mineralization worthy of examination lies in the sediments east of the contact. In the majority of these areas, transportation is difficult; in places at the present time it is impossible, so far as movement of ore is concerned.

The marginal limit of the Coast Range batholith was examined at Aishihik Lake district, Yukon territory, Leonard Mountain area, in vicinity of Fourth of July creek, tributary to Atlin lake, British Columbia, and between Atlin and Telegraph creek, British Columbia, by W. E. Cockfield[1]; Stikine River area, thirty miles south of Telegraph creek, by F. W. Kerr[1]; Lakelse lake, Zymoetz River area and Eutsuk Lake area, by J. R. Marshall[1]; Zymoetz River area, by George Hanson[1]; Hudson Bay mountain, Zymoetz River area, by R. H. B. Jones[1]; and in the Tatla-Bella Coola area, by V. Dolmage[1].

At Leonard mountain the minerals occur mainly in shatter zones and replacements in dykes. They consist of galena, zincblende, arsenopyrite, pyrite and chalcopyrite in a quartz, ankerite and calcite gangue, and show prevailingly low gold and silver values; certain exceptions occur in which these values are high.

The investigation of the Atlin to Telegraph Creek area was found to be disappointing from the standpoint of mineralization. The batholith was found intruding the sediments in the north of the area, but in the south the whole was completely masked by later volcanic flows. Some portions of the area remain unstudied and in view of promising adjacent areas it is possible that some portions may be similarly mineralized.

Along the Stikine below Telegraph creek, the batholith and sediments are invaded by sheared, faulted and sinuous dykes, and altered considerably by dynamic metamorphism; the dykes though sheared are not altered in this way. Later volcanic flows cover part of the area. All the mineral deposits occur at the contact of the granodiorite and sediments or in the sediments or granodiorite near the contact. The mineralization is patchy. Deposits consist of: (1) Magnetite and pyrrhotite with small amounts of zinc, copper and lead in solid mineralized masses (lenses) at the contact, in gangue of quartz, garnet, epidote and other silicates; (2) Argentiferous galena and sphalerite with a gangue of quartz, epidote, garnet and other silicates in the sediments at or near the contact; (3) Argentiferous galena, sphalerite and chalcopyrite in irregular masses in altered limestones.

In the Lakelse Lake area the batholith and intruded sediments and volcanics are invaded by numerous dykes of widely varying dimensions and compositions,—lamprophyres, diorites, porphyrys and aplite. The earlier volcanics and sediments are profoundly fractured and folded, and in a condition to be readily susceptible to replacement. Fractures in the intrusives, volcanics and sediments carry replacement deposits of galena, gray copper, pyrite, chalcopyrite, molybdenite and scheelite.

In the Zymoetz River area the batholith and intruded sediments were found invaded by lamprophyric sills and dykes. The mineral deposits graduate from the high temperature scheelite, molybdenite and gold occurrences in the batholith, through copper deposits at the contact, to silver-lead-zinc deposits in the sediments as far as 15 miles from the contact.

In the Hudson Bay Mountain area the mineral deposits are replacement fissure veins, that is, veins in which a variable amount of wall rock has been altered and replaced by minerals, in andesite, rhyolite, limestone, granodiorite stocks and conglomerate; metasomatic replacement deposits were also observed. The mineral deposits are classified as follows: (1) Pyrrhotite-sphalerite deposits with some pyrite and lesser amounts of arsenopyrite and chalcopyrite; (2) Sphalerite-arseno-