ANNUAL REPORT

OF THE

MINISTER OF MINES

OF THE PROVINCE OF

BRITISH COLUMBIA

FOR THE

YEAR ENDED 31ST DECEMBER

1934

PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
1935.

To His Honour J. W. FORDHAM JOHNSON,
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The Annual Report of the Mining Industry of the Province for the year 1934 is herewith respectfully submitted.

G. S. PEARSON,
Minister of Mines.

Minister of Mines' Office,
April, 1935.

Portland Canal Area, showing the Town of Stewart, Premier Mine, and Aerial Tramway. A view of part of the 7½- by 12-foot relief model of this district, by the late Norman H. Hawkins, now in the Department of Mines Museum, Victoria.

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BRITISH COLUMBIA DEPARTMENT OF MINES.

VICTORIA, B.C.

HON. GEORGE S. PEARSON - - - - - - *Minister of Mines.*
ROBERT DUNN - - - - - - - - - - *Deputy Minister.*
JOHN F. WALKER - - - - - - *Provincial Mineralogist.*
D. E. WHITTAKER - - - - - *Provincial Assayer and Analyst.*
JAMES DICKSON - - - - - - - *Chief Inspector of Mines.*

Resident Mining Engineers.

J. T. MANDY, No. 1 District, Prince Rupert.
DOUGLAS LAY, No. 2 District, Hazelton.
P. B. FREELAND { No. 3 District, Penticton. / No. 4 District, Penticton. }
B. T. O'GRADY, No. 5 District, Nelson.
A. M. RICHMOND, No. 6 District, Vancouver.

District Inspectors.

GEO. O'BRIEN, Nanaimo.
T. R. JACKSON, Nanaimo.
JOHN MCDONALD, Fernie.
JOHN G. BIGGS, Princeton.
CHAS. GRAHAM, Prince Rupert.
JAS. STRANG, *Inspector and Examiner*, Victoria.
H. E. MIARD, *Inspector and Examiner*, Fernie and Nelson.

Mine-rescue Station Instructors.

J. D. STEWART, Nanaimo.
J. L. BROWN, Cumberland.
A. GOULD, Princeton.
J. T. PUCKEY, Fernie.

PART A.

THE MINING INDUSTRY.

BY

JOHN F. WALKER.

The mining industry during 1934 recovered to an appreciable extent the loss in value sustained between the peak year of 1929 and the low of 1932. The value of mine production declined from $68,245,443 in 1929 to $28,798,406 in 1932, a loss in three years of $39,447,037. During 1933 the value of mine production increased $3,804,266 to $32,602,672, and in 1934 it increased a further $9,702,625 to $42,305,297. The low point apparently was reached in the first six months of 1933, when the estimated value for this period was $12,887,984. Subtracting the estimated value for the first six months from the actual value of mine production for the year, it is found that the production for the last six months of 1933 was about $19,719,688. The estimated production for the first six months of 1934 was $20,697,827, and, subtracting this figure from the final value for the year, it is found that the production for the last six months was about $21,607,470. It is apparent that the greater part of the recovery to date took place in the latter part of 1933, since when the industry has progressed slowly but steadily.

Gold production accounted for by far the greatest increase in value for any one metal or material in 1934, followed in order by lead, silver, zinc, copper, coal, and miscellaneous metals, minerals, and materials. The output of structural materials showed a slight decline in value.

Gold production established an all-time high in both volume and value. Lead established an all-time high in volume production and zinc fell just short of the all-time high volume production attained in 1930.

During the year some of the larger operations brought their production back to capacity, several operations increased their milling capacity, and a number of properties were brought into production.

The number of shipping metalliferous mines increased from 109 in 1933 to 145 in 1934, and those shipping over 100 tons increased from 47 to 69.

It is estimated that during the year 12,985 men were employed in all branches of the mining industry. This is an increase of 1,616 over the number employed in 1933.

The following list shows the dividends declared by companies engaged in the mining industry in the Province during 1933 and 1934:—

Company.	1933.	1934.
The Consolidated Mining and Smelting Co. of Canada, Ltd.	$975,807	$1,952,794
Premier Gold Mining Co., Ltd.	650,985	600,000
Howe Sound Co.*	562,749	1,421,373
Bell	13,800	29,401
Crow's Nest Pass Coal Co., Ltd.	12,091	248,472
Pioneer Gold Mines of B.C., Ltd.	735,735	1,226,225
Bralorne Mines, Ltd.	.....	625,000
Highland Lass, Ltd.	21,564	46,208
Others	61,753	17,805
Totals	$3,034,484	$6,167,278

Details of production, etc., of the mining industry are set out in Tables Nos. 1 to 17.

GENERAL SITUATION.

With the close of 1934 it is evident that the mineral industry of the Province is approaching more stable conditions and that an increase in 1935 comparable to that of 1934 is not to be expected. The fact that mine production for the past eighteen months has been very steady is

* The Howe Sound Company is the holding company for the *Britannia* mine in British Columbia and the *El Potosi* and *Calera* mines in Mexico. Dividends paid by this company are therefore derived from the profits on operation of all three mines, so that only part of the dividends paid, as shown, can be credited to the *Britannia* mine.

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sufficient reason for such a statement. However, to forecast future production even for the present year, under existing, rapidly changing world conditions, is a matter of considerable speculation. Such a forecast is considered to be of sufficient importance to merit the attempt which may be best accomplished by treating the major branches of the industry separately.

With the bringing into production of a number of old and new gold properties and increased production in some of the established mines, it is reasonable to anticipate increased volume. The present price of gold is slightly higher than the average price for 1934 and there seems every reason to believe that the average price for 1935 will be higher than that for 1934. Therefore, with an increased production for gold and an increase in value, it is anticipated that the value of gold production in 1935 will be appreciably higher than in 1934.

In the case of silver it is interesting to note that the past records in volume and also value production have not been due to extremely high prices for the metal and that production was fairly steady from 1896 to 1921 in spite of wide fluctuations in price. The sudden rise in the volume of silver produced came in 1922 with the sudden rise in the production of lead and zinc, and the future of silver volume production will depend largely on the markets for the base metals. However, silver camps such as the Slocan respond to the rise and fall in the price for the metal. It is worthy of note that in the peak years of silver production in the Slocan the value of lead produced was not far below that of silver. Under existing conditions, little or nothing can be obtained for the lead content of these ores, so that for the immediate future production will have to be estimated on the silver content only. Even under such conditions an appreciable increase in silver production may be anticipated. The price of silver at the close of the year is appreciably higher than the average price throughout the year, and it is anticipated that the average price for 1935 will probably be somewhat higher than the price at the close of the year.

Copper production in 1935, so far as it can be foreseen, is likely to show a marked decline, due to the announcement that the Granby operation at Anyox will probably be closed down some time during the year.

The volume of lead production is likely to remain about the same. The present price of the metal is low beyond reason, and while the price of 1926 may never again be reached, a reasonable appreciation in value should be attained within the next few years. The price of the metal at the close of the year was lower than the average price for the year, and it is anticipated that a slight increase in the price of lead may be realized during 1935.

While it is anticipated that the volume of zinc will be maintained, due to a demand for electrolytic zinc, and the position which the British Columbia metal has won in world markets in spite of keen competition, it is not anticipated that any appreciable increase in the price of the metal will be realized.

Coal has shown in 1934 an increase of 6.5 per cent. over 1933, and if 1935 shows a slight increase, it seems to be a reasonable estimate.

Structural materials should by the end of the year show a marked increase in production.

Miscellaneous metals and materials are not expected to show the marked increase in 1935 over 1934 which has been achieved in 1934 as compared with 1933, but a slight increase is considered reasonable.

During the last eighteen months there is an apparent increase in production of a million dollars for every six months. If this increase is maintained throughout 1935 the estimated value of the mineral production will be about $44,500,000. It is obvious from the foregoing that several things must be considered in arriving at an estimate of the mineral production for 1935. The closing-down of the Granby operation at Anyox, if effected, may mean a loss to the mining industry of from $2,000,000 to $3,000,000. It is anticipated, however, that this loss will be more than offset by the increased value of gold production, and that therefore the estimate of $44,500,000 for the year would seem to be within reason.

METHOD OF COMPUTING PRODUCTION.

The total mine production of the Province consists of the outputs of metalliferous minerals, coal, structural materials, and miscellaneous metals, minerals, and materials, valued at standard recognized prices in Canadian funds.

In the Annual Report for 1925 some changes were made in the methods used in previous years in computing and valuing the products of the industry, but in order to facilitate com-

parisons with former years the same general style of tables was adhered to. The methods used in the 1925 Annual Report have been followed in subsequent Annual Reports, with the addition of new tables, the first of which, Table No. I., appeared in the 1933 Annual Report, in order to present additional or more informative data.

For the 1934 Annual Report, Table VI., which formerly tabulated the yield of placer gold only, has been drawn up to show both placer- and lode-gold values. This will facilitate a rapid view of the total gold production of the Province. Another new table, No. XVII., includes "Mining Companies employing an Average of Ten or more Men." Incorporated in this table, additional data are presented showing the number of operating days at mine and mill, and also tonnage mined and milled. A subsection of the table shows operating days and average men employed at non-shipping mines employing ten or more men.

Table I. presents in summary form the mine statistics of the Province in a form that permits ready comparisons being made with tables of similar design presented annually by the Dominion Bureau of Statistics and other Provincial Statistical Bureaus.

An important change is made in Table I. for 1934, which embodies comparative figures for 1933. In Table I. of the 1933 Annual Report, which also gave comparative figures for 1932, gold production as set forth is valued at the old standard price of $20.671834 per fine ounce, and placer gold value converted to fine ounces at that figure also. In order to show the value of gold in Canadian funds, the calculated so-called "premium" was shown in the table as "Exchange equalization on gold." Commencing with the 1934 Annual Report, all gold will be valued at the yearly average of the current price of gold per fine ounce in Canadian funds.

In the 1934 Annual Report all tables in which the value of gold enters and covering production for the years 1932, 1933, and 1934 are shown with production valued at the yearly average price of gold and not the old standard price. The only tables not brought up to date in this regard are Tables VII. and VIII., but these will be corrected in the 1935 Annual Report.

The following notes explain the methods used:—

(1.) From the certified returns of lode mines of ore and concentrate shipments made during the full calendar year by the producers the net recovered metal contents have been determined by deducting from the "assay value content" necessary corrections for smelting and refining losses.

In making comparisons of production figures with previous years, it should be remembered that prior to 1925 in the Annual Reports the total metal production, with the exception of copper, was determined by taking the assay value content of all ores shipped; deductions for slag losses were made by taking varying percentages off the metal prices.

(2.) Gold-placer returns are received from the operators in dollars and the dollar value for the years 1932, 1933, and 1934 were converted to fine ounces at $20.67; previously the price of $17 an ounce, which is believed to represent the average value of placer gold throughout the Province, at the old valuation of gold, was used to convert the dollar value to ounces.

(3.) The prices used in valuing the different metals are: For gold, the average price for the year; for silver, the average New York metal-market price for the year; for lead, the average London metal-market price for the year; and for zinc, the average London metal-market price for the year. As in 1933, copper in 1934 is valued at the average London metal-market price. Prior to 1932 copper was valued at the average New York price. The change was made because very little copper was being marketed in the United States on account of high tariff charges against importations from foreign countries. The bulk of the lead and zinc production of the Province is sold on the basis of the London prices of these metals and they are therefore used. The New York, St. Louis, and Montreal lead- and zinc-market prices differ materially from the London prices of these metals and are not properly applicable to the valuing of the British Columbia production.

By agreement with the Dominion Bureau of Statistics and the Provincial Statistical Bureaus, the following procedure of taking care of the exchange fluctuations has been agreed upon:—

(*a.*) Silver to be valued at the average New York price, adjusted to Canadian funds at the average exchange rate.

(*b.*) Lead, zinc, and copper to be valued at London prices, adjusted to Canadian funds at the average exchange rate.

The following table shows the average metal-market prices from 1930 to 1934 in Canadian funds:—

AVERAGE METAL-MARKET PRICES FOR 1930, 1931, 1932, 1933, AND 1934.

Year.	Silver (New York).	Copper.		Lead.		Zinc.	
		London.	New York.	London.	New York.	London.	St. Louis.
	Cents per Oz.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.
1930	* 38.154	.....	* 12.982	* 3.9273	5.517	* 3.5999	4.556
1931	* 28.700	.....	* 8.116	* 2.7101	4.243	* 2.554	3.640
1932	* 31.671	* 6.3802	5.555	* 2.1136	3.180	* 2.4056	2.876
1933	* 37.8328	* 7.4548	7.025	* 2.3916	3.869	* 3.2105	4.029
1934	* 47.461	* 7.419	7.271	* 2.436	3.860	* 3.044	4.158

* Prices used in compiling total metal valuations in 1930, 1931, 1932, 1933, and 1934 Annual Reports. Gold average price in 1934 was $34.50; in 1933, $28.60; and in 1932 was $23.47.

(4.) In 1926 a change was made in computing coal and coke statistics. The practice in former years had been to list coal and coke production (in part) as primary mineral production. Only the coke made in bee-hive ovens was so credited; that made in by-product ovens was not listed as coke, but the coal used in making this coke was credited as coal production. The result was that the coke-production figures were incomplete. Starting with the 1926 Annual Report, the standard practice of the Bureau of Statistics, Ottawa, has been adopted. This consists of crediting all coal produced, including that used in making coke, as primary mine production. Coke-making is considered a manufacturing industry. As it is, however, of interest to the mining industry, a table included in the Report shows the total coke produced in the Province, together with by-products, and the values given by the producers. This valuation of coke is not, of course, included in the total gross mine production of the Province.

From 1918 to 1930 coal production was valued at $5 per long ton. In 1931 the price used was $4.50, and in 1932, 1933, and 1934 the price used has been $4.25 per long ton. In making comparisons with former years the decline in dollar value is accentuated by this lowered price.

TABLE I.—BRITISH COLUMBIA MINE PRODUCTION, 1933 AND 1934.

