

## 2.2 THE GEOLOGY OF THE SOUTHERN PART OF THE HUDSON RIVER VOLCANICS

i) Introduction

The southern part of the Hudson River Volcanics were re-examined with the primary objective of assessing their potential as host rocks for stratabound Cu-Pb-Zn-Ag-Au mineralization of 'Rosebery' style. Particular attention was given to the relationship between the sedimentary units which had been mapped on the coastline and again on the Voyager 2 grid, some 3-4 kms further north. The investigation took the form of a geological mapping and a rock chip sampling programme. As part of this study the Voyager 3 grid and coastal sections were mapped at 1:2500 scale and the area between the Lewis River and Elliott Bay was mapped at 1:10,000 scale on the enlarged aerial photos (plans 1-2).

ii) Generalised Stratigraphy of the Coastal Section

Before discussing stratigraphy the point should be made that the area has been subject to several phases of deformation. This complexity makes definite conclusions about the true vertical stratigraphy difficult to make. However, graded bedding and rare cross-stratification in the sediments indicate that the consistently west dipping sequence also faces to the west.

An arbitrary base to the Hudson River Volcanics is taken to be the Elliott Point Porphyry. Within the porphyry, xenoliths of altered volcanics were recognised, suggesting that the porphyry may represent a sub-volcanic intrusion genetically related to the overlying acid pyroclastics and lavas. Veins of quartz, chlorite with pyrite and minor chalcopyrite were noted in outcrops of the porphyry on the coast.