



MINFILE NTS 082LNW – SHUSWAP LAKE

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The Shuswap Lake map area lies in the southeastern part of the province and contains 89 documented occurrences. Physiographically, the map sheet covers the Shuswap Highland in the central and eastern part, and the Thompson Plateau in the west. Shuswap and Mara lakes occupy the east-half of the map sheet and the South Thompson River is in the west. The town of Salmon Arm is near the centre of the map area.

The map sheet is almost entirely within the Omineca Belt and is dominated by Kootenay Terrane rocks comprising the Hadrynian? to Mississippian Eagle Bay assemblage, Hadrynian to Ordovician Mount Ida Group and Proterozoic and/or Paleozoic Shuswap assemblage. In the west and southwest corner, Quesnel Terrane rocks comprise the Upper Triassic and? Lower Jurassic Nicola Group and Devonian to Triassic Harper Ranch Group. Intrusive rocks range from Cretaceous? to Early Eocene. Cover consists of Eocene Kamloops Group sedimentary and volcanic rocks which unconformably overlie the older rocks.

The Eagle River fault, an extensional shear zone, extends southwest into Sicamous and Mara Lake on the eastern border of the map sheet, and may be part of the Okanagan shear zone. The Eagle River fault is a major lithological, structural and metamorphic discontinuity which delineates the western boundary of the Shuswap metamorphic terrane from relatively low to medium grade metamorphic rocks of the Mount Ida Group and Eagle Bay assemblage and related plutonic rocks.

The Shuswap terrane consists of polydeformed rocks that have been metamorphosed in the sillimanite zone of the amphibolite facies. Structures in rocks in the Shuswap Lake area vary in style, changing upward and laterally in the tectonic pile from amphibole-garnet schist and gneiss, with sillimanite in the east, to low grade argillite. At least four main phases of progressive deformation and accompanying metamorphism affected most of the rocks, followed by the emplacement of Mesozoic granitic plutons. The metamorphic rocks near Shuswap Lake have attracted considerable attention since Dawson (1898) first mapped in the area.

The Shuswap rocks comprise undivided quartzofeldspathic gneiss, biotite quartz schist (commonly with sillimanite, kyanite, garnet or staurolite), amphibolite, quartzite, marble and skarn. There is abundant and locally dominant pegmatite, muscovite granite, granodiorite, and granodioritic to tonalitic gneiss that may range from Paleozoic to Tertiary in age. There is also marble and diopsidic marble with lesser calcisilicate gneiss and amphibolite.

Low to medium grade metasedimentary and metavolcanic rocks of the Mount Ida Group are represented by the Silver Creek, Tsalkom and Sicamous formations. Pelitic and semipelitic schist, quartzite, micaceous and calcareous quartzite comprise the Hadrynian and/or Paleozoic Silver Creek Formation. The lower Paleozoic Tsalkom Formation predominantly consists of greenstone and chloritic phyllite and is overlain by calcareous black phyllite, graphitic phyllite, limestone and argillaceous and phyllitic limestone of the lower Paleozoic Sicamous Formation. The Ordovician Little Shuswap orthogneiss is also part of the Mount Ida Group. The Silver Creek, Tsalkom and Sicamous formations each have lithological equivalents within the Eagle Bay assemblage.

The Eagle Bay assemblage has been subdivided into the Mississippian Slate Creek unit, Devonian Skwaam Bay unit, Devonian and/or older? Dixon Ridge and Woolford Creek units, lower Paleozoic Forest Lake unit and Lower Cambrian Johnson Lake unit. Briefly, the Slate Creek unit consists of dark grey phyllite and slate with interbedded siltstone, sandstone and grit; the Skwaam Bay unit consists of sericite quartz phyllite, sericite-chlorite-quartz phyllite and fragmental phyllite derived from felsic to intermediate volcanic and volcanoclastic rocks; the Dixon Ridge unit consists of vesicular and pillowed metabasalt, greenstone and chlorite schist; the Woolford Creek unit consists of chlorite-sericite-quartz schist, chlorite schist, actinolite schist and greenstone; the Forest Lake unit consists of grey and green phyllitic sandstone and grit, phyllite, chlorite-sericite-quartz schist and quartzite; and the

Johnson Lake unit consists of calcareous chlorite schist, fragmental schist and greenstone derived largely from mafic to intermediate volcanic and volcanoclastic rocks. Undivided Hadrynian? to Paleozoic quartzite, micaceous quartzite, siliceous phyllite, garnet-mica-quartz schist, greenstone, chloritic phyllite, chlorite schist, limestone, argillite, slate and conglomerate are also part of the assemblage as well as Devonian and/or older? serpentinite and granodioritic orthogneiss.

Quesnel Terrane strata comprises Nicola Group augite-phyric basalt to andesite flows, tuffs and breccias, shale, argillite, siltstone, phyllite and calcareous pelite. Harper Ranch Group rocks consist of argillite, cherty argillite, siltstone and volcanic and chert-grain sandstone. Undivided Harper Ranch and? Nicola groups consist of argillite, phyllite, volcanic sandstone, semischist and meta-augite porphyry and chlorite schist. Cover rocks consist of unconformably overlying Kamloops Group andesite, basalt, dacite, trachyte flows, breccias and tuffs, and conglomerate, sandstone and shale.

About 76 occurrences are hosted in Kootenay Terrane rocks with the remaining 12 in the Quesnel Terrane. Historic production from the map area is minimal, with silica, clay and limestone as the commodities. In most cases, production statistics were not recorded. Minor amounts of placer gold (435 grams) were obtained from McGillivray Creek (082LNW058). The Falkland gypsum quarries (082LNW001) are intermittently mined with total output to 1992 amounting to 1.36 million tonnes.

Current exploration focus is on Noranda/Kuroko and Besshi massive sulphide copper-zinc-lead deposits, predominantly hosted in Eagle Bay assemblage rocks. The Scotch Creek (082LNW016), Scotch (082LNW046) and Woolf 3 (082LNW078) prospects and numerous other showings contain these types of mineralization. Other exploration efforts have focused on polymetallic silver-lead-zinc veins such as the Bonnie Brae (082LNW007), Mount Ida (082LNW008) and Sunset (082LNW022) prospects. Numerous pits and several adits and shafts explore hornblende-rich skarn hosting copper and zinc mineralization at the Bluenose showings (082LNW002, 3, 4). Trenches, pits and adits explore Sedex zinc-lead-silver mineralization at the Annis showings (082LNW021, 23, 24, 25). There are also minor showings of fluorite, limestone, agate and coal on the map sheet.

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