	Quantity, 1933.	Quantity, 1934.	Value, 1933.	Value, 1934.	Per Cent. Increase (+) or Decrease (−). Quantity.	Value.
METALLICS.			$	$		
Bismuth	.....	.....	77,796	297,771	.....	+282.8
Cadmium	.....	.....	78,733	91,019	.....	+ 15.6
Copper ....lb.	42,608,002	48,084,658	3,176,341	3,567,401	+ 12.9	+ 12.3
Gold, lode* ....oz.	223,529	297,130	6,392,929	10,250,985	+ 32.9	+ 60.4
Gold, placer* ....oz.	23,928	25,181	562,787	714,431	+ 5.2	+ 26.9
Lead ....lb.	271,606,071	347,366,967	6,495,731	8,461,859	+ 27.9	+ 30.3
Platinum ....oz.	40	53	1,400	2,051	+ 32.5	+ 46.5
Silver ....oz.	7,006,406	8,572,916	2,650,720	4,068,792	+ 22.4	+ 53.5
Zinc ....lb.	195,963,751	247,926,844	6,291,416	7,546,893	+ 26.5	+ 19.9
Totals	.....	.....	25,727,853	35,001,202	.....	+ 36.4
FUEL.						
Coal (2,240 lb.) ....tons	1,264,746	1,347,090	5,375,171	5,725,133	+ 6.5	+ 6.5
NON-METALLICS.						
Diatomaceous earth	.....	.....	410	287	.....	− 30.0
Fluxes—limestone, quartz....tons	63,954	63,863	130,818	89,732	− 0.14	− 31.4
Gypsum products, gypsite....tons	.....	.....	46,004	87,982	.....	+ 91.2
Iron oxide	.....	.....	1,485	1,600	.....	+ 7.7
Mica	.....	.....	853	2,045	.....	+139.7
Phosphate, dolomite, volcanic ash	.....	.....	4,670	2,318	.....	− 50.4
Slate (crushed), talc....tons	317	484	4,572	7,187	+ 52.7	+ 57.2
Sodium carbonate, magnesium sulphate ....tons	378	506	3,350	7,281	+ 33.9	+117.3
Sulphur† ....tons	30,010	37,367	282,078	361,812	+ 24.5	+ 28.3
Totals	.....	.....	474,240	560,243	.....	+ 18.1
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.						
Clay Products.						
Brick—						
Common ....No.	2,449,386	2,765,307	32,866	35,122	+ 12.9	+ 6.9
Face, paving, sewer brick...No.	290,547	180,610	8,626	6,815	− 37.8	− 20.9
Firebrick, blocks	.....	.....	69,094	81,864	.....	+ 18.5
Fireclay ....tons	1,024	513	7,993	7,737	− 49.9	− 3.2
Structural tile—hollow blocks....	.....	.....	6,824	9,549	.....	+ 39.9
Drain-tile, sewer-pipe ....No.	603,115	569,297	41,335	42,440	− 5.6	+ 2.7
Pottery—glazed or unglazed	.....	.....	5,680	7,171	.....	+ 26.3
Bentonite; other clay products..	.....	.....	2,390	2,512	.....	+ 5.1
Totals	.....	.....	174,808	193,224	.....	+ 10.5
Other Structural Materials.						
Cement	.....	.....	225,342	232,009	.....	+ 2.9
Lime and limestone....tons	49,787	62,124	189,116	195,363	+ 30.8	+ 3.3
Sand and gravel	.....	.....	261,313	249,129	.....	− 4.7
Stone — building, grindstones ....tons	2,337	3,099	38,414	56,491	+ 32.6	+ 47.0
Rubble, riprap, crushed rock ....tons	150,086	100,428	136,415	92,503	− 33.0	− 32.2
Totals	.....	.....	850,600	825,495	.....	− 2.9
Total value in Canadian funds	.....	.....	32,602,672	42,305,297	.....	+ 29.8

* Canadian funds.

† *Sulphur content of pyrites shipped and estimated sulphur contained in sulphuric acid made from waste smelter-gases.*

TABLE II.—TOTAL PRODUCTION FOR ALL YEARS UP TO AND INCLUDING 1934.

Gold, placer	$80,553,701*
Gold, lode	164,792,126*
Silver	113,660,526
Copper	281,084,589
Lead	190,696,523
Zinc	111,469,660
Coal and coke	355,601,791
Structural materials	69,832,158
Miscellaneous minerals, etc.	8,746,329
Total	$1,376,437,403

* Canadian funds.

TABLE III.—PRODUCTION FOR EACH YEAR FROM 1852 TO 1934 (INCLUSIVE).

1852 to 1895 (inclusive)	$94,547,241	1916	$42,290,462
1896	7,507,956	1917	37,010,392
1897	10,455,268	1918	41,782,474
1898	10,906,861	1919	33,296,313
1899	12,393,131	1920	35,543,084
1900	16,344,751	1921	28,066,641
1901	20,086,780	1922	35,158,843
1902	17,486,550	1923	41,304,320
1903	17,495,954	1924	48,704,604
1904	18,977,359	1925	61,492,242
1905	22,461,325	1926	67,188,842
1906	24,980,546	1927	60,729,358
1907	25,882,560	1928	65,372,583
1908	23,851,277	1929	68,245,443
1909	24,443,025	1930	55,391,993
1910	26,377,066	1931	34,883,181
1911	23,499,072	1932	*28,798,406
1912	32,440,800	1933	*32,602,672
1913	30,296,398	1934	*42,305,297
1914	26,388,825		
1915	29,447,508	Total	$1,376,437,403

* Canadian funds.

TABLE IV.—QUANTITIES AND VALUE OF MINE PRODUCTS FOR 1932, 1933, AND 1934.

Description.	1932.		1933.		1934.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold, placer* ... oz.	20,400	$395,542	23,928	$562,787	25,181	$714,431
Gold, lode* ... oz.	181,564	4,261,307	223,529	6,392,929	297,130	10,250,985
Silver ... oz.	7,130,838	2,258,453	7,006,406	2,650,720	8,572,916	4,068,792
Copper ... lb.	49,841,009	3,179,956	42,608,002	3,176,341	48,084,658	3,567,401
Lead ... lb.	254,488,952	5,378,878	271,606,071	6,495,731	347,366,967	8,461,859
Zinc ... lb.	192,120,091	4,621,641	195,963,751	6,291,416	247,926,844	7,546,893
Coal ... tons, 2,240 lb.	1,534,975	6,523,644	1,264,746	5,375,171	1,347,090	5,725,133
Structural materials		1,698,839		1,024,045		1,017,141
Miscellaneous metals and minerals		480,146		633,532		952,662
Totals		$28,798,406		$32,602,672		$42,305,297

* Canadian funds.

TABLE V.—PRODUCTION OF LODE GOLD, SILVER, COPPER, LEAD, AND ZINC.

Year.	Gold.		Silver.		Copper.		Lead.		Zinc.		Total Value.
	Oz.	Value.	Oz.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
		$		$		$		$		$	$
1887	.....	.....	17,690	17,331	.....	.....	204,800	9,216	.....	.....	26,547
1888	.....	.....	79,780	75,000	.....	.....	674,500	29,813	.....	.....	104,813
1889	.....	.....	53,192	47,873	.....	.....	165,100	6,498	.....	.....	54,371
1890	.....	.....	70,427	73,948	.....	.....	.....	.....	.....	.....	73,948
1891	.....	.....	4,500	4,000	.....	.....	.....	.....	.....	.....	4,000
1892	.....	.....	77,160	66,935	.....	.....	808,420	33,064	.....	.....	99,999
1893	1,170	23,404	227,000	195,000	.....	.....	2,135,023	78,996	.....	.....	297,400
1894	6,252	125,014	746,379	470,219	324,680	16,234	5,662,523	169,875	.....	.....	781,342
1895	39,264	785,271	1,496,522	977,229	952,840	47,642	16,475,464	532,255	.....	.....	2,342,397
1896	62,259	1,244,180	3,135,343	2,100,689	3,818,556	190,926	24,199,977	721,384	.....	.....	4,257,179
1897	106,141	2,122,820	5,472,971	3,272,836	5,325,180	266,258	38,841,135	1,390,517	.....	.....	7,052,431
1898	110,061	2,201,217	4,292,401	2,375,841	7,271,678	874,781	31,693,559	1,077,581	.....	.....	6,529,420
1899	138,315	2,857,573	2,939,413	1,663,708	7,722,591	1,351,453	21,862,436	878,870	.....	.....	6,751,604
1900	167,153	3,453,381	3,958,175	2,309,200	9,997,080	1,615,289	63,358,621	2,691,887	.....	.....	10,069,757
1901	210,384	4,348,603	5,151,333	2,884,745	27,603,746	4,446,963	51,582,906	2,002,733	.....	.....	13,683,044
1902	236,491	4,888,269	3,917,917	1,941,328	29,636,057	3,446,673	22,536,381	824,832	.....	.....	11,101,102
1903	232,831	4,812,616	2,996,204	1,521,472	34,359,921	4,547,535	18,089,283	689,744	.....	.....	11,571,367
1904	222,042	4,589,608	3,222,481	1,719,516	35,710,128	4,578,037	36,646,244	1,421,874	.....	.....	12,309,035
1905	238,660	4,933,102	3,439,417	1,971,818	37,692,251	5,876,222	56,580,703	2,399,022	.....	.....	15,180,164
1906	224,027	4,630,639	2,990,262	1,897,320	42,990,488	8,288,565	52,408,217	2,667,578	.....	.....	17,484,102
1907	196,179	4,055,020	2,745,448	1,703,825	40,832,720	8,166,544	47,738,703	2,291,458	.....	.....	16,216,847
1908	255,582	5,282,880	2,631,389	1,321,483	47,274,614	6,240,249	43,195,733	1,632,799	.....	.....	14,477,411
1909	238,224	4,924,090	2,532,742	1,239,270	45,597,245	5,918,522	44,396,346	1,709,259	8,500,000	400,000	14,191,141
1910	267,701	5,533,380	2,450,241	1,245,016	38,243,934	4,871,512	34,658,746	1,386,350	4,184,192	192,473	13,228,731
1911	228,617	4,725,513	1,892,364	958,293	36,927,656	4,571,644	26,872,397	1,069,521	2,634,544	129,092	11,454,063
1912	257,496	5,322,442	3,132,108	1,810,045	51,456,537	8,408,513	44,871,454	1,805,627	5,358,280	316,139	17,662,766
1913	272,254	5,627,490	3,465,856	1,968,606	46,460,305	7,094,489	55,364,677	2,175,832	6,758,768	324,421	17,190,838
1914	247.170	5,109,004	3,602,180	1,876,736	45,009,699	6,121,319	50,625,048	1,771,877	7,866,467	346,125	15,225,061
1915	250,021	5,167,934	3,366,506	1,588,991	56,918,405	9,835,500	46,503,590	1,939,200	12,982,440	1,460,524	19,992,149
1916	221,932	4,587,334	3,301,923	2,059,739	65,379,364	17,784,494	48,727,516	3,007,462	37,168,980	4,043,985	31,483,014
1917	114,523	2,367,190	2,929,216	2,265,749	59,007,565	16,038,256	37,307,465	2,951,020	41,848,513	3,166,259	26,788,474
1918	164,674	3,403,812	3,498,172	3,215,870	61,483,754	15,143,449	43,899,661	2,928,107	41,772,916	2,899,040	27,590,278
1919	152,426	3,150,645	3,403,119	3,592,673	42,459,339	7,939,896	29,475,968	1,526,855	56,737,651	3,540,429	19,750,498
1920	120,048	2,481,392	3,377,849	3,235,980	44,887,676	7,832,899	39,331,218	2,816,115	47,208,268	3,077,979	19,444,365
1921	135,663	2,804,154	2,673,389	1,591,201	39,036,993	4,879,624	41,402,288	1,693,354	49,419,372	1,952,065	12,920,398
1922	197,856	4,089,684	7,101,311	4,554,781	32,359,896	4,329,754	67,447,985	3,480,316	57,146,548	2,777,322	19,231,857
1923	179,245	3,704,994	6,032,986	3,718,129	57,720,290	8,323,266	96,663,152	6,321,770	58,343,462	3,278,903	25,347,062
1924	247,716	5,120,535	8,341,768	5,292,184	64,845,393	8,442,870	170,384,481	12,415,917	79,130,970	4,266,741	35,538,247
1925	209,719	4,335,269	7,654,844	5,286,818	72,306,432	10,153,269	237,899,199	18,670,329	98,257,099	7,754,450	46,200,135
1926	201,427	4,163,859	10,748,556	6,675,606	89,339,768	12,324,421	263,023,937	17,757,535	142,876,947	10,586,610	51,508,031
1927	178,001	3,679,601	10,470,185	5,902,043	89,202,871	11,525,011	282,996,423	14,874,292	145,225,443	8,996,135	44,977,082
1928	188,087	3,888,097	10,627,167	6,182,461	97,908,316	14,265,242	305,140,792	13,961,412	181,763,147	9,984,613	48,281,825
1929	145,339	3,004,419	9,918,800	5,256,270	101,483,857	18,375,682	302,346,268	15,269,696	172,096,841	9,268,792	51,174,859
1930	160,778	3,323,576	11,289,171	4,307,270	90,421,545	11,738,525	319,199,752	12,535,931	250,287,306	9,010,093	40,915,395
1931	146,039	3,018,894	7,524,320	2,247,514	63,194,299	5,289,363	248,783,508	6,742,282	205,071,247	5,237,520	22,535,573
1932	181,564	*4,261,307	7,130,838	2,258,453	49,841,009	3,179,956	254,488,952	5,378,878	192,120,091	4,621,641	19,700,235
1933	223,529	*6,392,929	7,006,406	2,650,720	42,608,002	3,176,341	271,606,071	6,495,731	195,963,751	6,291,416	25,007,137
1934	297,130	*10,250,985	8,572,916	4,068,792	48,084,658	3,567,401	347,366,967	8,461,859	247,926,844	7,546,893	33,895,930
Totals	7,673,990	*164,792,126	201,710,337	113,660,526	1,863,696,338	281,084,589	4,245,657,589	190,696,523	2,350,650,087	111,469,660	861,703,424

* Canadian funds.

TABLE VI.—VALUE OF GOLD PRODUCTION TO DATE.

Year.	Placer.	Lode.	Total.
1858–1862	$9,871,634	.....	$9,871,634
1863–1867	16,283,592	.....	16,283,592
1868–1872	9,895,318	.....	9,895,318
1873–1877	9,019,201	.....	9,019,201
1878–1882	5,579,911	.....	5,579,911
1883–1887	3,841,515	.....	3,841,515
1888–1892	2,525,426	.....	2,525,426
1893	356,131	$23,404	379,535
1894	405,516	125,014	530,530
1895	481,683	785,271	1,266,954
1896	544,026	1,244,180	1,788,206
1897	513,520	2,122,820	2,636,340
1898	643,346	2,201,217	2,844,563
1899	1,344,900	2,857,573	4,202,473
1900	1,278,724	3,453,381	4,732,105
1901	970100	4,348,603	5,318,703
1902	1,073,140	4,888,269	5,961,409
1903	1,060,420	4,812,616	5,873,036
1904	1,115,300	4,589,608	5,704,908
1905	969,300	4,933,102	5,902,402
1906	948,400	4,630,639	5,579,039
1907	828,000	4,055,020	4,883,020
1908	647,000	5,282,880	5,929,880
1909	477,000	4,924,090	5,401,090
1910	540,000	5,533,380	6,073,380
1911	426,000	4,725,513	5,151,513
1912	555,500	5,322,442	5,877,942
1913	510,000	5,627,490	6,137,490
1914	565,000	5,109,004	5,674,004
1915	770,000	5,167,934	5,937,934
1916	580,500	4,587,334	5,167,834
1917	496,000	2,367,190	2,863,190
1918	320,000	3,403,812	3,723,812
1919	286,500	3,150,645	3,437,145
1920	221,600	2,481,392	2,702,992
1921	233,200	2,804,154	3,037,354
1922	364,800	4,089,684	4,454,484
1923	420,000	3,704,994	4,124,994
1924	420,750	5,120,535	5,541,285
1925	280,092	4,335,269	4,615,361
1926	355,503	4,163,859	4,519,362
1927	156,247	3,679,601	3,835,848
1928	143,208	3,888,097	4,031,305
1929	118,711	3,004,419	3,123,130
1930	152,235	3,323,576	3,475,811
1931	291,992	3,018,894	3,310,886
1932	395,542	4,261,307	4,656,849*
1933	562,787	6,392,929	6,955,716*
1934	714,431	10,250,985	10,965,416*
Totals	$80,553,701	$164,792,126	$245,345,827

* Canadian funds.

TABLE VII.—OUTPUT OF MINE PRODUCTS BY DISTRICTS AND DIVISIONS.

