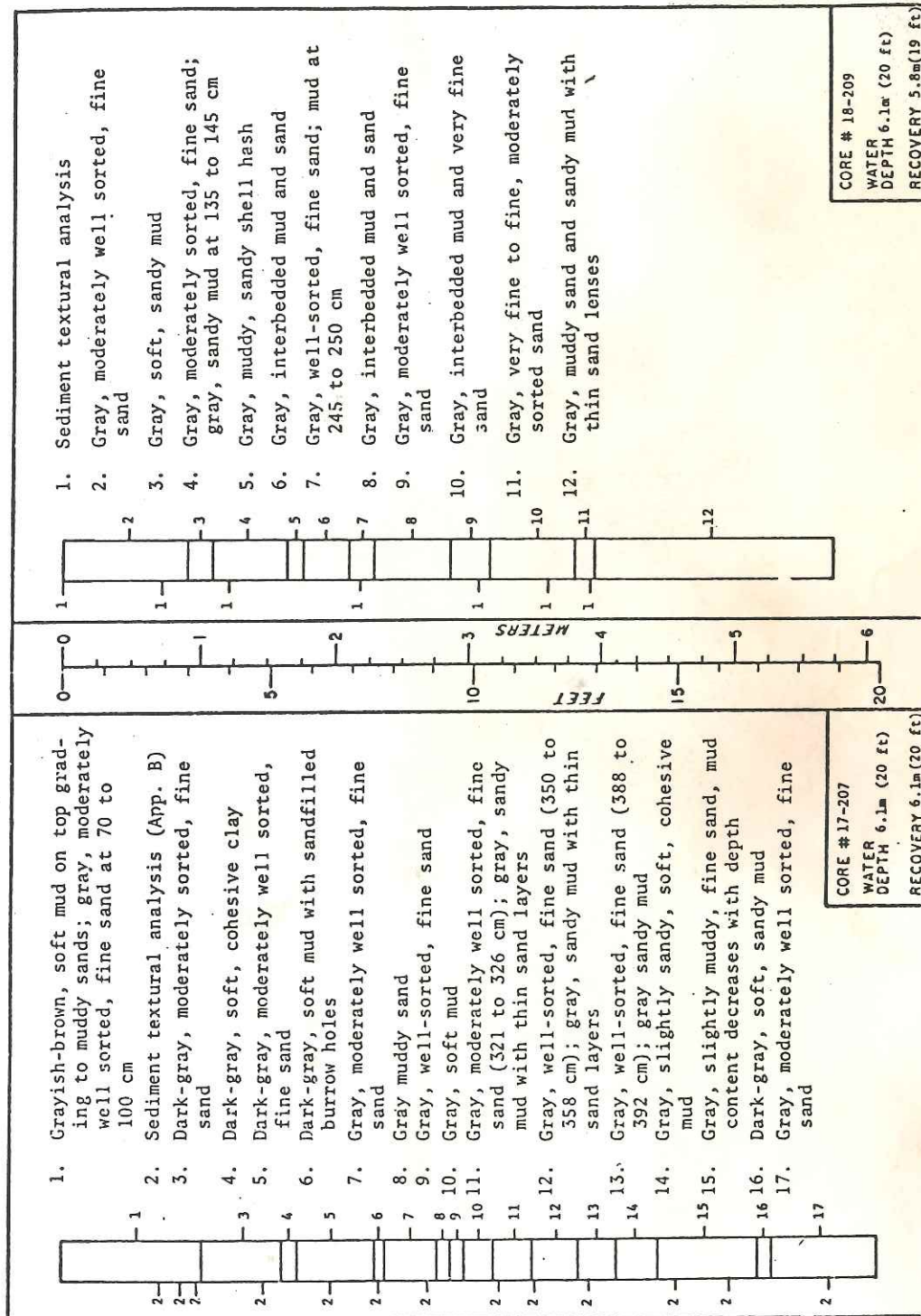
