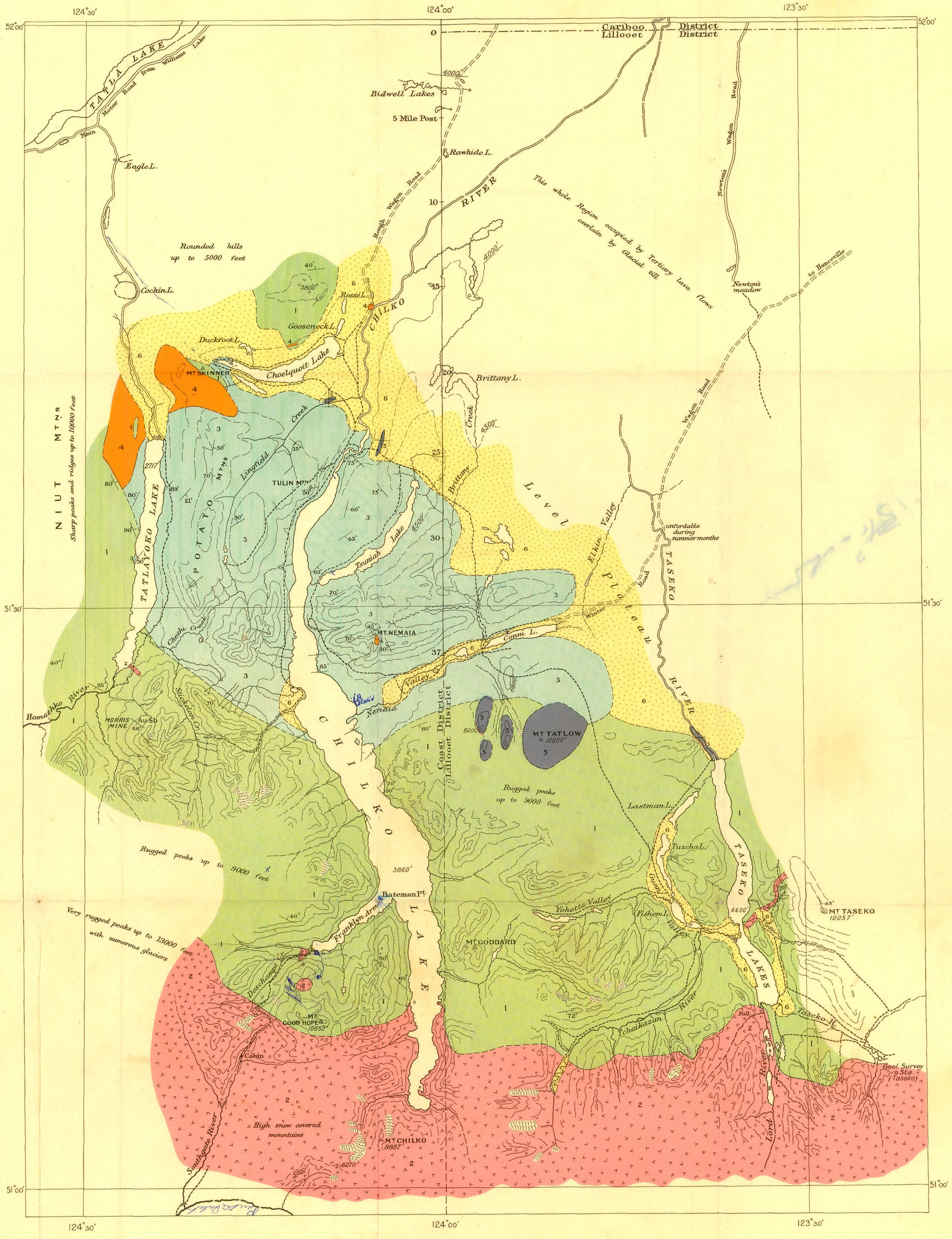


Canada
Department of Mines

HON. W.A. GORDON, MINISTER; CHARLES CAMSELL, DEPUTY MINISTER.

