MINFILE
NTS 093L – SMITHERS

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The Smithers map area lies in the west-central part of the province and contains 326 documented occurrences. The map area is wholly within the Intermontane tectonic belt. Physiographically, the Bulkley and the Babine ranges of the Hazelton and Skeena mountains form the western half of the map area. The Nechako portion of the Interior Plateau occupies the eastern half. The Bulkley, Babine and Tahtsa Ranges, representing the mountainous and highland portions of the Interior Plateau, are wedged between the Kitimat Mountains to the west and the low-lying Nechako Plateau to the east. The Bulkley River, draining northwards from Morice Lake into the Skeena River, separates the Hazelton Range from the Skeena Mountains. The Nechako Plateau is an area of low relief, with undissected expanses of flat or gently rolling country and a sparse stream drainage network.

The map area is predominantly underlain by rocks of the Stikine Terrane and includes subaerial to submarine calcalkaline volcanic, volcaniclastic and sedimentary rocks of the Lower to Middle Jurassic Hazelton Group; submarine calcalkaline to alkaline volcanic island arc rocks of the Upper Triassic Stuhini Group; Middle-Upper Jurassic to Upper Cretaceous successor basin sedimentary rocks of the Bowser Lake, Skeena and Sustut groups; and Upper Cretaceous to Eocene-Lower Miocene calcalkaline continental volcanic arc rocks of the Kasalka, Ootsa Lake and Endako groups. Potassium-argon isotopic dating has defined three major magmatic events; these are the Early Jurassic Topley intrusions, the Late Cretaceous Bulkley intrusions and the Eocene Nanika intrusions.

Mineral deposits in the map area are associated with the emplacement of these intrusions. The most economically important exploration targets are mesothermal and epithermal precious metal veins, and polymetallic Ag-Pb-Zn veins (**Dome Mountain** (093L 276), **Grouse Mountain** (093L 251), **Silver Queen** (093L 002), **Topley Richfield** (093L 018) and **Cole** (093L 162)); porphyry copper and molybdenum deposits (**Glacier Gulch** (093L 110), **Louise Lake** (093L 079), **Poplar** (093L 239), **Serb Creek** (093L 083) and **Lucky Ship** (093L 053)); and stratabound polymetallic massive sulphide deposits (**Del Santo**, 093L 025). Skarn mineralization (**Sholto**, 093L 202) and deposits transitional to porphyry deposits (**Limonite** (093L 323), **Copper Crown** (093L 026)) are also exploration targets.

Significant reserves exist at several porphyry copper and molybdenum deposits: Glacier Gulch contains 100 million tonnes of 0.297 per cent molybdenum; Louise Lake contains a possible resource of 50 million tonnes grading 0.3 per cent copper, 0.02 per cent molybdenum and 0.31 gram per tonne gold; and Poplar with 144.1 million tonnes grading 0.368 per cent copper and 0.011 per cent molybdenum down to the "624 bench" at an ore-to-waste strip ratio between 1:1 and 2:1. The **Dome Mountain** mine is currently in the process of obtaining a Mine Development Certificate renewal.

Commercially significant coal deposits have been known in the Telkwa area since 1915. About 300,000 tonnes of coal were produced from mines in the Goathorn Creek area between 1918 and 1980. The medium to high volatile bituminous coals were used mainly for domestic heating, although some had been used industrially in Prince Rupert. The **Telkwa** deposit (093L 156) is currently in the Mine Development Assessment Process and contains geological reserves of 38.7 million tonnes of thermal coal within 4 pit areas.

SELECTED REGIONAL REFERENCES (NTS 093L – SMITHERS)

MacIntyre, D.G., Ash, C.H. and Britton J.M. (1994): Geological Compilation, Skeena-Nass Area, West-Central British Columbia, (NTS 93E, L, M; 94D; 103G, H, I, J, O, P; 104A, B); B.C. Ministry of Energy, Mines and Petroleum Resources, Open File 1994-14, Scale 1:250,000.