

SLOCAN AND SLOCAN CITY MINING DIVISIONS.

The geology of the Slocan camp is summarized by C. E. Cairnes in the Summary Report of the Geological Survey of Canada, 1925, Part A. Gold values are associated in some cases with the "dry" silver ores of the Slocan, this term being generally applied to quartz veins or veins in which the predominating gangue is quartz. The chief values in ores of this type are usually in silver, with subordinate lead and zinc and sometimes gold. In such deposits the mineralization commonly includes pyrite and grey copper associated with galena, and may contain native silver, argentite, ruby silver, chalcopyrite, and pyrrhotite in various combinations.

In the Slocan Mining Division properties containing ores in which gold values are an important constituent include the following: *Molly Hughes*, on Slocan Lake, where fissure-veins cut granitic rocks (refer to Annual Reports, 1904, 1922 to 1929, inclusive, Geological Survey of Canada Summary Report, 1925, Part A); *Mowitch*, near New Denver, quartz vein cutting rocks of Slocan series (Annual Reports, 1904 and 1920); *Capella*, near New Denver, quartz vein in granite (Annual Report for 1904); *Monitor*, at Three Forks, fissure cutting rocks of Slocan series (Annual Reports, 1904, 1926, 1929, and Summary Report, G.S.C., 1925, Part A). The *L.H.* property at the head of 8-Mile creek is the only straight gold property in the Slocan Division. It is described by M. F. Bancroft in Geological Survey of Canada Summary Report, 1917, Part B, from which the following excerpts are taken:—

"The roof remnant on the headwaters of 8-Mile creek embraces a complex of igneous rocks surrounded by granite. It extends 3 miles north-east and south-west and has a maximum width of 1 mile. The *L.H.* is located on the north-west margin of this elliptical-shaped area.

"The sulphides are in a zone, varying from 20 to 40 feet in width, which follows the master-jointing. This zone strikes 80° (mag.) and dips 55° north-east. An abundance of quartz stringers prevails in the ore-bodies and furnishes guides to the same. The ore-bodies developed by the *L.H.* workings vary from 8 to 30 feet in length and the boundaries are not well defined. The pitch of the ore-shoots appears to be the north-east. Surface indications point to other smaller zones paralleling the main one in which the underground development-work has been done.

"The ore consists of pyrrhotite, pyrite, arsenopyrite, and quartz and the gangue is country-rock. It is reported that quartz stringers carrying visible native gold have been found on a near-by property, cutting this set of rocks. Small stringers of native arsenic and calcite occur in the ore-body near the mouth of tunnel No. 1. The native arsenic is tin-white on fresh fracture and tarnishes to a dull grey. The gold values obtained in the different ore-bodies are not uniform."

Mineralization at depth in a contact-metamorphic deposit is difficult to judge. The ore-bodies form and are localized where temperature and pressure conditions are favourable for a concentration of the minerals. The *L.H.* is a low-grade gold-deposit that will require the outlay of considerable capital to handle the ore in quantity. If workable ore-bodies are found on the level of No. 3 tunnel a fairly large tonnage might be assumed. A mill-site has been chosen below the property on one of the branches of Vevey (8-Mile) creek. Also refer to comprehensive description in Report of the Minister of Mines for 1915.

Bayonne.* During the past year A. Jarvis, of Silverton, did considerable prospecting and exploration work at some of the small quartz-filled fissures which occur in the granitic rocks to the south of Silverton. The first part of the season he spent at the *Bayonne*, situated about 1 mile west down the mountain-slope from the *L.H.* property, where a 6-inch quartz-filled fissure in granite carrying values in gold and silver was explored along a length of 150 feet by open-cuts and a short crosscut adit. The values of several samples taken showed only small values in gold and work was discontinued in this section, to be carried on at the *Little Daisy* group of claims, situated about a mile farther south and at an elevation of 3,700 feet above sea-level.

At the *Little Daisy* group of four claims, owned by A. Jarvis and H. Alwin, **Little Daisy.*** of Silverton, the narrow quartz fissure-vein in the coarse feldspathic granite country-rock has been traced along the surface for several hundred feet and by underground drifting for about 200 feet. At places in the vein, notably near the portal of the tunnel, the quartz is banded and well mineralized across 3 to 6 inches width with pyrite carrying gold values. A shipment of 3 tons of sorted ore from a small stope mined in the portal section of the vein returned the owners about \$67 a ton net. Samples taken in the stope and across the vein

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at various places along its surface exposure indicate values averaging about \$15 a ton in gold. The vein is persistent, uniform in width, strike, and dip, and suitable for leasing activities.