BUREAU OF ECONOMIC GEOLOGY
GEOLOGICAL SURVEY

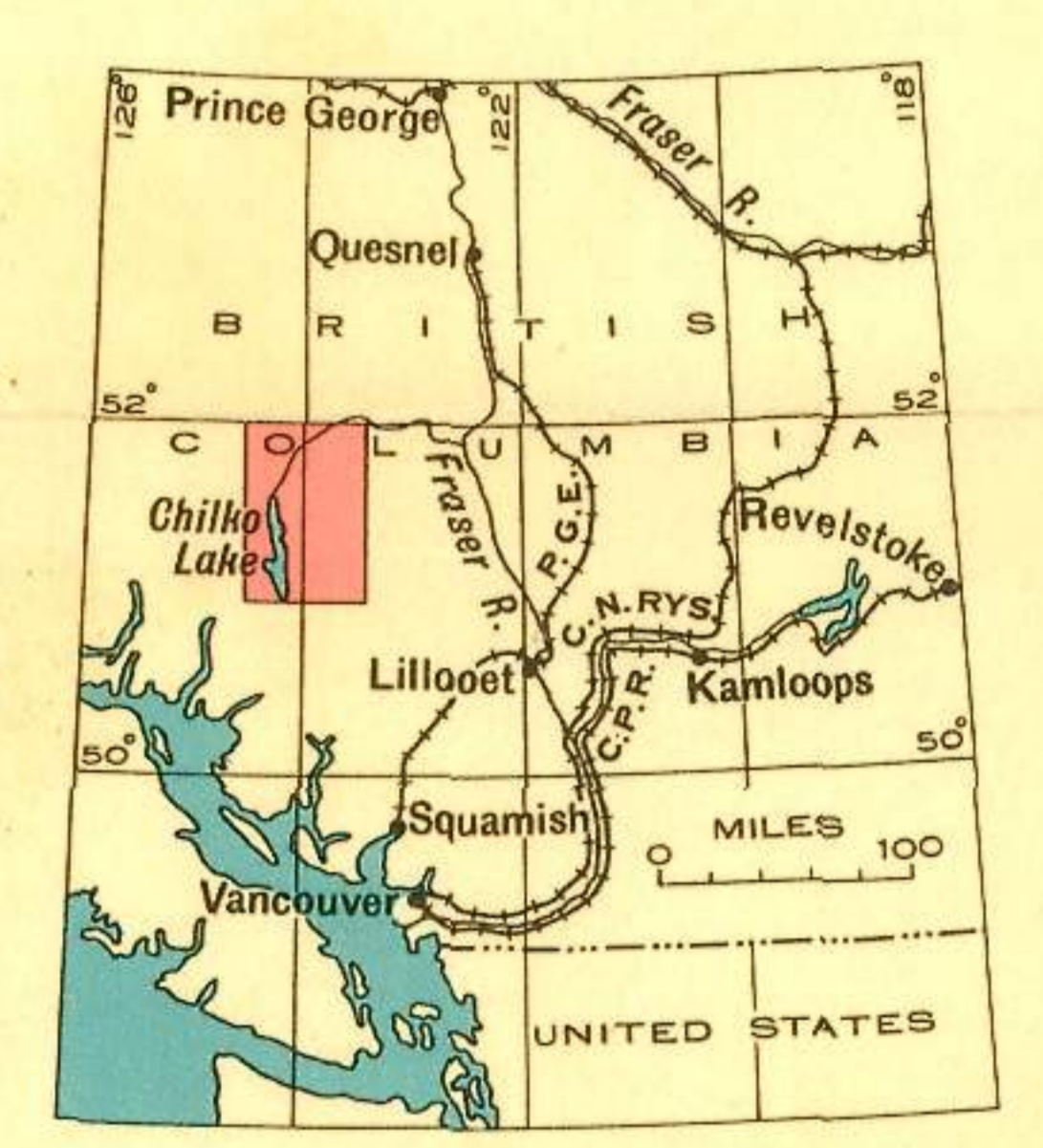


LEGEND

- RECENT AND PLEISTOCENE
 - 6 River gravels, glacial till, white silts and clay
- TERTIARY
 - 5 Amygdaloidal basalt
- POST LOWER CRETACEOUS
 - 4 Quartz diorite, granodiorite and gabbro
- LOWER CRETACEOUS
 - 3 Shale, arkose, tuff, and conglomerate
- POST TRIASSIC
 - 2, 4 COAST RANGE BATHOLITH (quartz diorite and granodiorite)
- TRIASSIC
 - 1 Chiefly andesite, basalt and tuff with shale, conglomerate and limestone

