



Seismic Stratigraphy of Unconsolidated Sediments in the Central Strait of Georgia: Hornby Island to Roberts Bank
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INTERVAL THICKNESS OF THE LAYERED REFLECTOR FACIES, LATE WISCONSINAN TO EARLY HOLOCENE DEGLACIAL SILTS

This time isopach map of the layered reflector facies images the package of horizontal reflectors which fills the lower portions of northwesterly troughs deeper than about 550 milli-seconds and to a lesser extent the thin high frequency reflectors that overly bedrock and older glacial deposits. (See interval bounded by heavy lines on seismic section.) The zero contour or facies edge on this and other isopach maps is a heavy line with tic marks. Isolated thickets are designated "T" while isolated thins are designated "t". The contour interval is 25 ms from 0 to 175 ms. This map has the least velocity distortion of the isopach maps in this series. Assuming an average interval velocity of 1.85 km/s, a maximum thickness 165 metres is implied. The distribution of this facies coincides with the troughs that had previously been carved by advancing Wisconsinan ice. Along the southwestern side of the Strait of Georgia, the layered reflector facies is restricted to troughs deeper than 400 to 500 m. The facies thickens to the SE, controlled by the increasing depth of the underlying basin. Reflector sequences in parallel separated troughs cannot be correlated in level or character. There is more continuity to these reflectors higher in the section and along the troughs (NW) than across the troughs (NE). Depending on the line of section, the base of this facies is conformable or locally downlapping suggesting distinct sources along the front of the Coast Mountains across the width of the map area. The deepest troughs contain up to 14 reflectors on single channel seismic sections but only 3 or 4 of these have sufficient lateral continuity to stack in on the multichannel lines. The reflectors overlap trough margins, are subparallel and exhibit increasing continuity upsection. A style of deposition involving near-bottom transport is inferred. The uppermost reflector occurs at successively shallower levels to the NW in a series of steps up the Ballenas, Lasqueti and the Malaspina troughs, and to the NE up the fjord in Howe Sound. This backstepping would be consistent with a receding sediment source. Bands of isolated point diffractors occur between reflectors, suggesting coarser components. This facies is generally inaccessible to conventional coring. The few cores recovered from places where the overlying transparent facies is absent are of dense, oxidized, organic poor silts with fine laminae, some graded beds and angular or faceted pebbles. The seismic character resembles ice recessional facies on other margins. This facies is interpreted to be deglacial, basinal turbidites related to a floating and retreating ice front.