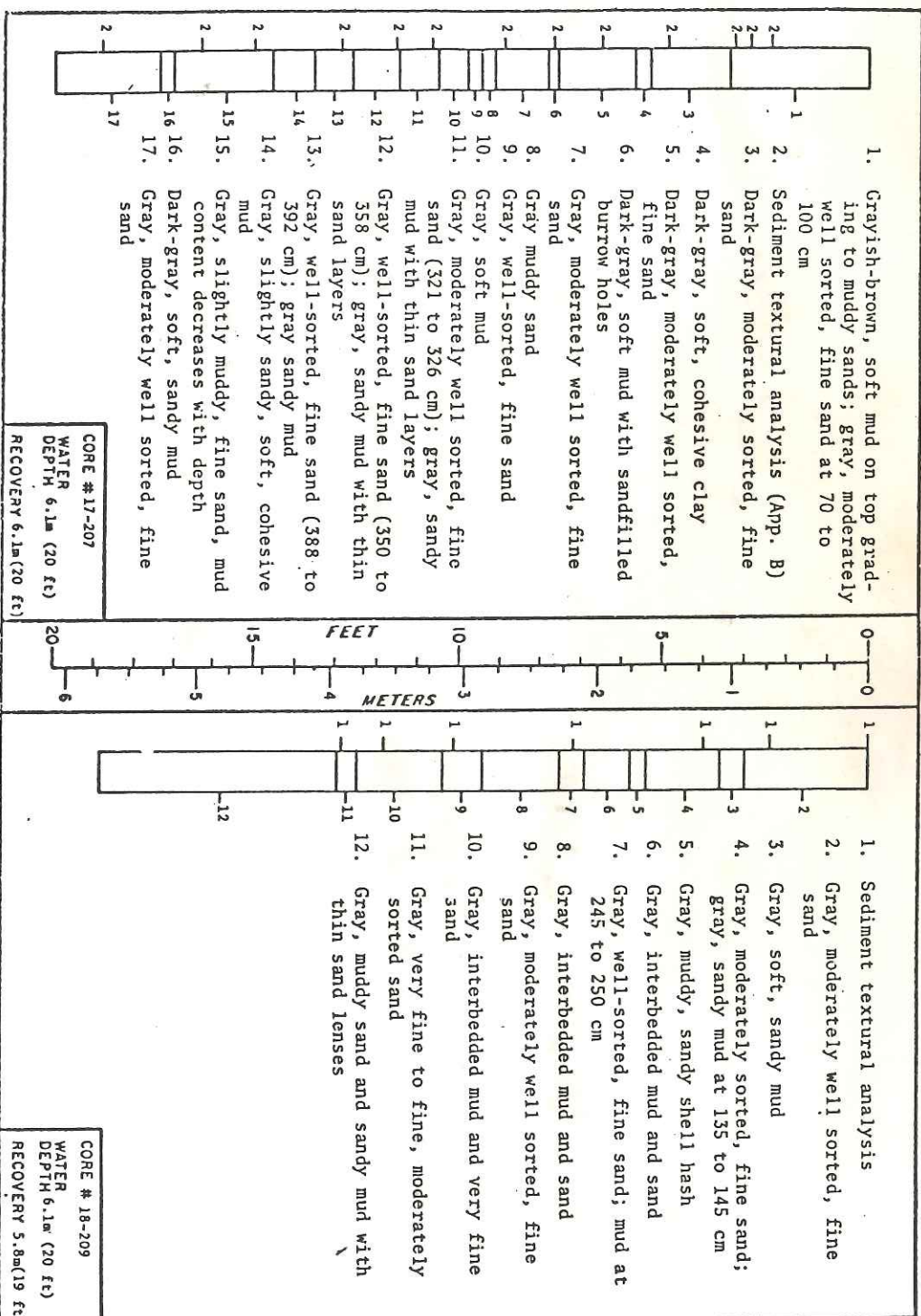
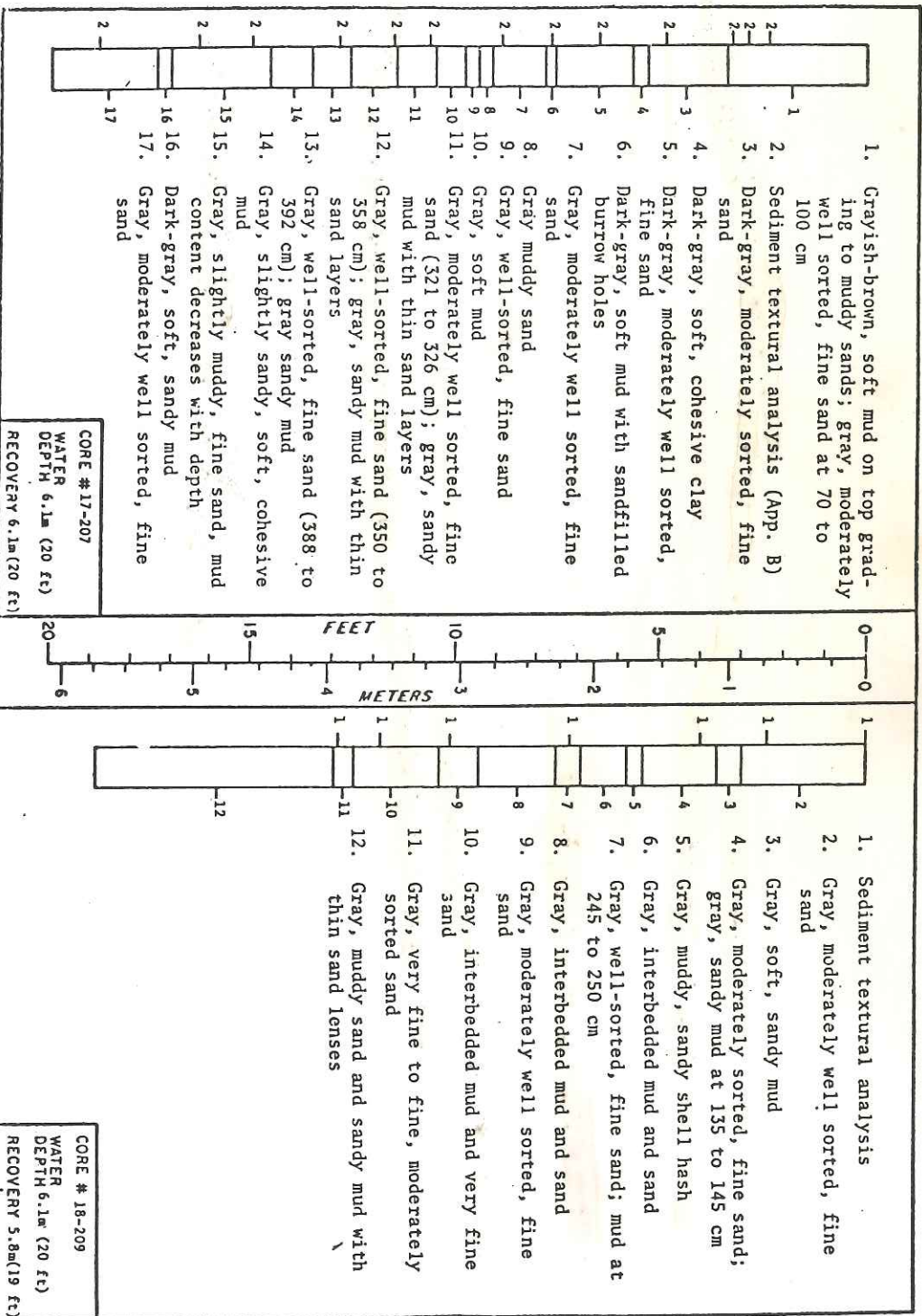