Names.	Divisions.			Districts.		
	1932.	1933.	1934.	1932.	1933.	1934.
	$	$	$	$	$	$
North-western District (No. 1)	.....	.....	.....	4,895,770	4,576,758	4,456,196
Atlin, Stikine, and Liard	152,944	202,003	184,510	.....	.....	.....
Nass River	2,600,927	3,844,067	3,022,821	.....	.....	.....
Portland Canal	2,098,713	1,459,119	1,159,406	.....	.....	.....
Skeena, Queen Charlotte, and Bella Coola	43,186	71,569	89,459	.....	.....	.....
North-eastern District (No. 2)	.....	.....	.....	185,595	356,409	485,733
Cariboo and Quesnel	147,910	307,670	421,817	.....	.....	.....
Omineca and Peace River	37,685	48,739	63,916	.....	.....	.....
Central District (No. 3)	.....	.....	.....	289,084	232,226	481,288
Nicola and Vernon	120,692	131,516	186,920	.....	.....	.....
Yale, Ashcroft, and Kamloops	156,234	96,235	294,368	.....	.....	.....
Clinton*	12,158	4,475	.....	.....	.....	.....
Southern District (No. 4)	.....	.....	.....	1,517,603	1,039,128	1,082,908
Grand Forks, Greenwood, and Osoyoos	759,803	406,299	573,470	.....	.....	.....
Similkameen	757,800	632,829	509,438	.....	.....	.....
Eastern District (No. 5)	.....	.....	.....	14,487,063	17,608,731	23,897,731
Fort Steele	13,834,116	15,951,647	20,033,239	.....	.....	.....
Windermere and Golden	18,323	424,635	1,359,553	.....	.....	.....
Ainsworth	21,761	21,214	47,422	.....	.....	.....
Slocan and Slocan City	9,883	30,051	81,258	.....	.....	.....
Nelson and Arrow Lake	267,132	573,854	971,606	.....	.....	.....
Trail Creek	303,348	594,730	1,398,328	.....	.....	.....
Revelstoke and Lardeau	32,500	12,600	6,325	.....	.....	.....
Western District (No. 6)	.....	.....	.....	6,866,503	6,861,234	7,506,324
Nanaimo, Alberni, Clayoquot, Quatsino, and Victoria (Vancouver Island)	4,015,717	3,042,605	2,959,804	.....	.....	.....
Vancouver, New Westminster, and Lillooet	2,850,786	3,818,629	4,415,291	.....	.....	.....
Yale, Ashcroft, and Clinton (Mainland)	.....	.....	131,229	.....	.....	.....
Totals	28,241,618	30,674,486	37,910,180	28,241,618	30,674,486	37,910,180†

* Yale, Ashcroft, and Clinton Mining Divisions included in No. 6 District (Mainland section) from and including 1934.

† Gold production included in totals in above table is valued at old standard price of $20.671834.

TABLE VIII.—PRODUCTION IN DETAIL OF PLACER GOLD, LODE

DISTRICTS AND DIVISIONS.	YEAR.	TONS.	GOLD—PLACER.		GOLD—LODE.		SILVER.	
			Ounces.	Value.	Ounces.	Value.	Ounces.	Value.
				$		$		$
North-western District (No. 1)								
Atlin	1933	30	11,299	192,083	103	2,129	64	24
	1934	**1**	**10,039**	**170,663**	**58**	**1,199**	**38**	**18**
Stikine	1933		251	4,267				
	1934		**376**	**6,392**				
Liard	1933		200	3,400				
	1934		**314**	**5,338**				
Nass River	1933	1,540,187			4,382	90,584	257,854	97,553
	1934	**1,889,748**			**4,761**	**98,419**	**280,026**	**132,903**
Portland Canal	1933	187,164			50,089	1,035,432	1,029,606	389,529
	1934	**158,857**			**39,146**	**809,219**	**687,261**	**326,181**
Skeena	1933	1,629	76	1,292	1,298	26,832	357	135
	1934	**5,726**	**62**	**1,054**	**3,693**	**76,341**	**1,314**	**624**
Queen Charlotte	1933	400	65	1,105	53	1,096	25	10
	1934		**98**	**1,666**				
Bella Coola	1933		2	34				
	1934							
North-eastern District (No. 2)								
Cariboo	1933	19,769	4,897	83,249	7,660	158,346	823	311
	1934	**30,554**	**3,848**	**65,416**	**11,853**	**245,023**	**1,333**	**633**
Quesnel	1933		2,772	47,124				
	1934		**5,358**	**91,086**				
Omineca	1933	26	699	11,883	82	1,695	15	6
	1934	**2,358**	**1,365**	**23,205**	**547**	**11,307**	**4,528**	**2,149**
Peace River	1933		300	5,100				
	1934		**240**	**4,080**				
Central District (No. 3)								
Nicola	1933	9			34	703	1,053	398
	1934	**6,095**			**777**	**16,062**	**25,182**	**11,952**
Vernon	1933	390	63	1,071	119	2,459	18	7
	1934	**3,159**	**68**	**1,156**	**1,183**	**24,455**	**118**	**56**
Kamloops	1933	43	249	4,233	194	4,010		
	1934	**11,316**	**155**	**2,635**	**7,819**	**161,633**	**494**	**235**
Southern District (No. 4)								
Grand Forks	1933	3,720			3,144	64,992	3,005	1,137
	1934	**322**			**540**	**11,163**	**11,691**	**5,549**
Greenwood	1933	3,627	250	4,250	427	8,827	558,472	211,286
	1934	**29,808**	**162**	**2,754**	**4,339**	**89,695**	**631,254**	**299,599**
Osoyoos	1933	2,605			1,799	37,189	2,695	1,020
	1934	**8,718**	**2**	**34**	**3,732**	**77,147**	**3,649**	**1,732**
Similkameen	1933		300	5,100				
	1934	**431**	**346**	**5,882**	**3**	**62**	**4,896**	**2,324**
Eastern District (No. 5)								
Fort Steele	1933	1,401,101	652	11,084	12	248	4,921,950	1,862,112
	1934	**1,744,179**	**804**	**13,668**	**11**	**227**	**6,375,663**	**3,025,953**
Windermere	1933		35	595				
	1934		**37**	**629**				
Golden	1933	35,612	11	187			53,846	20,371
	1934	**94,880**	**32**	**544**			**170,239**	**80,797**
Ainsworth	1933		32	544				
	1934	**3,358**	**49**	**833**	**20**	**413**	**34,108**	**16,188**
Socan	1933	783			12	248	47,240	17,872
	1934	**1,905**			**37**	**765**	**96,431**	**45,767**
Slocan City	1933	23			19	393	638	241
	1934	**311**	**9**	**153**	**207**	**4,279**	**879**	**417**
Nelson	1933	44,051	152	2,584	23,289	481,427	48,334	18,286
	1934	**51,865**	**154**	**2,618**	**37,849**	**782,408**	**104,395**	**49,547**
Arrow Lake	1933		7	119				
	1934	**5**	**2**	**34**	**4**	**83**	**380**	**180**
Trail Creek	1933	11,960	71	1,207	9,313	192,517	12,273	4,643
	1934	**43,088**	**88**	**1,496**	**28,033**	**579,494**	**40,850**	**19,388**
Revelstoke	1933		281	4,777				
	1934		**35**	**595**				
Lardeau	1933	1	50	850	2	41	2	1
	1934	**1**	**163**	**2,771**	**3**	**62**	**3**	**2**
Western District (No. 6)								
Nanaimo	1933	2	4	68	2	41	7	3
	1934	**75**	**9**	**153**	**36**	**744**	**122**	**58**
Alberni	1933		25	425				
	1934	**40**	**4**	**68**	**116**	**2,398**	**23**	**11**
Clayoquot	1933	29	15	255	49	1,013	31	12
	1934	**48**	**19**	**323**	**166**	**3,432**	**189**	**89**
Quatsino	1933							
	1934							
Victoria	1933		6	102				
	1934		**38**	**646**				
Lillooet	1933	154,242	407	6,919	108,298	2,238,718	24,668	9,333
	1934	**230,097**	**434**	**7,378**	**133,716**	**2,764,155**	**32,076**	**15,224**
Clinton*	1933		225	3,825				
	1934	**3,330**	**247**	**4,199**	**745**	**15,401**	**945**	**449**
Ashcroft*	1933	657	320	5,440	330	6,822	638	241
	1934	**7,217**	**248**	**4,216**	**3,597**	**74,357**	**6,880**	**3,265**
Yale*	1933		105	1,785				
	1934	**140**	**192**	**3,264**	**36**	**744**	**7**	**3**
New Westminster	1933		107	1,819				
	1934		**184**	**3,128**				
Vancouver	1933	622,718			12,819	264,992	42,792	16,189
	1934	**759,702**			**14,103**	**291,535**	**57,942**	**27,499**
Totals	1933	4,030,778	23,928	406,776	223,529	4,620,754	7,006,406	2,650,720
	1934	**5,087,334**	**25,181**	**428,077**	**297,130**	**6,142,222**	**8,572,916**	**4,068,792**

* Previous to 1934 Yale, Ashcroft, and Clinton included in No. 3 (Central) District.

GOLD, SILVER, COPPER, LEAD, AND ZINC IN 1933 AND 1934.

COPPER.		LEAD.		ZINC.		TOTALS FOR DIVISIONS.		TOTALS FOR DISTRICTS
Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	1933.	1934.	1934.
	$		$		$	$	$	$
...	...	...	...	...	...	...	...	4,404,335
...	...	...	...	...	...	194,236	...	...
...	...	...	...	...	...	...	171,880	...
...	...	...	...	...	...	4,267	...	...
...	...	...	...	...	...	...	6,392	...
...	...	...	...	...	...	3,400	...	...
...	...	...	...	...	...	...	5,338	...
34,416,459	2,565,678	...	...	...	...	2,753,815	...	...
37,070,906	2,750,290	...	...	...	...	...	2,981,612	...
29,749	2,218	731,435	17,493	2,400	77	1,444,749	...	...
6,519	484	725,164	17,665	192,406	5,857	...	1,159,406	...
53	4	...	...	...	...	28,263	...	...
293	22	...	...	...	...	...	78,041	...
...	...	...	...	...	...	2,211	...	...
...	...	...	...	...	...	...	1,666	...
...	...	...	...	...	...	34	...	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	443,128
...	...	...	...	...	...	241,906	...	...
...	...	...	...	...	...	...	311,072	...
...	...	...	...	...	...	47,124	...	...
...	...	...	...	...	...	...	91,086	...
...	...	...	...	...	...	13,584	...	...
...	...	5,556	135	3,089	94	...	36,890	...
...	...	...	...	...	...	5,100	...	...
...	...	...	...	...	...	...	4,080	...
...	...	...	...	...	...	...	...	227,141
...	...	7,762	186	1,206	39	1,326	...	...
...	...	178,223	4,342	40,681	1,238	...	33,594	...
...	...	...	...	...	...	3,537	...	...
...	...	...	...	...	...	...	25,667	...
848	63	...	...	...	...	8,306	...	...
45,525	3,377	...	...	...	...	...	167,880	...
...	...	...	...	...	...	...	...	524,610
...	...	7,215	172	16,498	529	66,830	...	...
...	...	...	...	...	...	...	16,712	...
...	...	381,175	9,116	516,262	16,575	250,054	...	...
...	...	446,652	10,880	540,565	16,455	...	419,383	...
...	...	112	3	...	...	38,212	...	...
460	34	...	...	...	...	...	78,947	...
...	...	...	...	...	...	5,100	...	...
...	...	44,191	1,077	7,339	223	...	9,568	...
...	...	...	...	...	...	...	...	20,448,319
...	...	260,369,484	6,226,996	180,116,639	5,782,645	13,883,085	...	...
...	...	322,000,000	7,843,920	212,000,000	6,453,280	...	17,337,048	...
...	...	...	...	...	...	595	...	...
...	...	...	...	...	...	...	629	...
...	...	8,108,250	193,917	6,270,700	201,321	415,796	...	...
...	...	19,897,650	484,707	25,817,204	785,876	...	1,351,924	...
...	...	...	...	...	...	544	...	...
...	...	344,068	8,382	168,718	5,136	...	30,952	...
...	...	329,095	7,871	106,716	3,426	29,417	...	...
...	...	724,011	17,637	401,286	12,215	...	76,384	...
...	...	...	...	...	...	634	...	...
...	...	294	7	577	18	...	4,874	...
...	...	698,904	16,715	987,070	31,689	550,701	...	...
9,001	668	1,922,050	46,821	2,438,576	74,230	...	956,292	...
...	...	...	...	...	...	119	...	...
...	...	175	4	140	4	...	305	...
331,514	24,713	486	12	825	27	223,119	...	...
1,160,568	86,103	...	...	...	...	...	686,481	...
...	...	...	...	...	...	4,777	...	...
...	...	...	...	...	...	...	595	...
...	...	46	1	...	...	893	...	...
...	...	...	...	...	...	...	2,835	...
...	...	...	...	...	...	...	...	4,167,711
...	...	...	...	...	...	112	...	...
...	...	...	...	...	...	...	955	...
...	...	...	...	...	...	425	...	...
...	...	...	...	...	...	...	2,477	...
...	...	...	...	...	...	1,280	...	...
...	...	...	...	...	...	...	3,844	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	102	...	...
...	...	...	...	...	...	...	646	...
...	...	...	...	...	...	2,254,970	...	...
...	...	250	6	...	...	...	2,786,763	...
...	...	...	...	...	...	3,825	...	...
3,644	270	...	...	...	...	...	20,319	...
158	12	...	...	...	...	12,515	...	...
7,624	566	...	...	...	...	...	82,404	...
...	...	...	...	...	...	1,785	...	...
...	...	...	...	...	...	...	4,011	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	1,819	3,128	...
7,829,221	583,653	972,107	23,249	7,945,435	255,088	1,143,171	...	...
9,780,118	725,587	1,078,683	26,276	6,316,263	192,267	...	1,263,164	...
42,608,002	3,176,341	271,606,071	6,495,731	195,963,751	6,291,416	23,641,738	...	...
48,084,658	3,567,401	347,366,967	8,461,859	247,926,844	7,546,893	...	30,215,244	30,215,244

Gold production in above table is valued at old standard price of $20.671834.

TABLE IX.—COAL PRODUCTION PER YEAR TO DATE.*

	Tons (2,240 lb.)	Value.		Tons (2,240 lb.)	Value.
1836–1885	3,029,011	$9,468,557	1911	2,193,062	$7,675,717
1886	326,636	979,908	1912	2,628,804	9,200,814
1887	413,360	1,240,080	1913	2,137,483	7,481,190
1888	489,301	1,467,903	1914	1,810,967	6,338,385
1889	579,830	1,739,490	1915	1,611,129	5,638,952
1890	678,140	2,034,420	1916	2,084,093	7,294,325
1891	1,029,097	3,087,291	1917	2,149,975	7,524,913
1892	826,335	2,479,005	1918	2,302,245	11,511,225
1893	978,294	2,934,882	1919	2,267,541	11,337,705
1894	1,012,953	3,038,859	1920	2,595,125	12,975,625
1895	939,654	2,818,962	1921	2,483,995	12,419,975
1896	896,222	2,688,666	1922	2,511,843	12,559,215
1897	882,854	2,648,562	1923	2,453,223	12,266,115
1898	1,135,865	3,407,595	1924	1,939,526	9,697,630
1899	1,306,324	3,918,972	1925	2,328,522	11,642,610
1900	1,439,595	4,318,785	1926	2,330,036	11,650,180
1901	1,460,331	4,380,993	1927	2,453,827	12,269,135
1902	1,397,394	4,192,182	1928	2,526,702	12,633,510
1903	1,168,194	3,504,582	1929	2,251,252	11,256,260
1904	1,253,628	3,760,884	1930	1,887,130	9,435,650
1905	1,384,312	4,152,936	1931	1,707,590	7,684,155
1906	1,517,303	4,551,909	1932	1,534,975	6,523,644
1907	1,800,067	6,300,235	1933	1,264,746	5,375,171
1908	1,677,849	5,872,472	1934	1,347,090	5,725,133
1909	2,006,476	7,022,666			
1910	2,800,046	9,800,161	Totals	83,229,952	$329,928,191

* For all years to 1925 (inclusive) figures are net coal production and do not include coal made into coke; subsequent figures are entire coal production, including coal made into coke.

