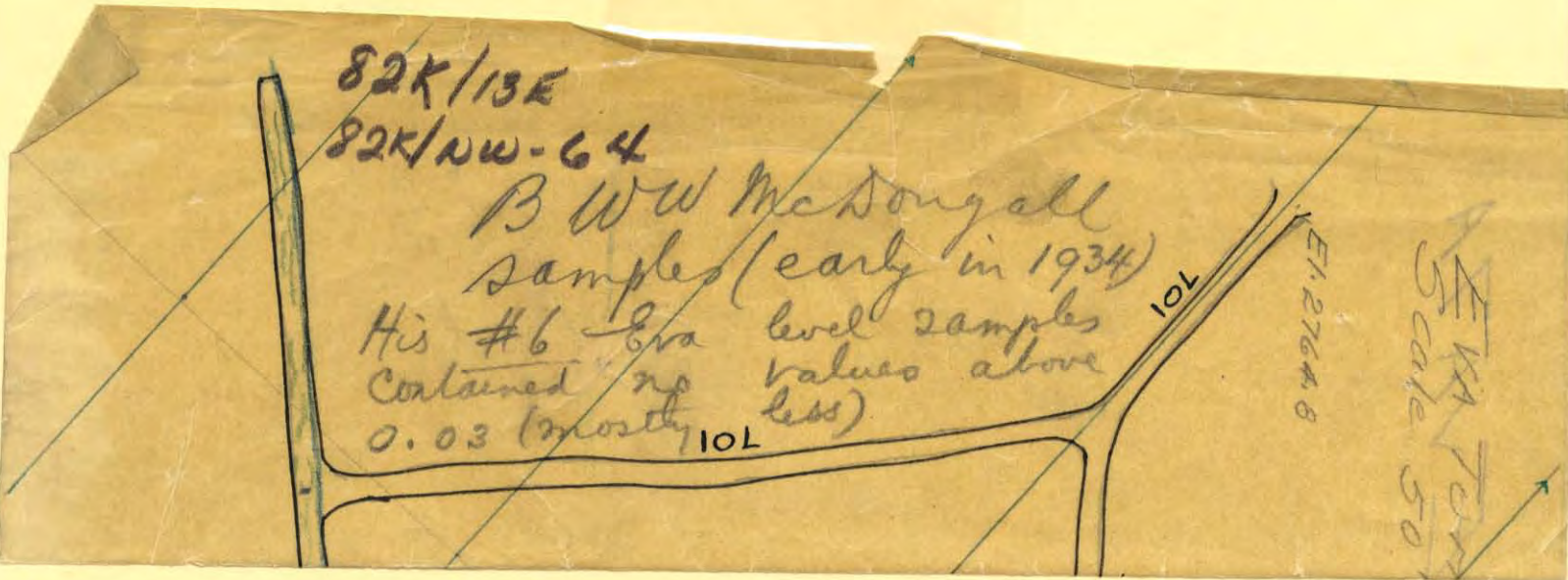


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SUBJECT CLIPPINGS



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Geology of the Trout Lake molybdenum deposit, B.C.

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ABSTRACT

The Trout Lake stockwork molybdenum deposit is located in the Selkirk Mountains of British Columbia, 50 km southeast of Revelstoke. The property is being explored by a joint venture between Newmont Exploration of Canada and Esso Minerals Canada.

The deposit is associated with a small granodiorite stock of Upper Cretaceous age (76 Ma) which has variably altered the surrounding schists, argillites and marbles of the lower Paleozoic Lardeau Group to hornfelsic biotite schists and skarn. The intrusive is composed of a small stock and an intersecting network of northeast- and northwest-trending dykes

at surface that coalesce downward into a larger stock. There are two main phases of intrusion, with an earlier quartz porphyritic granodiorite cut by an intra-mineral "quartz diorite" porphyry. A strong sub-vertical north-trending fault controls the distribution of the mineralized stockwork and displays post-mineral movement.

Molybdenite, accompanied by pyrite and pyrrhotite, is mainly present along the margins of veins in a well-developed quartz stockwork, but occasionally is strongly disseminated in microfractured intrusives. The stockwork is strongest in and around the contacts of the intrusive and its apophyses, and occurs over a vertical range of more than 1,000 m. As defined by the 0.10% MoS₂ contour, the main mineralized zone is up to 300 m long by 200 m wide. Preliminary drill-indicated reserves, currently being revised, are approximately 50 million tonnes of 0.23% MoS₂, within which are several zones of higher-grade material. Hydrothermal alteration, as defined by quantitative X-ray diffraction studies on composite core sections, is composed of a central quartz/K-feldspar/albite/minor biotite zone coincident with molybdenum mineralization, which is overlapped by a slightly later, antipathetic quartz/sericite/pyrite zone. Ankeritic carbonate is also a common alteration mineral, but only traces of fluorite, and no topaz or sulfosalts, have been observed. Analysis for trace elements such as Sn, W, Bi, Sb, As, Hg, U, Ag, Au, Mn, Cu, Pb, Zn and F has been limited except for Sn and W, which appear to be zoned inside and outside the Mo zone respectively; the other elements do not show detectable patterns thus far.

A strong molybdenum soil geochemical anomaly is present immediately over and down-ice from the outcropping mineralization. No streams drain the area over the deposit, so it could not be detected by conventional stream silting. A proton magnetometer survey showed only a few scattered anomalies related to the skarns containing pyrrhotite.



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H. Craig Boyle was born in Regina, Saskatchewan, and grew up in Vancouver, British Columbia. He graduated from the University of British Columbia in 1975 with a Bachelor of Applied Science in geological engineering and joined Newmont Exploration of Canada Ltd. in 1976. Since

that time, he has worked principally on the Trout Lake project, as well as in other areas of southern B.C. and in the Yukon Territory.



C.H.B. Leitch

C.H.B. Leitch was born in Tsumeb, South-West Africa, but grew up in Baghdad, Iraq and Vancouver, British Columbia. He obtained a Bachelor of Applied Science in geology from Queen's University, Kingston, Ontario, in 1971, and then worked for several years in exploration in Australia. He completed an M.Phil. in mining geology at Imperial College, London, in 1975, on trace-metal zonation in two Turkish volcanogenic massive sulphide deposits. He then worked as an exploration geologist with various companies in Canada, New Zealand and Iran before joining Newmont Exploration of Canada Ltd. as research geologist, Western Division, in 1979.

Keywords: Economic geology, Molybdenum deposits, Trout Lake deposit, Stockwork deposits, Metamorphism, Alteration, Mineralization, Soil geochemistry.

Introduction

The Trout Lake molybdenum deposit is located in the Selkirk Mountains of southeastern British Columbia, 50 km southeast of Revelstoke and 400 km east of Vancouver (Fig. 1) at 50°38'N, 117°36'W (N.T.S. 82K/12 E). The property lies 3 km west of Trout Lake Village at elevations ranging from 700 to 2700 m (Fig. 2). The Trout Lake area falls within the Kootenay - Upper Arrow Lake district of the Columbia Mountains, a rugged northwest-trending range immediately west of the Rocky Mountains. Slopes on the property range from 25 to 40 degrees on either side of a north-trending ridge underlying the deposit.

Access to the property is by 80 km of road from either Revelstoke (on the Trans-Canada Highway and C.P.R. main line) or Nakusp (on a C.P.R. branch line).

The property is heavily covered with mature hemlock and cedar forest grading to scrub balsam at higher elevations. Underbrush is prevalent in most areas.