In the Slocan City Mining Division the "dry" ores are chiefly confined to the very large area of granitic rocks (Nelson granite) extending southerly and south-easterly from Silverton and including Springer creek, where mining of recent years has been limited to small-scale leasing and individual activities. Farther south, on Lemon creek, numerous gold-quartz veins have been worked in the past, and in one case, at the *Chapleau* and *Kilo*, with a small stamp-mill.

This group, consisting of six claims, situated at 5,300 feet elevation on the **Gold Stream.*** small tributary of Chapleau creek of the same name, is owned by George Stoll, George Soucey, and associates. The workings are about half a mile to the north-east of the *Kilo* and consist of several open-cuts on either side of the small stream-bed. A length of 65 feet along the surface of a narrow quartz vein in the granite rock of the area has been opened up by the owners during the past year and some attractive values in gold have been obtained. When the property was visited early in 1931 the vein as exposed was from 6 to 16 inches wide and had been stripped in two places for short lengths. Four samples were taken and the results were as follows:—

Sample Description.	Gold.	Silver.
	Oz. to Ton.	Oz. to Ton.
Several channel samples across 12 inches of oxidized quartz vein in the west open-cut	0.36	0.24
Sample across 16 inches of quartz vein in the west open-cut on portion of vein containing less oxide than sample above	0.10	0.50
Sample across several sections of a 6-inch quartz vein exposed in the east open-cut to the east of the creek-bed	0.70	0.70
Grab sample of quartz from a low-grade quartz vein to the south of the open-cuts	0.03	0.40

Dry gold-silver ore properties on Springer creek, from which some past production has been made, include the *Howard Fraction*, *Meteor*, both described in the Annual Reports for 1904 and 1919, *Dayton*, and *Evening Star*. With the exception of prospecting done by claim-owners, the only activity which occurred on this creek during 1931 was at the *Meteor*, where C. Lunstrom and W. Boisvert, both of Slocan City, started leasing in the fall. Past production figures from this property are not at hand, but it is roughly estimated that 1,200 tons of sorted ore has been shipped of a gross value of \$100,000. The average assays of such material would be about: Silver, 100 oz. to the ton; gold, 0.8 oz. to the ton. The ore was extracted from small stopes in four ore-shoots on five adit-levels and two intermediate levels, partially developing the vein, which is much broken by faults, for 380 feet below its apex. The property is considered to have good leasing possibilities, but would not stand much overhead in company operation.

At the *Elk*, a similar but less explored prospect in the vicinity, P. Bruin and R. Bruin, of Slocan City, have carried on intermittent exploratory work. From the *Evening Star*, owned by the Hugh Sutherland Estate, of Winnipeg, some car-loads of high-grade silver-gold ore were shipped many years ago from workings off a 100-foot, 70°, incline shaft. This is not safely accessible now without a rope. Below the shaft a tunnel comprising some 450 feet of work includes some drifting towards the shaft, which was discontinued before reaching the objective. At the inner end of the tunnel-drift the vein is 10 inches wide in the roof, but narrows down to a few inches at the floor-level. The gangue is quartz mineralized with streaks of pyrite and some lightly disseminated silver sulphides. The prevailing country-rock, as at the *Meteor*, is a coarsely feldspathic granite. At the top of the shaft the vein consists of three bands of quartz, being, from foot-wall to hanging-wall, 8, 6, and 6 inches wide respectively, with partings of granite 20 and 34 inches wide. The centre band is apparently the high-grade pay-streak, the mineralization being similar in appearance to the face of the drift below, from which a sample representing selected material assayed: Gold, 0.97 oz. to the ton; silver, 355.4 oz. to the ton. A small quantity of similar ore can be found around the portal of the lower tunnel. The property was visited in connection with a proposed leasing activity which did not materialize, the lease being refused.

There are numerous other prospects in the same general formation on *Enterprise* (10-Mile) creek, the northerly forks of *Lemon* creek, and at the head of *Lemon* creek, in which the quartz