

Mining Throughout British Columbia

Dominion Geological Survey Report Covers Valuable Information on This Province—Larsen Report on Mining in Boundary District—Rossland Shipments.

The annual Geological Survey of the Department of Mines, Ottawa, is always an interesting and valuable report. The one for 1913 is just at hand and is unusually valuable to British Columbia mining interests in that it devotes a considerable portion of its 400 pages to mining developments and resources in this Province. This one is also interesting in that it is the last report to be published under the supervision of R. W. Brock, formerly Deputy Minister, but now Dean of the School of Science in the University of British Columbia.

Articles dealing with mining areas of British Columbia, and the names of geologists who made the reports, are as follows:—

"Upper White River District, Yukon," D. D. Cairnes; "Rainy Hollow Mineral Area, B. C.," R. G. McConnell; "South-Central Graham Island, B. C.," J. D. MacKenzie; "Recent Development at the Hidden Creek Mine, Observatory Inlet, B. C.," R. G. McConnell; "The Lime Belt, Quadra (South Valdes) Island, B. C.," D. D. Cairnes; "Britannia Mine, Howe Sound, B. C.," R. G. McConnell; "Sharp Point Hot Spring, Vancouver Island, B. C.," C. H. Clapp; "Geology of a Portion of the Duncan Map-area, Vancouver Island, B. C.," C. H. Clapp and H. C. Cooke; "Geology of the Sooke Special Map-area, Vancouver Island, B. C.," H. C. Cooke; "The Geology of the Alunite and Pyrophyllite Rocks of Kyuquot Sound, Vancouver Island, B. C.," Charles H. Clapp; "Notes on Mining Developments in the Similkameen District, B. C., and on a Reported Occurrence of Oil at Kelowna, B. C.," Charles Camsell; "Rossland Mining Camp, B. C.," Chas. W. Drysdale; "Reconnaissance in East Kootenay, B. C.," Stuart J. Schofield; and "Coal Areas in Flathead Valley, B. C.," D. B. Dowling.

The Provincial Bureau of Mines has recently issued a bulletin covering the mineral prospects of the north fork of the Kettle River. This report was prepared by A. G. Larsen, mining engineer, of Vancouver, assisted by C. S. Verrill, of the same city, who was sent in by the Provincial Government following an agitation to have the Kettle Valley Railway extended from Lynch Creek to Franklin Camp, where there has been considerable development and from which the shipment of ore under present conditions is almost prohibitive. In view of the petitions locally to the Government against the granting of further extension of the time in which the Kettle Valley Railway is to complete the line, the report is of special interest at present.

The valley of the north fork is about 60 miles in length and a mile in width, and varies in elevation from 1,700 feet above sea level at Grand Forks to 2,800 at Franklin Camp. The land in the valley is fertile and suited to agriculture, while the uplands are suited for grazing stock. The principal mining locations are the Union, McKinley, Banner, Bloucester, Copper, Silver and Queen groups.

The report points out that the present want of railway transportation makes the operation of these properties pro-

hibitive, and the only producer is the Union mine, which has shipped to the Granby smelter about 800 tons of ore up to the time of the compilation of the report. This ore carries values of \$35 a ton in gold and silver, but the charges mount up to \$25 a ton, leaving the owners a net profit of \$10 to \$11.25 a ton, allowing for reduction in treatment cost since made by the smelter. The wagon haul from the mine to the railway at Lynch Creek costs \$13.50 per ton, and the railway freight rate from there to the smelter is another \$1.50, making the total cost of transportation alone \$15 per ton.

Shipments are at present made from an open cut, and from a stope from a tunnel about 100 feet below the outcrop. Ore shows over a width of 40 feet in the tunnel, and the average value here is \$26.30 per ton, so that if this entire ore body were mined under present conditions it could be profitably handled. The result is that only the higher grade can be shipped, and this is limited to a width of 20 feet. The property has paid its own way from grass roots, and Mr. Larsen considers it indicates the probable development of a large tonnage, provided that the railway is extended, so that the total cost of mining, freight and smelting should not exceed \$10 per ton. Other claims have been located in the neighborhood, which shows similar geological conditions; but as they have not been developed, no estimate can be formed of their prospective value as producers.

The McKinley mine is described as worthy of further exploration, for which capital would be found if there were transportation facilities. The ore bodies are similar to those of Phoenix and Deadwood, occurring as sulphides and oxides of copper and iron carrying gold and copper.

On the Banner group a tunnel, driven 215 feet, has developed a body of ore 30 feet wide, strongly mineralized, which could be mined under economic conditions of transportation. A sample from a shaft 100 feet vertically above the tunnel gave values of 0.14 ozs. gold, 4 ozs. silver and 4.5 per cent. copper. The possibilities of the section as a producer are described as most encouraging.

Development on the Gloucester group consists of a tunnel 200 feet in length, with a raise of 90 feet, and a shaft 40 feet deep. There is evidence of strong mineralization of copper and iron sulphides between silicified granodiorite and greenstone.

Conditions on the Copper group are described as similar to those on the Gloucester and to be encouraging for further development.

A sample from the dump of the Silver Queen gave values of 1.04 oz. silver and 1 per cent. copper—too low grade to be of value. The vein is five feet wide.

The report summarizes the geological features of the ore occurrences, and is accompanied by photographs, diagrams and an excellent map. The timber resources of the valley are stated to be approximately 501,000,000 feet, and the area of agricultural land is placed at approximately 30,000 acres. The land under cultivation around Grand Forks is stated to be about 2,200 acres, yielding an average of \$33 per acre, and Mr. Larsen considers that the valley of the north fork, from grain, fruit and vegetables, might represent an annual production, when brought under cultivation, of about \$1,500,000 a year. The length of railway required is about 25 miles.

In the week ending January 21, Rossland mines shipped 129 cars of ore to the Trail smelter, a total of 6,371 tons. The United Copper mine at Chewelah, Wash., sent two cars. The tonnage for the week and the fiscal year from October 1 follows: Centre Star, week 3,970, year 52,067; Le Roi, week 2,107, year 39,316; Josie, week 294, year 3,724; United, Chewelah, week 80, year 1,789.