TABLE X.—COKE PRODUCTION FROM BEE-HIVE OVENS IN BRITISH COLUMBIA FROM 1895 TO 1925.

	Tons (2,240 lb.)	Value.		Tons (2,240 lb.)	Value.
1895–97	19,396	$96,980	1913	286,045	$1,716,270
1898 (estimated)	35,000	175,000	1914	234,577	1,407,462
1899	34,251	171,255	1915	245,871	1,475,226
1900	85,149	425,745	1916	267,725	1,606,350
1901	127,081	635,405	1917	159,905	959,430
1902	128,015	640,075	1918	188,967	1,322,769
1903	165,543	827,715	1919	91,138	637,966
1904	238,428	1,192,140	1920	67,792	474,544
1905	271,785	1,358,925	1921	59,434	416,038
1906	199,227	996,135	1922	45,835	320,845
1907	222,913	1,337,478	1923	58,919	412,433
1908	247,399	1,484,394	1924	30,615	214,305
1909	258,703	1,552,218	1925	75,185	526,295
1910	218,029	1,308,174			
1911	66,005	396,030	Totals	4,393,255	$25,673,600
1912	264,333	1,585,998			

TABLE XI.—COKE AND BY-PRODUCTS PRODUCTION OF BRITISH COLUMBIA, 1933 AND 1934.

Description.	1933.		1934.	
	Quantity.	Value.	Quantity.	Value.
Coal used in making coke, long tons	95,907	$554,152	126,256	$644,167
Coke made in bee-hive ovens, long tons	5,445	$44,813	22,182	$154,182
Coke made in by-product ovens, long tons	21,667	213,750	20,996	213,653
Coke made in gas plants, long tons	30,802	214,454	28,614	197,997
Total coke made, long tons	57,914	$473,017	71,792	$565,832
Gas produced	.....	1,473,433	.....	1,439,287
Tar produced	.....	11,270	.....	43,266
Other by-products	.....	38,006	.....	4,976
Total production value of coke industry	.....	$1,995,726	.....	$2,053,361

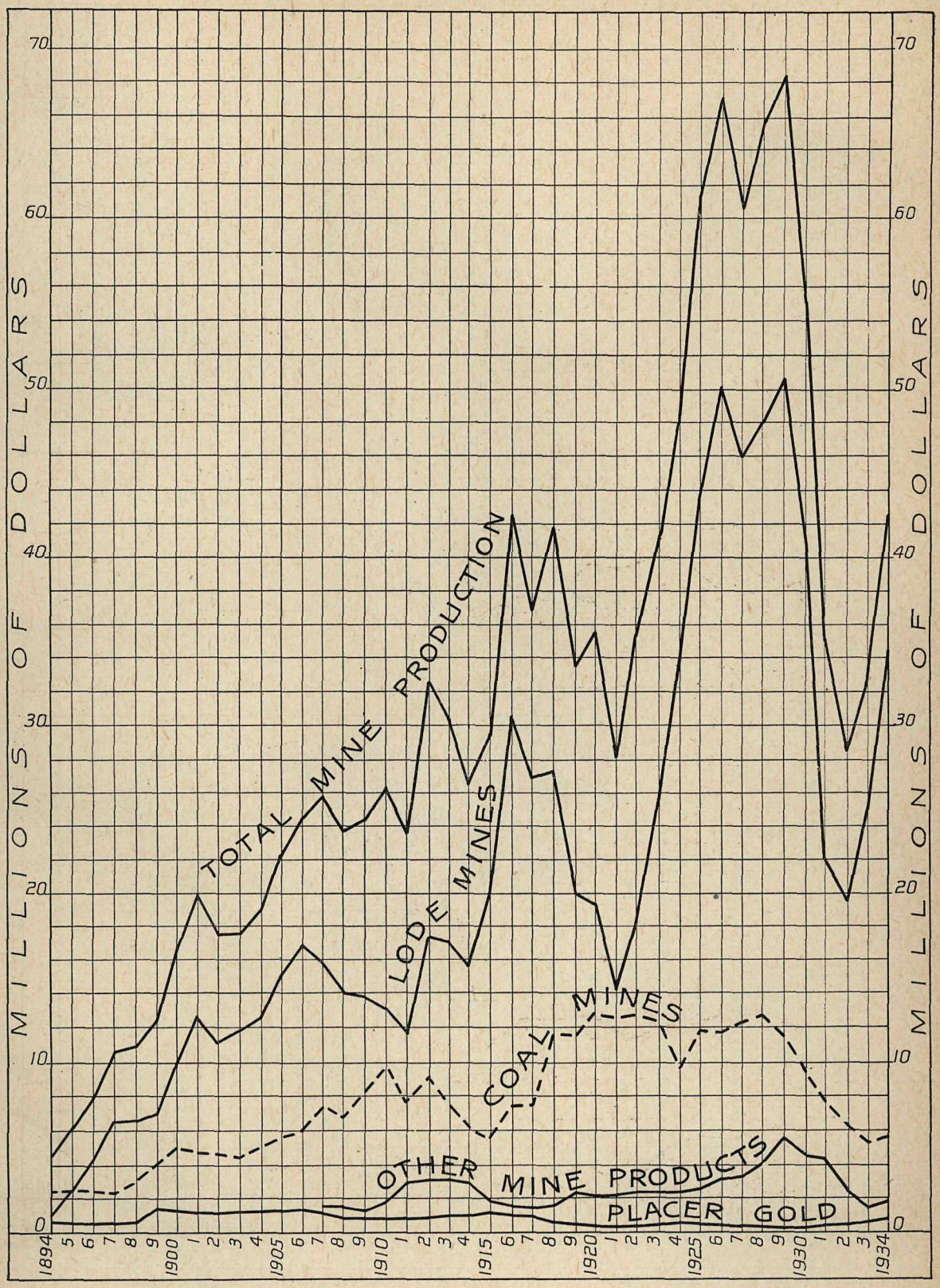
TABLE XII.—PRODUCTION IN DETAIL OF STRUCTURAL MATERIALS, 1934.

District and Division.	Cement.	Lime and Limestone.	Building-stone.	Riprap and Crushed Rock.	Sand and Gravel.	Brick (Common).	Face, Paving, and Sewer Brick.	Firebrick Blocks.	Fireclay.	Structural Tile, Hollow.	Drain-tile and Sewer-pipe.	Pottery, Glazed or Unglazed.	Other Clay Products.	Divisions.	Districts.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
North-western District (No. 1)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,652
Atlin, Liard, and Stikine	.....	.....	.....	400	500	.....	.....	.....	.....	.....	.....	.....	.....	900	.....
Nass River	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Portland Canal	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Skeena and Queen Charlotte	.....	.....	.....	260	3,960	.....	.....	.....	.....	.....	.....	.....	.....	4,220	.....
Bella Coola	.....	1,779	.....	.....	3,753	.....	.....	.....	.....	.....	.....	.....	.....	5,532	.....
North-east District (No. 2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28,091
Cariboo and Quesnel	.....	.....	.....	149	17,831	.....	.....	319	720	.....	.....	.....	53	19,072	.....
Omineca and Peace River	.....	.....	.....	8	9,011	.....	.....	.....	.....	.....	.....	.....	.....	9,019	.....
Central District (No. 3)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	53,430
Nicola, Vernon, and Kamloops	.....	.....	3,400	10,250	34,503	3,525	10	.....	.....	1,467	275	.....	.....	53,430	.....
Southern District (No. 4)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23,737
Grand Forks and Greenwood	.....	.....	.....	.....	3,725	3,732	.....	.....	.....	.....	.....	.....	.....	7,457	.....
Osoyoos	.....	836	.....	288	11,919	.....	.....	.....	.....	.....	.....	.....	.....	13,043	.....
Similkameen	.....	.....	.....	650	2,587	.....	.....	.....	.....	.....	.....	.....	.....	3,237	.....
Eastern District (No. 5)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	76,843
Fort Steele	.....	.....	421	19,334	9,055	.....	.....	.....	.....	.....	.....	.....	.....	28,810	.....
Windermere and Golden	.....	.....	.....	2,000	5,000	.....	.....	.....	.....	.....	.....	.....	.....	7,000	.....
Ainsworth	.....	.....	.....	2,348	14,122	.....	.....	.....	.....	.....	.....	.....	.....	16,470	.....
Slocan and Slocan City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nelson	.....	1,800	5,835	2,090	3,266	.....	.....	.....	.....	.....	.....	.....	.....	12,991	.....
Trail Creek	.....	.....	.....	800	7,877	.....	.....	.....	.....	.....	.....	.....	.....	8,677	.....
Revelstoke	.....	.....	.....	1,500	1,395	.....	.....	.....	.....	.....	.....	.....	.....	2,895	.....
Western District (No. 6)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	824,388
Nanaimo and Alberni	.....	186,038	26,205	553	8,006	3,238	.....	.....	.....	.....	.....	.....	.....	224,040	.....
Victoria and Quatsino	216,995	4,910	.....	1,529	26,073	8,435	280	.....	.....	873	6,514	2,750	544	268,903	.....
Lillooet	.....	.....	.....	1,115	4,077	.....	.....	.....	.....	.....	.....	.....	.....	5,192	.....
Yale	.....	.....	.....	5,852	3,107	.....	.....	.....	.....	.....	.....	.....	.....	8,959	.....
Clinton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ashcroft	.....	.....	.....	2,550	7,234	.....	.....	.....	.....	.....	.....	.....	.....	9,784	.....
Vancouver	15,014	.....	20,630	22,697	33,875	.....	.....	.....	.....	.....	.....	.....	.....	92,216	.....
New Westminster	.....	.....	.....	18,130	38,253	16,192	6,525	81,545	7,017	7,209	35,660	4,426	337	215,294	.....
Totals	232,009	195,363	56,491	92,503	249,129	35,122	6,815	81,864	7,737	9,549	42,449	7,176	934	1,017,141	1,017,141

TABLE XIII.—PRODUCTION IN DETAIL OF MISCELLANEOUS METALS, MINERALS, AND MATERIALS, 1934.

District and Division.	Bentonite.	Bismuth.	Cadmium.	Diatomite and Volcanic Ash.	Dolomite.	Flux (Limestone and Quartz).	Gypsum and Gypsite.	Iron (Bog).	Mica.	Platinum.	Crushed Slate.	Soda and Magnesium Sulphate.	Sulphur Content of Pyrite and Sulphuric Acid manufactured.	Talc.	Division Totals.	District Totals.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
North-western District (No. 1)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41,209
Atlin, Liard, and Stikine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nass River	.....	.....	.....	.....	.....	41,209	.....	.....	.....	.....	.....	.....	.....	.....	41,209	.....
Portland Canal	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Skeena and Queen Charlotte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bella Coola	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North-eastern District (No. 2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	587
Cariboo and Quesnel	.....	.....	.....	587	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	587	.....
Omineca and Peace River	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Central District (No. 3)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	96,120
Nicola and Vernon	.....	.....	.....	.....	.....	.....	.....	.....	2,045	.....	.....	.....	.....	.....	2,045	.....
Kamloops	.....	.....	.....	.....	.....	.....	87,695	.....	.....	.....	.....	6,380	.....	.....	94,075	.....
Southern District (No. 4)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41,557
Grand Forks and Greenwood	.....	.....	.....	.....	.....	37,928	.....	.....	.....	.....	.....	.....	.....	.....	37,928	.....
Osoyoos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Similkameen	1,578	.....	.....	.....	.....	.....	.....	.....	.....	2,051	.....	.....	.....	.....	3,629	.....
Eastern District (No. 5)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	705,188
Fort Steele	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Windermere and Golden	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ainsworth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Slocan and Slocan City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nelson and Arrow Lake	.....	.....	.....	.....	2,018	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,018	.....
Trail Creek	.....	297,771	91,019	.....	.....	.....	.....	.....	.....	.....	.....	.....	314,380	.....	703,170	.....
Revelstoke	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Western District (No. 6)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	68,001
Nanaimo	.....	.....	.....	.....	.....	10,595	.....	.....	.....	.....	.....	.....	.....	.....	10,595	.....
Victoria and Quatsino	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,135	.....	.....	550	6,685	.....
Lillooet	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	502	502	.....
Yale and Ashcroft	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clinton	.....	.....	.....	.....	.....	.....	287	.....	.....	.....	.....	900	.....	.....	1,187	.....
Vancouver	.....	.....	.....	.....	.....	.....	.....	1,600	.....	.....	.....	.....	47,432	.....	49,032	.....
New Westminster	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	1,578	297,771	91,019	587	2,018	89,732	87,982	1,600	2,045	2,051	6,135	7,280	361,812	1,052	952,662	952,662

BRITISH COLUMBIA MINE PRODUCTION, 1894–1934.



Production in above graph is valued in Canadian funds.

PRODUCTION OF LODE MINES IN BRITISH COLUMBIA, 1912–1934.

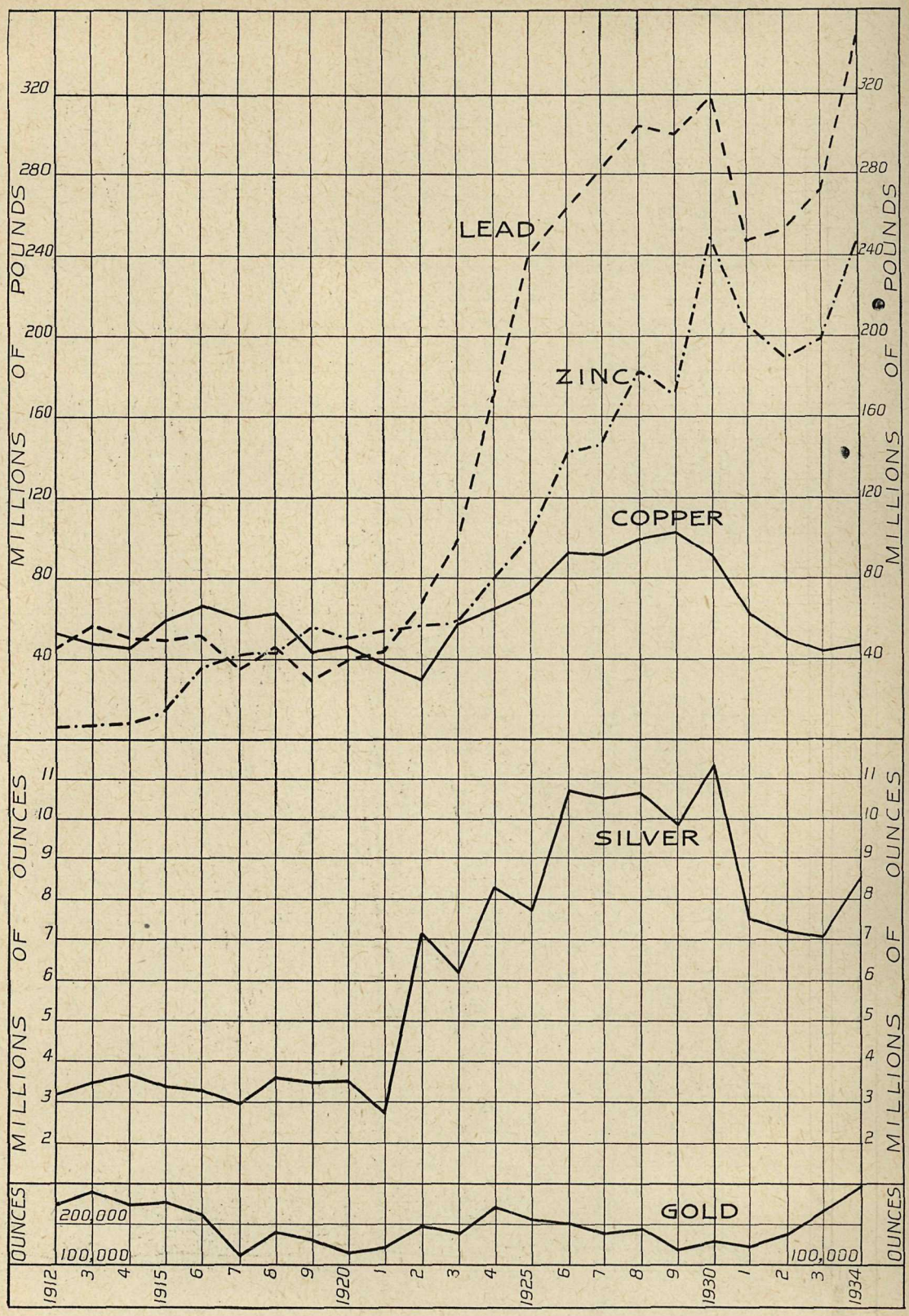


TABLE XIV.—MEN EMPLOYED IN THE MINING INDUSTRY OF BRITISH COLUMBIA, 1934.

