

Small bodies of ultrabasic to intermediate rock outcrop mainly along the Thibert Creek Fault that runs northwesterly from the north end of Dease Lake and separates Paleozoic rocks to the south from Mesozoic rocks to the north. Although these rocks originally were believed to belong to two different Mesozoic lithologic units, the McLeod and Thibert Series (Kerr, 1925, pp. 84A, 89A), they were later incorporated by Gabrielse et al. (1962) in a single unit of possible Permian age.

The largest of these bodies underlies Porter Landing Mountain and is about 4 square miles in extent. This body is composite and consists of serpentized peridotite, altered gabbro or dolerite, diabase and serpentinite. The serpentinite occurs along the southwest side of the body in contact with chert, cherty argillite, and greenstone and also forms dykes cutting the other rocks. It is dark green to black and commonly in fragments with slickensided or polished surfaces. Orange weathering carbonatized serpentinite is exposed on the east side of the mountain. Contiguous with the serpentinite on the southwest side of the mountain, and forming much of the body elsewhere is tan weathering serpentized peridotite consisting of a black aphanitic matrix containing rusty or golden weathering euhedral 'basite' pseudomorphs after pyroxene, up to 5 mm long. Some of these rocks are completely serpentized but retain original textures, whereas others contain relicts of primary minerals. The completely altered rocks consist of a matrix of serpentine (antigorite?) that displays a reticulated pattern in places outlined by grains of iron oxide, and 'bastite' pseudomorphs. In less altered specimens the matrix contains olivine crystals surrounded by serpentine, and patches of orthopyroxene occur in the pseudomorphs. In one specimen fibrous dark blue overgrowths of sodic amphibole (riebeckite?) surround the olivine and themselves are surrounded by serpentine. The tan weathering gabbroic or dioritic rocks are coarse grained, with a medium grain size just less than 5 mm and consist of about 50 per cent white feldspar grains and 50 per cent ferromagnesian minerals. Most feldspars are altered to semiopaque, brownish saussurite, but a few unaltered examples have a composition of An₄₇ (determined from Carlsbad-albite twins). Ferromagnesian minerals are clinopyroxene, in part or wholly altered to either pale green-brown hornblende or else fibrous serpentine. The fine-grained diabasic rocks are similar in composition but closely resemble greenstones in the field.

Northwest of Porter Landing Mountain, numerous small outcrops of sheared serpentinite and carbonatized serpentinite outcrop in Thibert Creek, on Red Ledge Mountain and south of Mount Defot. Altered diabasic rocks exposed near the confluence of Delure and Thibert creeks contain uralitic hornblende, finely granular epidote, deep green aegirine, skeletal ilmenites partly altered to sphene, and prehnite veins.

Farther south, small carbonatized serpentinite bodies crop out on Dease Creek. On the east side of Dease Lake, southeast of Nine Mile Point, there are numerous small serpentinite bodies. Peridotite appears to underlie diabasic rocks (unit 5) believed to be intrusive equivalents of the flow rocks in the French Range Formation.