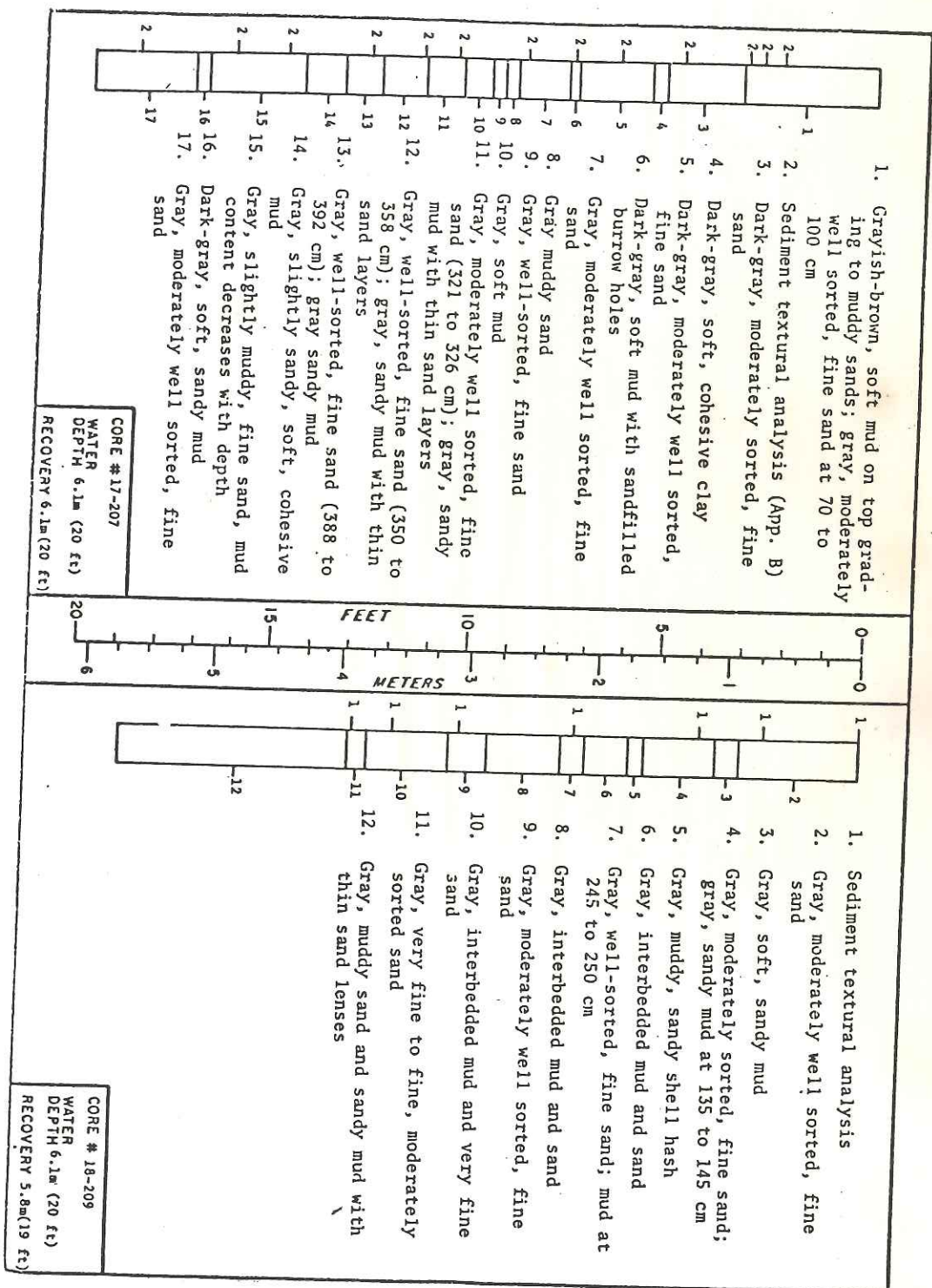


