MINFILE
NTS 092HNE – TULAMEEN

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Researched and compiled by: P.S. Fischl and C.J. Rees

The Tulameen map area is in the south-central part of the province, 56 kilometres north of the Canada-U.S. border, and contains 305 documented occurrences. This 1:100 000 scale map area covers the southwestern part of the Thompson Plateau, an area drained by various southward flowing tributaries of the Similkameen River. This region is bordered to the west by the Cascade Mountains.

The map area is situated near the south end of the Intermontane Belt. The southern Intermontane Belt is dominated by the Upper Triassic Nicola Group, a west-facing magmatic arc sequence comprising the south end of the Quesnel Terrane. The Nicola Group consists of a north-trending belt of volcanic rocks and sediments, commonly referred to as the Nicola belt, which underlies the western two-thirds of the Tulameen map sheet. These rocks are intruded by Late Triassic and Early Jurassic comagmatic plutons (e.g. Allison Lake pluton), and are unconformably overlain by Cretaceous and Tertiary volcanic rocks and clastic sediments (e.g. Spences Bridge and Princeton groups). This post-accretionary volcanism and sedimentation is in part controlled by a system of northerly striking strike-slip faults (e.g. Summers Creek and Allison faults). This island arc assemblage is bounded to the east and west by intrusions, mostly of Jurassic age.

The Early Jurassic Pennask batholith and Bromley pluton, and the Middle Jurassic Osprey Lake batholith underlie the eastern third of the map sheet, east of the Nicola belt. The Late Jurassic to Early Cretaceous Eagle Plutonic Complex flanks the Nicola belt to the west, but underlies only the southwestern corner of the map sheet.

The Tulameen map area is noted for its long history of mineral exploration and production, which began with the placer mining of gold and platinum on the Tulameen River and various tributaries in the 1870s. The river was the leading producer of platinum in North America during the late 1800s.

Copper deposits are particularly abundant in the central part of the map sheet, within the eastern part of the Nicola belt, in an area that trends north along Summers Creek and Missezula Lake, to just beyond the town of Aspen Grove. These porphyry copper deposits are hosted in Nicola Group volcanic rocks, and tend to be associated with small fine-grained dioritic to monzonitic intrusions. One such occurrence is the Axe prospect (092HNE040), located 20 kilometres north of Princeton. This deposit contains 57.5 million tonnes grading 0.50 per cent copper in three zones of mineralization (092HNE040, 142, 143). A second occurrence, the Cincinnatti prospect (092HNE084), is located 4.5 kilometres southeast of Aspen Grove and contains 1.8 million tonnes grading 1.0 per cent copper.

Similar porphyry copper and porphyry molybdenum deposits occur in the eastern third of the Tulameen map area, in the Pennask, Osprey Lake and Bromley batholiths. The most significant of these is the Brenda deposit (092HNE047), which milled 181,735,292 tonnes of ore grading 0.152 per cent copper, 0.037 per cent molybdenum, 0.0125 gram per tonne gold and 0.815 gram per tonne silver, between 1970 and 1990.

Numerous precious metal bearing quartz veins, often with lead, zinc and copper mineralization, are found near Siwash Creek and Siwash Lake, in the northeastern part of the map sheet. These deposits are hosted in granite in the northern and western margins of the Osprey Lake batholith and in Nicola Group andesites adjacent to the batholith. The Elk (Siwash North) deposit (092HNE096) is the most developed of these veins and contains geological reserves of 308,414 tonnes grading 22.17 grams per tonne gold and 24.68 grams per tonne silver.

Platinum, chromite and copper occur in the Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex. The northern one-third of the complex occupies the southwestern part of the map sheet, about 8 kilometres west-southwest of the town of Tulameen. This portion of the complex hosts several important platinum-bearing chromite prospects of magmatic origin, such as Grasshopper Mountain (092HNE011), in the dunite-rich core of the

complex. A number of copper showings of magmatic and hydrothermal origin occur in pyroxenite and gabbro surrounding the dunite core.

Numerous vein deposits occur in Nicola Group andesite and greenstone, north and northeast of the Tulameen Ultramafic Complex, west and northwest of the town of Tulameen. Such deposits contain copper, zinc and lead mineralization in quartz and lesser calcite, sometimes with significant precious metal values. One such occurrence is the Rabbitt mine (092HNE014), where 1304 tonnes grading 25.7 grams per tonne gold and 14.0 grams per tonne silver were milled between 1938 and 1941.

Coal, bentonite and zeolite are hosted in sediments of Eocene age, within the Princeton and Tulameen basins, near the southern boundary of the map sheet. At Collins Gulch (092HNE094), in the northeastern margin of the Tulameen basin, drill indicated reserves of thermal coal are estimated at 1.59 million tonnes, with an additional 5.6 million tonnes of inferred reserves.

SELECTED REGIONAL REFERENCES (092HNE – TULAMEEN)

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