District.	Placer-mining.	Lode-mining.			In Concentrators.	In Smelters.	Coal-mining.			Structural Materials.		Miscellaneous.	Total.
		Under.	Above.	Total.			Under.	Above.	Total.	Quarries.	Plants.		
No. 1	262	584	234	818	115	350	.....	.....	.....	8	.....	12	1,565
No. 2	460	186	119	305	15	.....	9	2	11	22	.....	3	816
No. 3	60	62	41	103	13	.....	75	34	109	60	5	5	355
No. 4	55	249	176	425	54	.....	252	131	383	21	3	9	950
No. 5	180	896	480	1,376	344	2,540	551	203	754	36	2	103	5,335
No. 6	105	819	679	1,498	90	.....	1,163	473	1,636	230	177	228	3,964
Totals—													
1934	1,122	2,796	1,729	4,525	631	2,890	2,050	843	2,893	377	187	360	12,985
1933	1,134	1,786	1,335	3,121	531	2,436	2,241	853	3,094	376	269	408	11,369

TABLE XV.—TONNAGE, NUMBER OF MINES, AND NET VALUE OF LODE MINERALS, 1934.

District.	Tonnage.	No. of Shipping Mines, 1934.	No. of Mines shipping over 100 Tons.	Net Value to Shipper of Lode Minerals produced.
No. 1	2,054,332	11	6	$3,038,306
No. 2	32,912	5	3	429,250
No. 3	20,570	4	3	323,378
No. 4	39,279	29	15	535,218
No. 5	1,939,592	78	34	10,300,114
No. 6	1,000,649	18	8	5,617,012
Totals	5,087,334	145	69	$20,243,278

TABLE XVI.—METALLIFEROUS MINES SHIPPING IN 1934.

Mine or Group.	Location of Mine or Mill.	Owner or Agent.	Rated Daily Capacity.		Operating at.	Date of First Operation.	Process.	Character of Ore.
			1933.	1934.				
			Tons.	Tons.	Tons.			
Engineer	Atlin	R. H. Brooks, Atlin, leaser from Mining Corp. of Can., Ltd., Toronto	50	50	*	1925	Amalgamation; concentration	Gold.
Bonanza	Anyox	Granby Cons. M.S. & P. Co., Ltd.						
Hidden Creek	Anyox	Granby Cons. M.S. & P. Co., Ltd.	5,200	5,200	5,200	Jan., 1924	Flotation	Copper, gold, silver.
Granby Point	Anyox	Granby Cons. M.S. & P. Co., Ltd.	.....	.....	.....	.....	.....	.....
Dunwell	Stewart	Dunwell Mines, Ltd., Victoria	100	30	30	1927	Flotation; concentration	Gold.
Joker	Stewart	John Hovland, Stewart	.....	.....	.....	.....	.....	Silver, gold.
Premier	Stewart	Premier Gold Mining Co., Ltd., Vancouver	500	500	500	July, 1922	Flotation	Gold.
United Empire	Stewart	United Empire Gold and Silver Mining Co., Ltd., Vancouver	.....	.....	.....	.....	.....	Silver, gold, lead.
Eddy Pass	Refuge bay	F. J. Patterson, Refuge bay	.....	.....	.....	.....	.....	Gold, silver.
Princess Royal	Surf inlet	Princes Royal Gold Mines, Ltd., Vancouver	.....	100	†	August, 1917	Flotation; concentration	Gold.
Surf Point	Porcher island	N. A. Timmins, Inc., Porcher island	20	20	20	July, 1933	Flotation	Gold.
Cariboo Gold	Wells	Cariboo Gold Quartz Mining Co., Ltd., Vancouver	100	100	100	Jan., 1933	Cyanidation	Gold.
Island Mountain	Wells	Island Mountain Mines, Ltd., Vancouver	.....	50	50	Nov., 1934	Cyanidation	Gold.
Columario	Usk	Columario Consolidated Gold Mines, Ltd., Toronto, Ont.	.....	100	50*	Sept., 1934	Flotation	Gold.
Glacier Gulch	Smithers	Wilson Mining and Investment Co., Ltd., Vancouver	.....	.....	.....	.....	.....	Gold, silver.
Golden Eagle	Topley	C. Matheson and D. Heenan, Topley	.....	.....	.....	.....	.....	Gold, silver.
Nicola	Stump lake	Nicola Mines and Metals, Ltd., Vancouver	100	50	50*	1929	Flotation	Silver, lead, zinc.
Windpass	Black Pool	Windpass Gold Mining Co., Ltd., Vancouver	.....	40	40	March, 1934	Flotation	.....
Bluehawk	Wilsons Landing	Bluehawk (Kelowna) Gold Mines Syndicate, Victoria	.....	.....	.....	.....	.....	Gold, silver.
Pre Cambrian	Ewings Landing	Pre Cambrian Gold Mines, Seattle	.....	25	25	1934	Flotation	Gold, silver.
Athelstan	Grand Forks	W. E. McArthur, Jr., Greenwood	.....	.....	.....	.....	.....	Gold, silver.
Molly Gibson	Grand Forks	Oscar Anderson, Rossland	.....	.....	.....	.....	.....	Gold, silver.
Union	Granby river	J. F. McCarthy, Grand Forks	.....	200	200‡	Jan., 1930	Cyanidation	Gold.
Dividend	Osoyoos	Chas. S. Antonson	.....	.....	.....	.....	.....	Gold.
Grandoro	Oro Fino mountain	Grandoro Mines, Ltd., Penticton	.....	.....	.....	.....	.....	Gold.
Morning Star	Osoyoos	Morning Star (Fairview) Gold Mines, Ltd., Vancouver	.....	.....	.....	.....	.....	Gold.

* Idle at present. † Princess Royal mill under reconstruction. ‡ Tailings re-treated.

			Tons.	Tons.	Tons.			
Twin Lakes	Osoyoos	Twin Lakes Gold Mining Co., Ltd., Penticton	.....	40	40	March, 1934	Amalgamation; concentration	Gold.
Victoria	Fairview	Victoria Fairview Mines, Ltd., Vancouver	.....	.....	.....	.....	.....	Gold.
Mak Siccar	Similkameen	Mak Siccar Gold Mines, Ltd., Vancouver	.....	.....	.....	.....	.....	Gold.
Silver King	Tulameen	Murray Mining Co., Ltd., Tulameen	.....	.....	.....	.....	.....	Silver, lead.
Bay	Greenwood	W. E. McArthur, Jr., Greenwood	.....	.....	.....	.....	.....	Gold, silver.
Beaver	Greenwood	Beaver Silver Mines, Ltd., Vancouver	.....	.....	.....	.....	.....	Silver, lead zinc.
Bell	Greenwood	Bell Mine, Ltd., Penticton	.....	.....	.....	.....	.....	Silver, lead zinc.
Butcher Boy	Carmi	Carmi Gold Mines, Ltd., Carmi	.....	.....	.....	.....	.....	Gold, silver.
Carmi	Carmi	Carmi Gold Mines, Ltd., Carmi	.....	.....	.....	.....	.....	Gold, silver.
Dentonia	Greenwood	Dentonia Mines, Ltd., Calgary	100	100	135	April, 1934	Flotation	Gold, silver.*
Dynamo	Greenwood	Dynamo Mining and Milling Co., Ltd., Vancouver	.....	.....	.....	.....	.....	Gold, silver.
Highland Lass	Beaverdell	Highland Lass, Ltd., Kelowna	.....	.....	.....	.....	.....	Silver, lead, zinc.
Imperial	Greenwood	Imperial Leasing Syndicate, Rock Creek	.....	.....	.....	.....	.....	Silver, lead, zinc.
Nonesuch	Greenwood	J. E. Taylor, Vancouver	.....	.....	.....	.....	.....	Silver, gold.
North Star	Greenwood	W. E. McArthur, Jr., and Hy. Fritz, Greenwood	.....	.....	.....	.....	.....	Silver, gold.
Number Seven	Greenwood	W. E. McArthur, Jr., and Hy. Fritz, Greenwood	.....	.....	.....	.....	.....	Silver, gold.
Sally	Beaverdell	Sally Mines, Ltd., Penticton	.....	.....	.....	.....	.....	Silver, gold.
Sunnyside	Greenwood	Robt. Forshaw, Greenwood	.....	.....	.....	.....	.....	Silver, zinc, lead.
Superior	Jewel lake	Superior Gold Mines, Ltd., Vancouver	.....	50	50	Nov., 1934	Flotation	Gold, silver.
Tiger	Beaverdell	J. L. Nordman and Partners, leasers, Beaverdell	.....	.....	.....	.....	.....	Silver, zinc, lead.
Waterloo	Lightning peak	Waterloo Gold Mines, Ltd., Penticton	.....	.....	.....	.....	.....	Silver, lead, zinc.
Wellington	Beaverdell	Beaverdell Wellington Syndicate, Ltd., Greenwood	.....	.....	.....	.....	.....	Silver, zinc, lead.
Winner	Greenwood	Walters, Williamson, and Wanke, Greenwood	.....	.....	.....	.....	.....	Silver gold.
Lucky Thought	Ainsworth	H. V. Dewis, Silverton	.....	.....	.....	.....	.....	Silver, gold.
Whitewater	Kaslo creek	Ross Mining Syndicate, Retallack	.....	125	*	1927	Wet concentration; flotation	Silver, lead, zinc.
Chiefton	Cariboo creek	S. J. Johnson, Burton	.....	.....	.....	.....	.....	Silver, lead, zinc.
Dibble	Fort Steele	C/o Wittichen's, Ltd., Calgary	.....	.....	.....	.....	.....	Silver, gold.
Sullivan	Kimberley	Cons. M. & S. Co. of Canada, Ltd., Trail	6,000	6,000	6,000	August, 1923	Wet concentration; flotation	Silver, lead, zinc.
Monarch	Field	Base Metals Mining Corp., Field	300	300	*	Nov., 1929	Wet concentration; flotation	Silver, zinc, lead.

* Idle at present.

TABLE XVI.—METALLIFEROUS MINES SHIPPING IN 1934—*Continued.*

Mine or Group.	Location of Mine or Mill.	Owner or Agent.	Rated Daily Capacity.		Operating at.	Date of First Operation.	Process.	Character of Ore.
			1933.	1934.				
			Tons.	Tons.	Tons.			
Kilo	Slocan City	C.Q. Mining Co., Vancouver						Gold, silver.
Smeralda	Slocan City	Roy F. Ainslie, Slocan City						Silver, lead zinc.
Winslow	Lardeau	E. H. McDaniel, Nelson						Gold, silver.
Best	Slocan	M. M. McCune, leaser; H. Giegerich, agent, Kaslo						Silver, lead, zinc.
Black Colt	Sandon	E. J. Vandergrift, agent, New Denver						Silver, lead, zinc.
Bosun	New Denver	C. J. Campbell, Vancouver						Silver, lead, zinc.
Canadian	Slocan	C. Calgaro, Sandon						Silver, lead, zinc.
Early Bird	Slocan	Jas. Woods, Sandon						Silver, lead, zinc.
Howard Frac	Slocan	H. L. Harbour, Nelson						Silver.
Ivanhoe	Slocan	J. A. Black, Sandon						Silver, lead, zinc.
Jackson and Dublin Queen	Whitewater	Jackson Mines, Ltd., Vancouver						Silver, lead, zinc.
Mammoth	Kaslo	Western Exploration Co., Ltd., Silverton						Silver, lead, zinc.
Meteor	Slocan	Meteor Mining Co., Slocan City						Silver, gold.
Molly Hughes	New Denver	Molly Hughes Syndicate, Spokane						Silver, lead, zinc.
Mountain Chief	Slocan	J. Checkelero, Sandon						Silver, lead, zinc.
Palmita	Slocan	E. J. Vandergrift, agent, New Denver						Silver, lead, zinc.
Rio	Slocan	W. R. Roberts, Sandon						Silver, lead, zinc.
Silversmith	Sandon	Silversmith Mines, Ltd., Seattle	150		*	1922	Wet concentration; flotation	Silver, lead, zinc.
Skylark and Ranger	Lemon creek	W. E. Graham, Slocan						Silver, gold.
Standard	Sandon	Western Exploration Co., Silverton						Silver, lead, zinc.
Victor	Slocan	E. Doney & Son, Sandon						Silver, lead, zinc.
Wellington	Slocan	S. Marzoli, Sandon						Silver, lead, zinc.
Alma N.	Nelson	Alma N. Mining Co., Tacoma						Gold, silver.
Arlington	Erie	Godfrey Bitrsch, Nelson						Gold, silver.
Arlington	Erie	Oscarson Bros., Erie						Gold, silver.
Athabasca	Nelson	Noble Five Mines, Ltd., Nelson		25	*	1920	Amalgamation; cyanidation	Gold, silver.
Boulder City	Salmo	Clubine Comstock Gold Mines, Ltd., Nelson						Gold, silver.
Bunker Hill	Nelway	Bunker Hill Gold Mines, Ltd., Nelson						Gold, silver.
California	Toad mountain	W. J. Turner, Nelson						Gold, silver.
Dundee	Ymir	Ymir Dundee Gold Mining Co., Ltd., Nelson						Gold, silver.

* Idle at present.