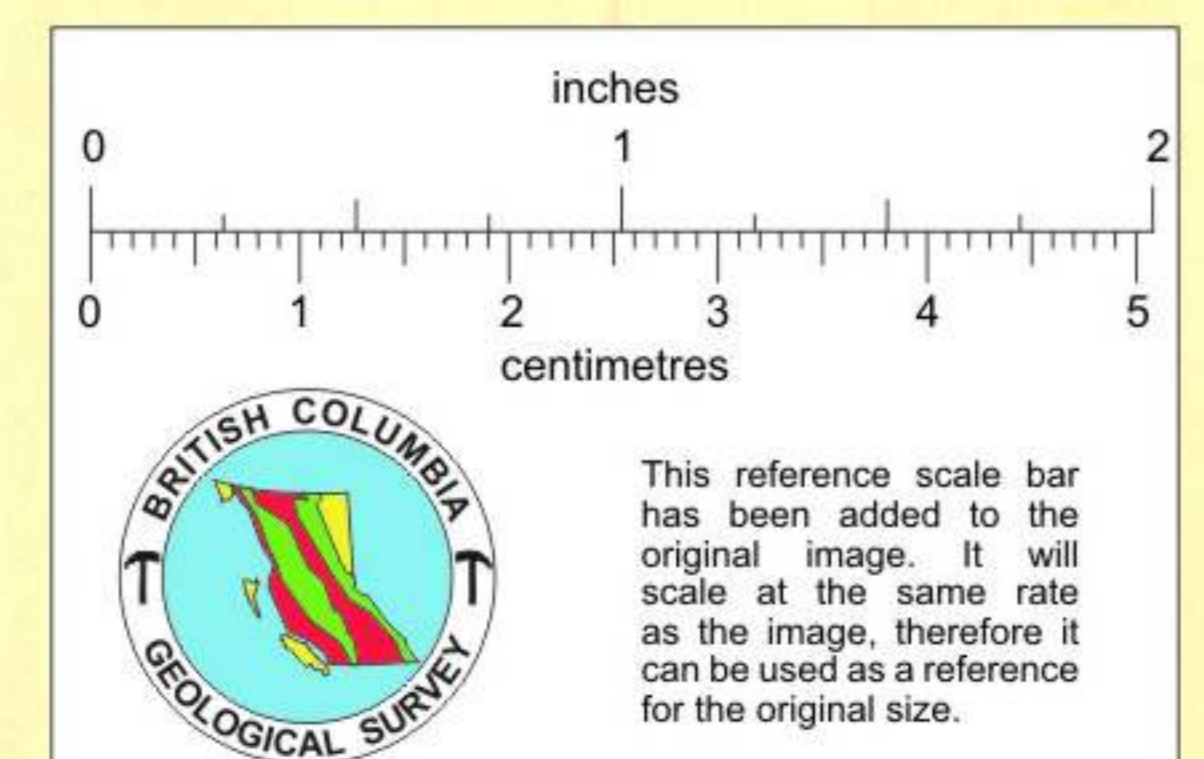
- Geological boundary
- Glacial striae
- Gold-antimony mineral deposit Au-Sb
- Road and trail
- Land forms (interval approximately 1000 feet)
- Glaciers

Geology by V. Dolmage, 1924.
Geography, in part, from information supplied by Department of Lands, B.C.
To accompany report by V. Dolmage, in Summary Report, Part A, 1924.



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CHILKO LAKE AND VICINITY
COAST AND LILLOOET DISTRICTS
BRITISH COLUMBIA



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The age of these volcanic rocks is not known precisely, but their flat, undisturbed attitudes suggest a late Tertiary age. They may be correlated with Dawson's¹ "Upper Volcanics" which are classed as late Miocene.

PLEISTOCENE AND RECENT

The great bulk of the unconsolidated material of this region is of glacial origin. The plateau section extending from the base of the mountains northeast to the boundary of the area is covered with thick deposits of coarse glacial till containing boulders of quartz diorite, andesite, etc., up to 20 feet in diameter. The till is so coarse and full of large boulders that nothing will grow on it but small sparse forests of jackpine. Almost all the rivers of the area are fed by large glaciers and are loaded with white "rock flour" which is being precipitated along their valleys and in the lakes they enter. Tchaikazan river has formed a large delta of this white silt which extends almost across Taseko lake, virtually dividing it into two lakes joined by a narrow, swift river. Lord river is also rapidly filling up the southern end of Taseko lake with the same kind of material.

