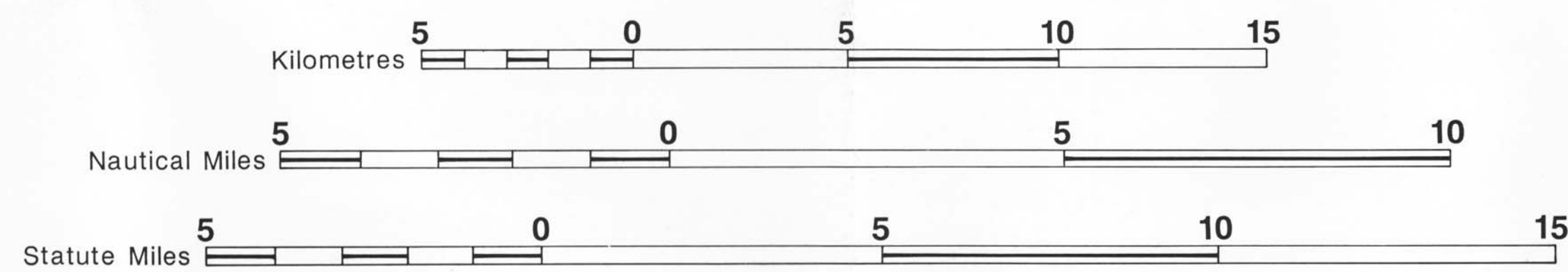


Seismic Stratigraphy of Unconsolidated Sediments
in the Central Strait of Georgia:
Hornby Island to Roberts Bank

by T.S.Hamilton
Open File 2350

INTERVAL THICKNESS OF THE ICE-ERODED FACIES, PRE-LATE
WISCONSINAN DIAMICTS AND OTHER UNCONSOLIDATED SEDIMENTS

This time isopach map of glaciated unconsolidated sediments images the unconsolidated section beneath the last glacial unconformity down to the composite erosional surface on bedrock, with a contour interval 50 ms from 0 to 600 ms. (See interval bounded by heavy lines on seismic section.) Isolated thicks are designated "T" while isolated thins are designated "t". The disparate facies included in this interval imply considerable velocity distortion. While thicknesses in metres are probably comparable to the time in milliseconds, errors in viewing this as a thickness map may be as great as 20%. This package locally includes thin deposits from the Late Wisconsinan (Fraser Stage), but the thickest sections lie beneath earlier unconformities and are inferred to derive from previous glacial cycles. There are marked changes in seismic character, both along and across strike. In places up to 3 glacial/glaciomarine sequences are nested in a series of buried "U-shaped" glacial valleys. Two types of seismic character are prevalent: stratified and chaotic. These two frequently occur as a superposed couplet, suggesting that they mark two depositional phases of a glacial cycle. Stratified facies resemble younger glaciomarine sequences, but are contorted, commonly with bedded diffracting horizons and superimposed (ice) deformation, including tilting, folding and faulting. The longest continuous correlation in this facies is about 16 km (NW-SE) beneath Halibut Bank. Chaotic facies, presumed to be ice contact or proximal, lack extensive reflectors, and are a mosaic of short range, steep and diffracting elements. The longest coherent segments of this facies are rarely more than 2 km, with incoherence down to the scale of a few tens of metres. The thickest regions are all NW trending, remnant banks of older glacial deposits, with the upper surfaces in the form of drumlins and considerable relief on their bases. Examples in this map area include Thormanby Shoal, McCall Bank, Halibut Bank and the Fraser Ridge. The thinnest areas coincide with basins beneath the foreslope of the Fraser Delta eroded down to Cretaceous or Tertiary sedimentary bedrock during the Wisconsinan.



SCALE 1 : 125,000