			Tons.	Tons.	Tons.			
Euphrates	Nelson	Euphrates Mining Co., Nelson						Gold, silver.
Gold Belt	Sheep creek	Gold Belt Mining Co., Ltd., Nelson						Gold, silver.
Golden Eagle	Sandy creek	B. A. Pickering, Nelson						Gold, silver.
Gold Hill	Erie	Louis Matassa, Erie						Gold, silver.
Gold King	Gray creek	H. W. Robertson, Nelson						Gold, silver.
Goodenough	Ymir	Ymir Gold Mines, Ltd., Vancouver						Gold, silver.
Goodenough and Ymir	Ymir	Ymir Cons. Gold Mines, Ltd., Vancouver						Gold, silver.
Good Hope	Nelson	Coles, Baxter, and Foster, Nelson						Gold, silver.
Granite-Poorman	Taghum	Livingstone Mining Co., Taghum		60	30	Sept., 1934	Amalgamation; concentration	Gold, silver.
Great Eastern	Nelson	John Sheplak, leaser, Nelson						Gold, silver.
Keystone	Erie	Fred Golightly, Erie						Gold, silver.
Kootenay Belle	Sheep creek	Kootenay Belle Gold Mines, Ltd., Vancouver		60	30	Oct., 1934	Amalgamation (blanket); flotation	Gold, silver.
Last Chance	Nelson	Assoc. Gold Mines, c/o K. Buell, Trail						Gold, silver.
Myrtle	Ymir	H. Brown and S. A. Curwen, Ymir						Gold, silver.
Nevada	Nelson	M. A. Tuck, Vancouver						Gold, silver.
Perrier	Cottonwood creek	Leaser; Perrier Gold Mines, Ltd., Nelson		50				Gold, silver.
Petersen	Ymir	Nels Petersen, Ymir						Gold, silver.
Porto Rico	Nelson	B. A. Pickering, Nelson						Gold, silver.
Reno	Sheep creek	Reno Gold Mines, Ltd., Nelson	100	100	100	Dec., 1932	Cyanidation	Gold.
Royal Canadian	Nelson	M. A. Tuck, Vancouver						Gold, silver.
Salmo-Malartic	Nelson	Salmo-Malartic Mines, Ltd., Toronto						Gold, silver.
Sanca	Ginols Landing	Canada Smelters, Ltd., Sanca						Gold, silver.
Second Chance	Erie	O. Mazerall and C. Peterson, Salmo						Gold, silver.
Second Relief	Erie	Relief Arlington Mines, Ltd., Erie	40	40	40	1933	Amalgamation; flotation	Gold, silver.
Wilcox	Ymir	Wilcox Mining Syndicate, Rossland	20	20	10	1933	Amalgamation; 10-stamp	Gold.
Yankee Girl	Ymir	Ymir-Yankee Girl Gold Mines, Ltd., Ymir		100	50	Dec., 1934	Cyanidation; flotation	Gold, silver.
Cliff	4-Mile creek	S. J. Hackney, Rossland						Gold, silver.
Evening Star	Rossland	James Heap, Rossland						Gold, silver.
Georgia	Rossland	C. E. Fraser, Rossland						Gold, silver.
Gold Drip	O.K. mountain	M. Penney, Rossland						Gold, silver.
Hattie	Rossland	C. Hutton, M. Hoyte, lessees, Rossland						Gold, silver.
I.X.L.	Rossland	I.X.L. Lessors, Ltd., Rossland						Gold, silver.
Jumbo	Rossland	Jumbo Leasing Syndicate, Rossland						Gold, silver.
Midnight	Rossland	Midnight Syndicate, Rossland						Gold, silver.
Mighty Midas	Violin lake	M. M. Butorac, Trail						Gold, silver.
Nest Egg	Rossland	Emmanuel Triggs, Rossland						Gold, silver.

* Idle at present.

TABLE XVI.—METALLIFEROUS MINES SHIPPING IN 1934—*Continued.*

Mine or Group.	Location of Mine or Mill.	Owner or Agent.	Rated Daily Capacity.		Operating at.	Date of First Operation.	Process.	Character of Ore.
			1933.	1934.				
			Tons.	Tons.	Tons.			
O.K.	O.K. mountain	O.K. Leasing Syndicate, Rossland	.....	.....	.....	.....	.....	Gold, silver.
Silverine	Rossland	Alf. O. Fried, Rossland	.....	.....	.....	.....	.....	Gold, silver.
Spring Creek	Trail Creek	T. H. Sargeant, Trail	.....	.....	.....	.....	.....	Gold, silver.
Velvet	Rossland	Velvet Gold Mining Co., Seattle	.....	50	50	1934	Concentration	Gold, silver.
Rossland properties	Rossland	Leasers from Cons. M. & S. Co. of Canada, Trail	.....	.....	.....	§	Concentration	Gold, silver, copper.
Vancouver Island	China creek	Vancouver Island Gold Mines, Ltd., Vancouver	.....	.....	.....	.....	.....	Gold, silver.
Vidette	Savona	Vidette Gold Mines, Ltd., Vancouver	40	40	35	Dec., 1933	Flotation	Gold, silver.
Danzig	Nootka sound	Danzig Mines, Ltd., Nootka	.....	.....	.....	.....	.....	Gold, silver.
Golden Peak	Ceepeecee	Albert Bloom, Ceepeecee	.....	.....	.....	.....	.....	Gold, silver.
Kennedy Lake	Kennedy Lake	Kennedy Lake Gold Mines, Ltd., Victoria	.....	.....	.....	.....	.....	Gold, silver.
Privateer	Zeballos river	A. Bird and Partners, Ceepeecee	.....	.....	.....	.....	.....	Gold, silver.
Grange	Kelly creek	Grange Mines, Ltd. Vancouver	.....	60	50	Jan., 1934	Amalgamation ; flotation	Gold, silver.
Taylor-Windfall	Taseko lake	Taylor Windfall Gold Mining Co., Ltd., Vancouver	.....	5	5	August, 1934	Amalgamation ; flotation	Gold, silver.
Bralorne	Cadwallader creek.	Bralorne Mines Ltd., Vancouver	225	500	450	Feb., 1932	Amalgamation ; flotation	Gold, silver.
Goldside	Taylor basin	Goldside Mines, Ltd., Vancouver	.....	.....	.....	.....	.....	Gold, silver.
Minto	Bridge River	Minto Gold Mines, Ltd., Vancouver	.....	50–75	60	Dec., 1934	Amalgamation ; flotation	Gold, silver.
Pioneer	Cadwallader creek	Pioneer Gold Mines of B.C., Ltd., Vancouver	300	400	410	Feb., 1928	Cyanidation (first mill in 1900)	Gold, silver.
Wayside	Bridge River	Wayside Consolidated Gold Mines, Ltd., Vancouver	.....	50	40	Nov., 1934	Amalgamation ; flotation	Gold, silver.
Hercules	Phillips arm	Hercules Cons. M.S. & P. Co., Ltd., Vancouver	.....	.....	.....	.....	.....	Gold, silver.
Hayden Bay	Hayden bay	Hayden Bay Gold Mines, Ltd., Vancouver	.....	.....	.....	.....	.....	Gold, silver.
Ashloo	Squamish	Ashloo Gold Mining Syndicate, Vancouver	.....	.....	.....	.....	.....	Gold, silver.
Britannia	Britannia Beach	Britannia M. & S. Co., Ltd., Britannia Beach	6,500	6,500	4,600	Jan., 1923	Flotation	Copper, gold, silver.
Dawson	Jessica	Dawson Cons. Gold Mines, Ltd.	.....	25	*	.....	Amalgamation ; flotation	Gold, silver.

* Idle at present. § 100-ton mill at Tadanac (Trail) reconditioned to handle Rossland ores shipped by leasers.

TABLE XVII.—MINING COMPANIES EMPLOYING AN AVERAGE OF TEN OR MORE MEN DURING 1934.

Shipping Mines.

Name of Mine or Company.	Days Operating.		Average Number of Men.		Tonnage.	
	Mine.	Mill.	Mine.	Mill.	Mined.	Milled or Shipped.
Dunwell Mines, Ltd.	334	235	20	15	6,361	4,100
Premier Gold Mining Co.	306	306	217	26	154,693	154,693
United Empire	365	.....	33	.....	.....	58
Granby Cons. M.S. & P. Co.—						
Hidden Creek	362	362	454	68	1,744,524	1,742,324
Bonanza	363	.....	53	.....	133,476	133,476
Granby Point	362	.....	15	.....	13,948	.....
Timmins, Inc., Surf Point	340	311	21	7	7,814	5,658
Cariboo Gold Quartz	365	365	106	11	28,447	27,693
Island Mountain Mines Co.	56	56	41	9	2,894	2,894
Columario Cons. Gold	365	90	25	7	2,300	2,300
Windpass Gold Mine Co.	365	364	29	5	9,005	11,316
Pre Cambrian Gold Mines	354	167	8	6	3,154	3,100
Nicola Mines & Metals	334	168	44	8	6,095	6,095
Union Mine	99	164	5	16	.....	18,143*
Beaver Silver Mines, Ltd.	300	.....	10	.....	.....	102
Bell Mine	299	.....	15	.....	.....	1,823
Butcher Boy	352	.....	10	.....	.....	56
Dentonia	365	241	28	31	22,610	22,464
Highland Lass, Ltd.	310	.....	11	.....	.....	1,107
Superior Gold Mines, Ltd.	61	61	20	8	3,504	3,419
Sally Mines, Ltd.	308	.....	21	.....	.....	475
Waterloo Gold Mines, Ltd.	334	.....	15	.....	.....	59
Wellington	300	.....	15	.....	.....	559
Grandoro Mines, Ltd.	365	.....	26	.....	.....	546
Morning Star (Fairview)	347	.....	33	.....	.....	2,652
Twin Lakes Gold Mining Co.	308	254	35	5	5,471	5,471
Sullivan	299	313	547	251	1,764,211	1,741,742
Monarch	342	341	56	24	96,200	94,880
Noble Five Mines, Ltd.	365	.....	15	.....	.....	164
Gold Belt Mining Co.	365	.....	17	.....	.....	291
Granite-Poorman	307	.....	13	.....	.....	563
Kootenay-Belle	304	29	26	6	2,824	1,615
Ymir Consolidated	92	.....	30	.....	.....	222
Goodenough	273	.....	16	.....	.....	4,039
Relief-Arlington	365	365	43	11	14,614	11,663
Reno Gold Mines, Ltd.	365	365	85	25	26,895	26,895
Salmo Malartic, Ltd.	365	.....	12	.....	.....	18
Wilcox Mining Syndicate	264	.....	8	2	3,320	1,660
Yankee Girl	193	.....	34	.....	.....	13,966
Velvet Gold Mining Co.	214	60	6	7	2,400	2,553
Vancouver Island Gold	276	.....	12	.....	.....	40
Vidette Gold Mines, Ltd.	330	277	40	6	7,229	7,217
Grange Mines, Ltd.	365	365	28	6	3,330	3,330
Minto Gold Mines, Ltd.	305	34	28	9	2,878	1,439
Bralorne Mines, Ltd.	365	365	125	14	98,664	98,664
Pioneer Gold Mines	365	365	180	16	130,066	130,198
Wayside Gold Mines, Ltd.	365	54	25	7	2,381	513
Hercules Consolidated	280	.....	28	.....	.....	18
Britannia M. & S. Co., Ltd.	289	165	350	159	786,412	759,697

* Tailing re-treated.

TABLE XVII.—MINING COMPANIES EMPLOYING AN AVERAGE OF TEN OR MORE MEN DURING 1934—*Continued.*

Non-shipping Mines.

Name of Mine or Company.	Days Operating.		Average Number of Men.		Tonnage.	
	Mine.	Mill.	Mine.	Mill.	Mined.	Milled or Shipped.
Big Missouri	.....	.....	37	.....	.....	.....
Proserpine Gold Mines	277	.....	10	.....	.....	.....
Northern Reef Gold Mines	213	.....	17	.....	.....	.....
Radio Gold Mines, Ltd	225	.....	10	.....	.....	.....
Frances Gold Mines, Ltd	37	.....	14	.....	.....	.....
Dictator Gold Mines, Ltd	.....	.....	10	.....	.....	.....
Monashee Mines Syndicate, Ltd.	214	.....	17	.....	.....	.....
Fairview Amalgamated	291	.....	22	.....	.....	.....
Kelowna Exploration	.....	.....	52	15	.....	.....
Osoyoos Mines, Ltd	166	.....	18	.....	.....	.....
Meridian Mining Co	365	.....	15	.....	.....	.....
Teddy Glacier Mine	173	.....	23	.....	.....	.....
Trites Gold Mining Co	365	.....	15	.....	.....	.....
Westko Ex. & Dev. Co	365	.....	15	.....	.....	.....
Silversmith Mines, Ltd	225	.....	17	.....	.....	.....
Taseko Motherlode Syndicate.	.....	.....	10	.....	.....	.....
Bradian Mines, Ltd	306	.....	49	.....	.....	.....
B.R.X. Gold Mines, Ltd	365	.....	44	.....	.....	.....
National Gold Mines	300	.....	10	.....	.....	.....
Pacific Eastern Gold	245	.....	36	.....	.....	.....
Home Gold Mining Co., Ltd	365	.....	10	.....	.....	.....
B.C. Nickel Mines, Ltd	365	.....	62	.....	.....	.....

LECTURES TO PROSPECTORS.

A series of fourteen lectures on geology and mining was prepared by the Provincial Mineralogist and presented by the Resident Mining Engineers and other instructors at the following centres throughout the Province:—

Athalmer-Invermere.	Hazelton.	Quesnel.
Burnaby.	Prince George.	Revelstoke.
Castlegar.	Smithers.	Rossland.
Nelson.	Lumberton.	Victoria.
Cranbrook.	Moyie.	Vernon.
Fort Steele.	North Vancouver.	Winfield.
Skookumchuck.	Penticton.	Williams Lake.
Wardner.	Prince Rupert.	Kelowna.
Fernie.	Princeton.	Ashcroft.
Michel-Natal.	Premier.	Vancouver.

The total average attendance at the lectures was 1,576.

This work was carried out in conjunction with the Department of Education. The lectures were also used by the Department of Education in correspondence courses.

It is expected that the lectures will be given during the winter of 1935–36, and that the course will be considerably improved by having adequate sets of rocks and minerals for the instructors as well as a number of sets available for those attending the lectures.

GEOLOGICAL SURVEY.

By an arrangement made at the time the Province of British Columbia entered Confederation, all geological investigations and mapping in the Province were to be carried on by the Geological Survey of Canada; this agreement has been fully adhered to by the Dominion Government and has proved of great benefit to the mining industry of the Province. Each year several geological parties are kept in the field and in the aggregate a vast amount of information

is made available to the prospector and the mining engineer in the many excellent reports and maps covering British Columbia which have been issued by the Geological Survey of Canada.

For some years a branch office of the Geological Survey has been maintained in Vancouver, where copies of maps and reports on British Columbia can be obtained. The officer in charge of the British Columbia office is W. E. Cockfield and the address is 512 Winch Building, Vancouver, B.C.

During the season of 1934 the Geological Survey of Canada had the following officers employed on geological field-work in British Columbia: W. E. Cockfield conducted detailed investigations in the Camp McKinney, Osoyoos, Fairview-Twin Lakes, and Vidette areas, and at the property of B.C. Nickel Mines, Limited; C. E. Cairnes carried out a detailed survey of the Cadwallader Creek area, Bridge River district; George Hanson completed geological mapping of the Willow River area, Cariboo district; F. A. Kerr made a reconnaissance survey along the Prince Rupert branch of the Canadian National Railway east and west of Prince George; J. F. Walker spent part of the season on a reconnaissance survey in the vicinity of Cranbrook.

W. Spence carried out detailed topographic mapping of the Cadwallader Creek area, Bridge River district, and R. Bartlett completed topographic mapping of the Willow River area, Cariboo district.

SYNOPSIS OF MINING LAWS OF B.C.

BY

ROBERT DUNN.

Mineral Act and Placer-mining Act.

The mining laws of British Columbia are very liberal in their nature and compare favourably with those of any other part of the world. The terms under which both lode and placer claims and placer leaseholds are held are such that a prospector is greatly encouraged in his work, and the titles, especially for mineral claims and placer-mining leaseholds, are perfect. The fees required to be paid are as small as possible, consistent with a proper administration of the mining industry, and are generally lower than those commonly imposed elsewhere. Provision is also made for the formation of mining partnerships practically without expense, and a party of miners is enabled to take advantage of these sections of the Acts so that such miners may work their claims jointly.