Figure 17. Map of possible borrow site B, and site C which has a high potential inshore area.









November 16, 1992

SURVEY PROPOSAL FOR GALVESTON BEACH REPLENISHMENT PROJECT

The following survey services proposal is based on requirements and information available to date and are subject to change as specific project scope and specifications are developed.

PHASE I

Establish baseline control along the Galveston Seawall from 10th Street to 61st Street; locate and station all existing survey control (local and NGS) and prepare baseline map. Local survey control includes points of intersection of city street intersections with the Seawall and angle points along the Seawall. NGS survey control will include all NGS monumentation, both vertical and horizontal, along the Seawall between 10th Street and 61st Street.

Establish a vertical control loop between 10th Street and 61st Street at 500' stations along the baseline. Elevations are to be based on current NGS Vertical Control datum. Stations are to be marked on the Seawall and control Benchmarks are to be established on the face of the Seawall in accordance with fill requirements.

Prepare cross-sections of the shoreline from the base of the Seawall, seaward to the point of proposed fill, at the established 500' stations. Approximately 40 cross-sections will be established.

The product of **PHASE I** survey service will be a baseline map with both vertical and horizontal control noted, and cross-section profiles of the shoreline at the 500' stations.

Field work will be completed with 2 and 3 man crews employing state of the art survey equipment.

Field Party.....	\$10,000.00
Office - Research and Mapping.....	5,000.00
PHASE I Total.....	\$15,000.00

PHASE II

Prepare cross-sections of "as built" or filled area as dredging progresses. Cross-sections will be run at established 500' stations for direct comparison to "before" profiles.

Prepare plan and profile drawings of each cross-section.

Field Party.....	\$
Office - Plan & Profile.....	
PHASE II Total.....	\$

CONTINGENCIES

Prepare cross-sections of Big Reef prior to dredging start

Field Party.....	\$
Office - Plan & Profile.....	\$
Total.....	\$

Set slope and grade control for dredging "under construction".
Provide an on-site field party to monitor daily the dredging operation at the fill site for fill elevation.

Field Party....\$ 85.00 @ hour.....

All cost estimates include special equipment which may be required, i.e. boat and conventional sounding equipment.

All work necessary to re-establish control points or provide additional control as required by the dredging operation will be billed at a rate of \$ 85.00 @ crew hour plus special equipment cost when required.