PRESENT STATUS OF MINING

Up to the present no minerals have been produced from the area. Very few discoveries have been made, and, except the tunnels on the Morris property and on the Ducharme claims near Franklyn arm, no development work worth mentioning has been done. Only a small amount of prospecting has been performed and even less is being carried on at present. The writer knows of only four prospectors who were in this region during the past season. The country is an easy one to prospect. Much of the district, and particularly the parts where mineral is most likely to be found, is unusually easy to travel in, and pack-horses can be taken to almost all the mineralized sections. Horses are plentiful and cheap, and feed everywhere abundant. Game is fairly plentiful and the summer climate is almost ideal. Its remoteness from transportation is a drawback, but need not impede prospecting and in the case of gold ores need not prevent production. The geology of the region is such that the occurrence of mineral deposits may be expected.

Most of the prospecting was done prior to 1910 at the time when the Morris mine was discovered and developed. At that time many claims were staked in the mountains west of Tatlayoko lake, but, though indications of arsenic and gold were found, no serious development was done and all but two or three of the prospectors left the country. The district west of Chilko lake could be very well served by a wagon road down Homathko river to Bute inlet, a distance of 60 miles. Discoveries to date, however, certainly do not warrant such a large expenditure. At present the country is fairly well served by motor roads from Williams Lake on the Pacific Great Eastern railway, and machinery and other supplies can now be taken into the district more quickly and cheaply than might be expected. The long, narrow lakes are easily navigable and form excellent lines of communication between the northern and southern parts of the district.

¹ Reinecke, Leopold: Geol. Surv., Canada, Mem. 113, p. 7.

ECONOMIC GEOLOGY

As regards mineral deposits the most important formations of the district are the Coast Range batholith and the Triassic rocks, and of particular importance are the border zones along the contact. Some mineralization was observed along the contacts of the post-Lower Cretaceous intrusives, but does not appear to be as important as the mineralization along the contact of the main batholith. Almost everywhere along the batholithic contact there is strong evidence of mineralization. The Triassic rocks are extensively altered to quartz and sericite and impregnated with pyrite and pyrrhotite. From a number of localities where the mineralization seemed to be more than ordinarily intense samples were taken which have been assayed by the Mines Branch, Ottawa.

On the north side of Skinner mountain, at the contact of the Tatlayoko intrusion, the Triassic rocks are strongly silicified and impregnated with pyrite, but a sample taken from here was found to contain no gold. Other samples taken by prospectors are reported to carry small values in gold. A sample from the conspicuous red mountain west of Tatlayoko lake and just south of the above-mentioned intrusions, gave traces of gold. A sample of small quartz vein carrying pyrite and arsenopyrite, found by the writer on the mountain just north of Franklyn arm, gave 6.46 per cent arsenic, 6.46 ounces of silver, and 0.38 ounce of gold to the ton. The vein is only 5 inches wide and was traceable for only a few feet.

West and south of the head of Franklyn arm extensive beds of limestone are in contact with the two small intrusions of granodiorite represented on the map and also, a little farther south, with the main batholith. Here, Mr. Alec. Ducharme, the only white inhabitant of the shores of Chilko lake, has made a few open-cuts in the limestone where it has been metamorphosed and mineralized with copper, zinc, and iron sulphides. Although no large bodies of commercial ore have yet been discovered it is highly probable that if the contacts of the limestone with the intrusives were explored, deposits of the contact metamorphic type would be discovered and there is a possibility the deposits may be of commercial size and grade. Judging by Ducharme's claims the ores would probably carry values in gold and zinc as well as copper.

Near the west shore of Chilko lake in the vicinity of the batholithic contact the Triassic rocks are intensely silicified and impregnated with pyrrhotite and pyrite, the pyrrhotite being noticeably more abundant near the contact. A specimen of rock containing pyrrhotite was found to contain a trace of gold and 0.09 ounce of silver to the ton. A specimen of the pyritized rock contained only traces of silver and no gold.

A specimen of pyritized quartz diorite from near the batholithic contact at the head of Tchaikazan river contained 0.03 ounce of silver to the ton.

East of Taseko lake, in the valley of Taseko river, the rocks adjacent to the contact of the batholith are even more highly pyritized than usual and the many limonite deposits of this district, which attracted so much attention in 1919 and 1920, were formed, and are being formed, from the oxidation of the pyrite. In this district occurs the so-called Taylor property described on a following page, from the surface soil of which surprisingly rich gold ore has been taken.

*See map
T. G. Gossard
Chilko Lake*