Placer-mining leases are granted for a period of twenty years and are approximately 80 acres in size. On a lode claim of 51 acres the expenditure of $500 in work, which may be spread over five years, is required to obtain a Crown grant, and surface rights are obtainable at a small figure, in no case exceeding $5 per acre.

The following synopsis of the mining laws will be found sufficient to enable the miner or intending investor to obtain a general knowledge of their scope and requirements; for particulars, however, the reader is referred to the Acts relating to mining, which may be obtained from any Mining Recorder, or from the Department of Mines or the King's Printer, Victoria, B.C.

Free Miners' Certificates.

Any person over the age of 18, and any joint-stock company, may obtain a free miner's certificate on payment of the required fee.

The fee to an individual for a free miner's certificate is $5 for one year. To a joint-stock company having a capital of $100,000, or less, the fee for a year is $50; if capitalized beyond this, the fee is $100.

The free miners' certificates run from date of issue and expire on the 31st of May next after its date, or some subsequent 31st day of May (that is to say, a certificate may be taken out a year or more in advance if desired). Certificates may be obtained for any part of a year, terminating on May 31st, for a proportionately less fee.

The possession of this certificate entitles the holder to enter upon all lands of the Crown, and upon any other lands on which the right to so enter is not specially reserved, for the purpose of prospecting for minerals, locating claims, and mining.

A free miner can only hold, by location, one mineral claim on the same vein or lode, but may acquire others by purchase. Under the "Placer-mining Act," a free miner may locate one placer claim or leasehold in his own name and one placer claim or leasehold for each of two free miners for whom he acts as agent, on any separate creek, river-bed, bar or dry diggings. Other placer claims or leaseholds may be acquired by purchase.

In the event of a free miner allowing his certificate to lapse, his mining property (if not Crown-granted) reverts to the Crown (subject to the conditions set out in the next succeeding paragraph), but where other free miners are interested as partners or co-owners the interest of the defaulter becomes vested in the continuing co-owners or partners *pro rata*, according to their interests.

Six months' extension of time within which to revive title in mining property which has been forfeited through the lapse of a free miner's certificate is allowed. This privilege is given only if the holder of the property obtains a special free miner's certificate within six months after the 31st of May on which his ordinary certificate lapsed. The fee for this special certificate in the case of a person is $15 and in that of a company $300.

It is not necessary for a shareholder, as such, in an incorporated mining company to be the holder of a free miner's certificate.

Mineral Claims.

Mineral claims are located and held under the provisions of the "Mineral Act."

A mineral claim is a piece of land not exceeding in area fifty-one and sixty-five one-hundredths acres. The angles must be right angles unless the boundaries, or one of them, are the same as those of a previously recorded claim.

No special privileges are allowed for the discovery of new mineral claims or districts.

A mineral claim is located by erecting three "legal posts," which are stakes having a height of not less than 4 feet above ground and squared 4 inches at least on each face for not less than a foot from the top. A tree-stump so cut and squared also constitutes a legal post. A cairn of stones not less than 4 feet in height and not less than 1 foot in diameter 4 feet above the ground may also be used as a legal post.

The "discovery post" is placed at the point where the mineral in place is discovered.

Nos. 1 and 2 posts are placed as near as possible on the line of the ledge or vein, shown by the discovery post, and mark the boundaries of the claim. Upon each of these three posts must be written the name of the claim, the name of the locator, and the date of location. On No. 1 post, in addition, the following must be written: "Initial post. Direction of Post No. 2 [*giving approximate compass bearing*] ——— feet of this claim lie on the right and ——— feet on the left of the line from No. 1 to No. 2 posts."

The location-line between Nos. 1 and 2 posts must be distinctly marked—in a timbered locality by blazing trees and cutting underbrush, and in bare country by monuments of earth or rock not less than 2 feet in diameter at the base, and at least 2 feet high—so that the line can be distinctly seen.

Mineral claims must be recorded in the Mining Recorder's office for the mining division in which they are situate within fifteen days from the date of location, one day extra being allowed for each 10 miles of distance from the recording office after the first 10 miles. If a claim is not recorded in time it is deemed abandoned and open for relocation, but if the original locator wishes to relocate he can only do so by permission of the Gold Commissioner of the district and upon the payment of a fee of $10. This applies also to a claim abandoned for any reason whatever.

Mineral claims are, until the Crown grant is issued, held practically on a yearly lease, a condition of which is that during such year asssessment-work be performed on the same to the value of at least $100, or a payment of such sum be made to the Mining Recorder. Such assessments must be recorded before the expiration of the year, or the claim is deemed abandoned. If, however, the required assessment-work has been performed within the year, but not recorded within that time, a free miner may, within thirty days thereafter, record such assessment-work upon payment of an additional fee of $10. The actual cost of the survey of a mineral claim, to an amount not exceeding $100, may also be recorded as assessment-work. If, during any year, work is done to a greater extent than the required $100, any further sum of $100—but not less—may be recorded and counted as further assessments; such excess work must be recorded during the year in which it is performed. All work done on a mineral claim between the time of its location and recording may be counted as work done during the first period of one year from the recording. As soon as assessment-work to the extent of $500 is recorded and a survey made of the claim, the owner of a mineral claim is entitled to a Crown grant on payment of a fee of $25, and giving the necessary notices required by the Act. Liberal provisions are also made in the Act for obtaining mill-sites and other facilities in the way of workings and drains for the better working of claims.

Placer Claims.

Placer-mining is governed by the "Placer-mining Act," and by the interpretation clause its scope is defined as "the mining of any natural stratum or bed of earth, gravel, or cement mined for gold or other precious minerals or stones." Placer claims are of four classes, as follows:—

"'Creek diggings': any mine in the bed of any stream or ravine:

"'Bar diggings': any mine between high- and low-water marks on a river, lake, or other large body of water:

"'Dry diggings': any mine over which water never extends:

"'Precious-stone diggings': any deposit of precious stones, whether in veins, beds, or gravel deposits."

The following provisions as to extent of the various classes of claims are made by the Act:—

"In 'creek diggings' a claim shall be two hundred and fifty feet long, measured in the direction of the general course of the stream, and shall extend in width one thousand feet, measured from the general course of the stream five hundred feet on either side of the centre thereof:

"In 'bar diggings' a claim shall be:—

"(*a.*) A piece of land not exceeding two hundred and fifty feet square on any bar which is covered at high water; or

"(*b.*) A strip of land two hundred and fifty feet long at high-water mark, and in width extending from high-water mark to extreme low-water mark:

"In 'dry diggings' a claim shall be two hundred and fifty feet square."

The following provision is made for new discoveries of placer-mining ground:—

"If any free miner, or party of free miners, discovers a new locality for the prosecution of placer-mining and such discovery be established to the satisfaction of the Gold Commissioner, placer claims of the following sizes shall be allowed to such discoverers, namely:—

"To one discoverer, one claim..... 600 feet in length;

"To a party of two discoverers, two claims amounting together to.....1,000 feet in length;

"And to each member of a party beyond two in number, a claim of the ordinary size only.

"The width of such claims shall be the same as ordinary placer claims of the same class: Provided that where a discovery claim has been established in any locality no further discovery shall be allowed within five miles therefrom, measured along the watercourses."

Every placer claim shall be as nearly as possible rectangular in form, and marked by four legal posts at the corners thereof, firmly fixed in the ground. On each of such posts shall be written the name of the locator, the number and date of issue of his free miner's certificate, the date of the location, and the name given to the claim. In timbered localities boundary-lines of a placer claim shall be blazed so that the posts can be distinctly seen, underbrush cut, and the locator shall also erect legal posts not more than 125 feet apart on all boundary-lines. In localities where there is no timber or underbrush, monuments of earth and rock, not less than 2 feet high and 2 feet in diameter at base, may be erected in lieu of the last-mentioned legal posts, but not in the case of the four legal posts marking the corners of the claim.

A placer claim must be recorded in the office of the Mining Recorder for the mining division within which the same is situate, within fifteen days after the location thereof, if located within 10 miles of the office of the Mining Recorder by the most direct means of travel. One additional day shall be allowed for every 10 miles additional or fraction thereof. The number of days shall be counted inclusive of the days upon which such location was made, but exclusive of the day of application for record. The application for such record shall be under oath and in the form set out in the Schedule to the Act. A claim which shall not have been recorded within the prescribed period shall be deemed to have been abandoned.

To hold a placer claim for more than one year it must be rerecorded before the expiration of the record or rerecord.

A placer claim must be worked by the owner, or some one on his behalf, continuously, as far as practicable, during working-hours. If work is discontinued for a period of seventy-two hours, except during the close season, lay-over, leave of absence, sickness, or for some other reason to the satisfaction of the Gold Commissioner, the claim is deemed abandoned.

Lay-overs are declared by the Gold Commissioner upon proof being given to him that the supply of water is insufficient to work the claim. Under similar circumstances he has also the power to declare a close season, by notice in writing and published in the Gazette, for all or any claims in his district. Tunnel and drain licences are also granted by him on the person applying giving security for any damage that may arise. Grants of right-of-way for the construction of tunnels or drains across other claims are also granted on payment of a fee of $25, the owner of the claims crossed having the right for tolls, etc., on the tunnel or drain which may be constructed. These tolls, however, are, so far as the amount goes, under the discretion of the Gold Commissioner.

Co-owners and Partnerships.

In both the "Mineral" and "Placer-mining" Acts provision is made for the formation of mining partnerships, both of a general and limited liability character. These are extensively taken advantage of and have proved very satisfactory in their working. Should a co-owner fail or refuse to contribute his proportion of the expenditure required as assessment-work on a claim he may be "advertised out," and his interest in the claim shall become vested in his co-owners who have made the required expenditure, *pro rata* according to their former interests.

It should not be forgotten that if any co-owner permit his free miner's certificate to lapse, the title of his associates is not prejudiced, but his interest reverts to the remaining co-owners; provided that said co-owner has not taken advantage of the six months' period of grace allowed for the taking-out of a special free miner's certificate, thus reviving the title to his interest.

Placer-mining Leases.

Leases of unoccupied Crown lands approximately 80 acres in extent may be granted by the Gold Commissioner of the district after location has been made by staking along a "location-line" not more than one-half a mile (2,640 feet) in length. In this line one bend, or change of direction, is permitted. Where a straight line is followed two posts only are necessary—namely, an "initial post" and a "final post." Where there is a change of direction a legal post must be placed to mark the point of the said change. The leasehold is allowed a width not in excess of one-quarter mile (1,320 feet), and the locator, both on his "initial post" and in his notice of intention to apply, which is posted at the office of the Mining Recorder, is required to state how many feet are included in the location to the right and how many feet to the left of the location-line.

That section of the Act dealing with the staking of placer-mining leases follows:—

"105A. (1.) For the purpose of locating a placer leasehold, a line to be known as the 'location-line' shall be marked on the ground by placing a legal post at each end, one post to be known as the 'Initial Post' and the other as the 'Final Post.' The direction of the location-line may change at not more than one point throughout its length, and an intermediate legal post shall be placed at the point at which the direction changes. The total length of the location-line, following its change of direction (if any), shall not exceed two thousand six hundred and forty feet.

"(2.) Upon the initial post and the final post shall be written the words 'Initial Post' and 'Final Post' respectively, together with the name of the locator and the date of the location. On the initial post shall also be written the approximate compass-bearing of the final post, and a statement of the number of feet of the leasehold lying on the right and on the left of the location-line, as viewed from the initial post, not exceeding in the aggregate a width of thirteen hundred and twenty feet, thus: 'Direction of Final Post, . feet of this claim lie on the right and feet on the left of the location-line.' In addition to the foregoing, where there is a change of direction in the location-line as marked on the ground, the number '1' shall be written on the initial post; the number '2' shall be written on the intermediate post; and the number '3' shall be written on the final post. There also shall be affixed to the initial post a notice to the following effect, namely: 'Application will be made under the "Placer-mining Act" for a lease of the ground within this location.'

"(3.) The location-line shall at the time of location be marked between the legal posts throughout its length so that it can be distinctly seen; in a timbered locality, by blazing trees and cutting underbrush, and in a locality where there is neither timber nor underbrush, by placing legal posts or monuments of earth or stones not less than two feet high and not less than two feet in diameter at the base, so that the location-line can be distinctly seen.

"(4.) Where, from the nature or shape of the surface of the ground, it is impracticable to mark the location-line of a leasehold as provided by this section, the leasehold may be located by placing legal posts as witness-posts, as near as possible to the location-line, and writing on each witness-post the distance and compass-bearing of some designated point on the location-line from the witness-post; and the distances and compass-bearing so written on the witness-posts shall be set out in the application for the lease and in any lease granted thereon.

"(5.) The locator shall, within thirty days after the date of the location, post a notice in Form 1 in the office of the Mining Recorder, which notice shall set out:—

"(*a.*) The name of the intending applicant or each applicant if more than one, and the numbers of their free miners' certificates:

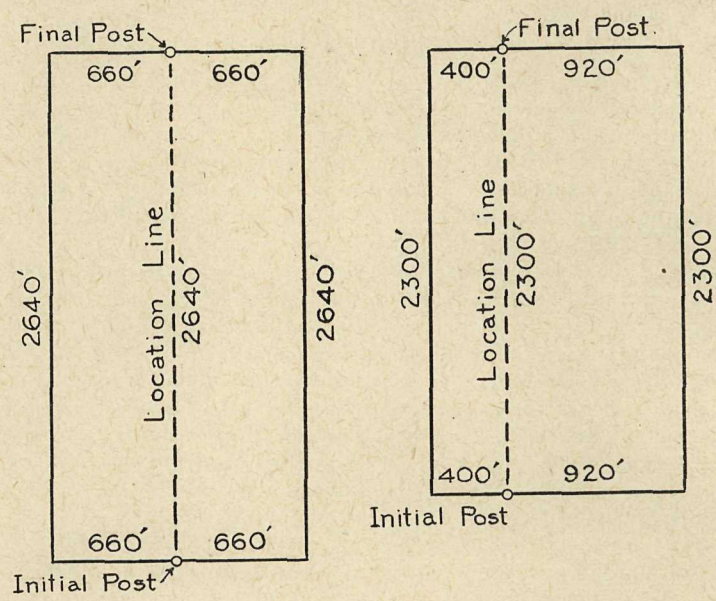
"(*b.*) The date of the location:

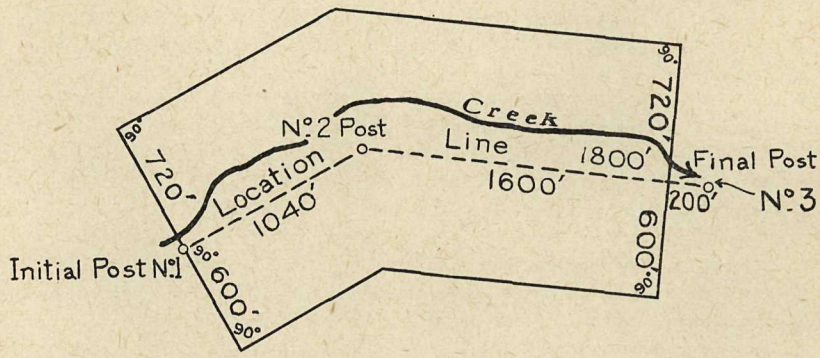
"(*c.*) The number of feet lying to the right and left of the location-line, and the approximate area or size of the ground.

The words written on the initial post and final post shall be set out in full in the notice; and as accurate a description as possible of the ground to be acquired shall be given, having special reference to any prior locations it may join, and the general locality of the ground to be acquired.

