MINFILE
NTS 093M – HAZELTON

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The Hazelton map area, located in north-central British Columbia, contains 195 documented mineral occurrences. The map area is underlain primarily by rocks of the Stikinia Terrane and an overlap assemblage. A small area in the extreme northwest of the map area is underlain by rocks of the Cache Creek Terrane.

The Stikinia Terrane consists of the Lower to Middle Jurassic Hazelton Group and the Upper Triassic Stuhini (Takla) Group island arc volcanic rocks. These are intruded by the Late Triassic to Middle Jurassic Omineca, Francois Lake and Topley intrusions. The overlap assemblage consists of the Middle Jurassic to Upper Cretaceous Bowser Lake, Lower Cretaceous Skeena and Cretaceous Sustut groups. These mainly comprise clastic sedimentary and minor volcanic rocks deposited in local fault-bounded successor basins and in the Bowser basin, a portion of which underlies much of the northwestern portion of the map area. Upper Cretaceous calc-alkaline volcanic rocks of the Kasalka Group extruded from several volcanic centres, while coeval plutonic rocks formed the Bulkley Intrusions. During the Cenozoic Era, important igneous activity occurred in the Eocene stage, when the Babine, Kastberg and Nanika intrusions and the Ootsa Lake Group calc-alkaline volcanic suite formed. Structure is dominated by block faulting which has controlled the location of the major mountain valley systems, as well as many of the intrusive rock suites and mineral deposits. Aside from contact effects near intrusive bodies, metamorphism is light, reaching prehnite-pumpellyite facies.

The **Bell** mine (093M 001), located on Newman peninsula on Babine Lake, was recently (March, 1992) shut down. Between 1972 and 1990, seventy-one million tonnes were processed to yield 233,367 tonnes of copper, 33.8 tonnes of silver and 9.5 tonnes of gold. Current ore reserves are 117 million tonnes, grading 0.55 per cent copper and 0.34 gram per tonne gold. The Bell mine is a porphyry copper deposit hosted primarily in a biotite-feldspar porphyry plug of the Babine Intrusions. A second prophyry prospect, the **Morrison** deposit (093M 007), is located 21 kilometres north of the Bell mine and contains an inventory of 38 million tonnes grading 0.42 per cent copper and 0.34 gram per tonne gold. Exploration potential for copper-gold porphyry deposits in the Babine district remains excellent.

Past production has been documented from vein-type deposits in two districts in the area. The **Silver Standard** mine (093M 049) is a relatively low temperature vein-type deposit that appears to be related to the Eocene Mount Glen stock, one of the Babine Intrusions. A total of 204,000 tonnes were mined, producing 237 tonnes of silver, 463 kilograms of gold, 12,260 tonnes of zinc, 7923 tonnes of lead, 203 tonnes of copper and 147 tonnes of cadmium. In the Rocher Deboule district, the **Red Rose** (093M 067) and **Rocher Deboule** (093M 071) mines produced, respectively, 103,000 tonnes of tungsten ore and 123,000 tonnes of tungsten-copper ore containing recoverable silver, gold, zinc and lead. Mineralization is genetically related to the Rocher Deboule stock, one of the Late Cretaceous Bulkley Intrusions.

Exploration potential is good for: 1) volcanogenic massive sulphide deposits within the Hazelton Group in submarine facies strata between the Babine and Takla lakes 2) epithermal Au-Ag deposits in subaerial facies strata and for skarns in shallow marine facies strata near intrusive bodies, and 3) copper-molybdenum deposits in the Bulkley Intrusions, such as the Mount Thomlinson plug which hosts the **Mount Thomlinson** molybdenum deposit (093M 080), containing a mineral inventory of 40 million tonnes grading 0.12 per cent molybdenum.

Numerous small coal deposits are hosted in fault-controlled successor basins containing Mesozoic and Tertiary clastic sedimentary rocks.