EXAMPLES OF VARIOUS METHODS OF LAYING OUT PLACER LEASEHOLDS.

Showing Areas secured with Location-lines of Various Lengths.





"(6.) The location and area of the placer leasehold shall be determined by establishing its end lines running from or through the initial post and from or through the final post, at right angles to the course of the location-line at those posts, respectively; and by establishing its side-line parallel to the course or courses of the location-line, and distant one thousand three hundred and twenty feet from each other."

Another provision is that there must be affixed to the "initial post" and to the "final post" a numbered metal identification tag furnished by the Mining Recorder with each free miner's certificate issued. These tags may be attached to the posts, or placed in a container within a

cairn, either at the time of location or some time during the succeeding year, but must be so placed before the Mining Recorder will grant the first certificate of work in respect of the leasehold.

The annual rental on a placer-mining lease is $30, and the amount to be expended annually on development-work is $250.

Dredging leases on rivers for 5 miles below low-water mark are also granted. Section 122 of the Act establishes a definite method of staking such mining ground. Authority also has been given for the granting of placer-mining leases for dredging purposes in locations other than has been defined.

For more detailed information the reader is referred to the complete "Placer-mining Act," which may be obtained from the King's Printer, Victoria, B.C.

Table of Fees, Mineral Act and Placer-mining Act.

Individual free miner's certificate, annual fee	$5.00
Company free miner's certificate (capital $100,000 or less), annual fee	50.00
Company free miner's certificate (capital over $100,000), annual fee	100.00
Recording mineral or placer claim	2.50
Recording certificate of work, mineral claim	2.50
Rerecord of placer claim	2.50
Recording lay-over	2.50
Recording abandonment, mineral claim	10.00
Recording abandonment, placer claim	2.50
Recording any affidavit under three folios	2.50
Per folio over three, in addition	.30
Records in "Records of Conveyances," same as affidavits.	
Filing documents, "Mineral Act"	.25
Filing documents, "Placer-mining Act"	1.00
Recording certificate of work, placer-mining lease	2.50
For Crown grant of mineral rights under "Mineral Act"	25.00
For Crown grant of surface rights of mineral claim under "Mineral Act"	10.00
For every lease under "Placer-mining Act"	5.00

Provisional Free Miners' Certificates (Placer) Act.

This Act was passed at the 1932 session of the Provincial Legislature and provides for the issuance of "provisional free miners' certificates" for the locating, recording, representing, and working of placer claims of a size, and according to the terms, and in the manner set out in Parts II. and III. of the "Placer-mining Act." Any person over 18 years of age who has resided in the Province continuously for a period of not less than six months prior to date of his application may, on application accompanied by a statutory declaration or other satisfactory evidence as to his age and period of residence in the Province, obtain from any Gold Commissioner or Mining Recorder a provisional free miner's certificate. No fees are payable in respect of such certificate, and it abolishes the fees payable in respect of the recording or rerecording of placer claims, but no record or rerecord of a claim shall be granted for a longer period than one year without the payment of fees. It should be pointed out that the provisional free miner's certificate does not carry the privileges of an ordinary free miner's certificate as to the staking and working of placer-mining leases or mineral claims.

An amendment passed at the 1933 session of the Legislative Assembly gives the Lieutenant-Governor in Council, as a means of unemployment relief, power to make provision for the establishment, equipment, maintenance, and operation of one or more placer training camps at suitable locations, at which unemployed persons who hold provisional free miners' certificates and are British subjects may acquire knowledge and training in the art of placer-mining and may be afforded gainful work in the recovery of minerals by placer-mining. Reserves for the location of such camps shall not exceed one mile in length by one-half a mile in width, and the right is given to enter into agreements with private holders under the Act for the development of their ground by means of unemployment relief camps.

Mines Development Act.

When it is shown to the satisfaction of the Minister of Mines that ore-bodies exist in quantity and of commercial value sufficient to warrant the expenditure of public moneys, the Minister of Mines may authorize the expenditure of so much of the public money as may be required for the construction, reconstruction, or repair of trails, roads, and bridges to facilitate the operation and development of such mineral or placer claims.

Furthermore, the Minister of Mines may authorize the expenditure of public money towards the building or repairing of trails and bridges in or to any mineral district for the purpose of facilitating the exploration of the mineral resources of the district, such expenditure not to exceed 50 per cent. of the cost of the work. If such roads, trails, or bridges have been built by any person or company having mining interests in the district, the Minister of Mines may refund to such person a portion, not exceeding 50 per cent. of the cost of such construction.

Mineral Survey and Development Act, 1929.

Part I.—Mineral Survey.

A mineral survey of the Province has been established, to be carried on continuously and records thereof kept.

For this purpose the Province has been divided into Mineral Survey Districts, and there are five Resident Engineers who, with such assistance as is necessary, devote their whole time to carrying out the provisions of this Act, reporting direct to the Minister.

Part II.—Aid to Prospectors.

The Resident Engineer in each district shall aid prospectors, as far as practicable:—

(*a.*) By giving information as to mineral indications and as to ground open for location as mineral claims or placer claims as a result of knowledge gained during the carrying-out of the mineral survey of his district:

(*b.*) By examining samples and applying such tests as may be possible on the ground or in his office and advising as to the nature of any mineral and as to the best available methods of analysis, sampling, assay, and test:

(*c.*) By forwarding samples to the Minister of Mines for further examination and tests whenever in his opinion such course is necessary or expedient:

(*d.*) By reporting to the Minister of Mines the location and approximate cost of such roads, trails, and bridges as in his opinion are reasonably necessary in order to render possible the development of any mineral resources; and

(*e.*) Generally, by giving such advice, information, and directions as may be of assistance to miners and prospectors within his district.

Part III.—Protection of Wage-earners.

1. Every person giving or making a working bond or a lease, with or without any option for sale, of any mining property shall insert therein a provision that during the currency of the bond or lease all free miners and wage-earners employed on or about the mining property shall be paid their wages semi-monthly, and shall demand and receive a letter, to be procured by the holder of the bond or lease from a Gold Commissioner or Government Agent or Mining Recorder, stating that security for such wages has been given pursuant to this section, otherwise the person giving or making the bond or lease shall be under personal liability to pay all such wages.

2. Every person taking a right or option to work or purchase any mining property shall furnish to the nearest Gold Commissioner, or Government Agent, or Mining Recorder adequate security from time to time for the payment semi-monthly of the wages of all free miners and wage-earners employed on or about the mining property, on the terms that every such security shall be forthwith realized and payment of wages made upon any default; and every Gold Commissioner, Government Agent, and Mining Recorder shall have full power and authority to realize upon the security lodged with him so as to make payment of any wages in default, and shall make payment thereof up to the amount realized.

PART IV.—PROTECTION OF INVESTORS.

Each Resident Engineer shall, upon receiving notice of any advertised or solicited sale of shares in any company or in any claim or mine or mineral property whatsoever, upon statements or terms not in accordance with actual facts and conditions, notify the Minister of Mines, who, upon investigation, may, if found necessary, give such notice, either personal or public, as may be necessary to prevent any injury to investors; and every notice given under this section by the Minister of Mines shall be absolutely privileged.

Iron and Steel Bounties Act, 1929.

The Lieutenant-Governor in Council may enter into an agreement with any person whereby the Crown will pay to that person, out of the Consolidated Revenue Fund, bounties on pig-iron and steel shapes when manufactured within the Province, as follows:—

(*a.*) In respect of pig-iron manufactured from ore, on the proportion produced from ore mined in the Province, a bounty not to exceed three dollars per ton of two thousand pounds:

(*b.*) In respect of pig-iron manufactured from ore, on the proportion produced from ore mined outside the Province, a bounty not to exceed one dollar and fifty cents per ton of two thousand pounds:

(*c.*) In respect of steel shapes of commercial utility manufactured in the Province, a bounty not to exceed one dollar per ton of two thousand pounds.

Bounty, as on pig-iron under this Act, may be paid upon the molten iron from ore which in the electric furnace, Bessemer or other furnace, enters into the manufacture of steel by the process employed in such furnace; the weight of such iron to be ascertained from the weight of the steel so manufactured.

Bounty on steel shapes under this Act shall be paid only upon such steel shapes as are manufactured in a rolling-mill having a rated productive capacity per annum of at least twenty thousand tons of two thousand pounds per ton.

Phosphate-mining Act, 1925.

This Act takes the mineral tricalcium phosphate out of the "Mineral Act" for the purpose of administration. This is done to make possible the staking of phosphate claims one mile square in area.

Any person desirous of securing a licence to prospect for phosphate is required to stake the land he may wish to acquire and work; and after such staking shall post in the office of the Gold Commissioner for the mining division in which the land is situated a notice of his intention to apply for a licence. Then the applicant is required to make application in writing to such Gold Commissioner for a prospecting licence over the land for any term not exceeding one year. The Gold Commissioner shall forward this application to the Hon. the Minister of Mines, who may grant to the applicant a prospecting licence. Application shall be accompanied by a licence fee of $100. The land to be acquired shall be of a rectangular shape and shall not exceed 640 acres for each licence, measuring 80 chains by 80 chains, and boundary-lines shall be run true north and south and true east and west. A renewal of the licence may be obtained for a second period of one year upon payment of further licence fee of $100, and furnishing proof that he has explored for phosphate and has expended not less than $50 in such exploration-work. An extension of the term for a third period of one year may be granted upon like conditions and terms. Provision is made for the payment of $150 in cash in lieu of exploration-work. The cost of the survey of the land, not being less than $150, can be counted as exploration-work. If during any one year work is done to a greater extent than the required $50—but not less—same may be applied as work for any subsequent year that the licence remains in force.

The Lieutenant-Governor in Council may grant a lease of the land covered by a prospecting licence to any licensee who during the existence of his licence, or within thirty days following the expiry of same, gives satisfactory evidence that he has discovered phosphate on such lands. He shall at the same time pay a sum sufficient to cover the first annual rental and also shall have expended not less than $50 per licence in exploration-work during the term of the last renewal licence or tender in lieu thereof the sum of $50 per licence. Such lease shall be granted

for a term of five years, renewable for three years, and for a further three years after the expiry of the first renewal. A lease shall not be issued until the land has been surveyed by an authorized land surveyor. An annual rental rate of 15 cents per acre shall be payable under said lease.

The lease provides for the expenditure of not less than $100 per annum in the development of a mine, or the payment of $100 in lieu of such development-work. Excess work done in any one year may be applied as work to subsequent years. Provision is also made for the purchase of phosphate-mining rights.

Metalliferous Mines Regulation Act.

At the 1935 session of the Provincial Legislature "An Act to amend and consolidate the Enactments regulating the Working of Metalliferous Mines, Quarries, and Metallurgical Works" was passed. This Act is known as the "Metalliferous Mines Regulation Act," and, in its general tone, its clear purpose is to maintain the highest standard in respect of safety and of healthy conditions, both on the surface and underground in mining operations. The idea is to not only assure, as far as practicable, the protection of workmen against injury, but to establish those conditions best calculated to safeguard the health of the men employed. The Act also provides for the drafting of regulations, if such are found necessary, for the protection of men who are working under conditions which may lead to pulmonary disability.

This Act may be divided into six parts, as follows:—

(1.) Administration:

(2.) Duties of owners, managers, and others:

(3.) Special Rules for protection of miners:

(4.) General Rules, having reference to: (*a*) Employees; (*b*) Ventilation; (*c*) Explosives and blasting; (*d*) Fire-protection; (*e*) Connection between mines; (*f*) Mine signals; (*g*) Aid to injured; (*h*) Prevention of dust; (*i*) Handling of water; (*j*) Sanitation; (*k*) Protection of working-places, shafts, winzes, raises, etc.; (*l*) Ladder-ways; (*m*) Shaft equipment and operation; (*n*) Testing of brakes; (*o*) Haulage; (*p*) Protection from machinery; (*q*) Electrical installations:

(5.) General Rules for quarries:

(6.) Supplemental.

SUMMARY OF ACTS SPECIALLY RELATING TO MINING.

(The complete Acts may be obtained from the King's Printer, Victoria, B.C.)

Mining Licences under the Coal and Petroleum Act.

Any person desiring to prospect for coal, petroleum, or natural gas upon any unsurveyed unreserved lands in which these resources are held by the Crown may acquire a licence to do so over a rectangular block of land not exceeding 640 acres, of which the boundaries shall run due north and south and east and west, and no side shall exceed 80 chains (1 mile) in length. Before entering into possession of the said lands he shall place at the corner of such block a legal stake, or initial post, and shall inscribe thereon his name and the angle represented by such post, thus: "A. B.'s N.E. corner," or as the case may be, and shall post in a conspicuous place upon the said land, and also in the Government office of the land recording district, notice of his intention to apply, as well as publishing the same in the B.C. Gazette and local newspaper once each week for four consecutive weeks. If the area applied for is surveyed no staking is required, but the same procedure with regard to advertising notice of intention to apply is necessary.

The application for said licence shall be in writing, in duplicate, and shall contain the best written description possible, with a diagram of the land sought to be acquired, and shall be accompanied with a fee of $100. The application shall be made to the Commissioner of Lands for the district, and by him forwarded to the Minister of Lands, who will grant such licence—provided no reasons arise to the contrary—for a period not to exceed one year, and at the expiration of the first year an extension of such licence may be granted for a second or third year at a fee of $100.

Where coal is discovered during the existence of licence or within eighteen months after expiration, the land held under licence, having been surveyed and licence conditions fulfilled, may be leased for five years at rental of 15 cents an acre, subject to renewals for four successive periods of three years each, renewal fee being $100 for each lease, in addition to annual rental.

Lessees, on showing continuous work has been done and reasonable expenditure made for development, may, after carrying out the provisions of the lease, purchase at $20 per acre where surface is available, or $15 per acre for under-surface rights where surface is not available. Lands under the sea may be purchased at $15 per acre. Provided also that, in addition to the rental or purchase price, there shall be paid to the Government as a royalty 2½ cents a barrel (35 imperial gallons) of crude petroleum raised or gotten from such land. (*See* chapter 162, R.S.B.C. 1924.)

Taxation Act.

A preliminary note is essential to the understanding of this Act. As the law has stood, a Crown-granted mineral claim on which taxes were in arrears for a number of years was offered for sale by the Government at a *tax* sale, with arrears of taxes plus interest and charges and Crown-grant fees as an upset price. If no sale was made the property remained in the hands of the Assessor until desired by some one, when it could only be purchased by tender. It was not open to location under the "Mineral Act" and a prospector had no protection, and to relieve the situation an amending Act was passed.

Under the amended Act such reverted Crown-granted mineral claim may be obtained by any person under a lease for one year upon payment of $25, and a renewal of such lease may be granted upon payment of further $25 for a further period of one year, but no longer. During the period of such lease the lessee has the right to enter, prospect, and mine on such mineral claim, save for coal, petroleum, and natural gas, and during such time the lessee has the option to purchase such Crown-granted mineral claim upon payment of all taxes, costs, and interest which remained due and unpaid on such claim on the date of its forfeiture to the Crown, together with an amount equal to all taxes and interest which, except for its forfeiture to the Crown, would have been payable in respect thereof from the date of the lease to the date of application for a Crown grant. If, however, the lessee establishes to the satisfaction of the Gold Commissioner that he has expended upon the claim in mining-development work a sum of not less than $200 a year during the continuance of the lease, then the payment of the sum in respect of taxes and penalties from the date of the lease to the date of application for a Crown

grant shall not be required. Provision also is made for the grouping of adjoining claims, not exceeding eight in number, and the performing on one of such claims mining-development work for all of the claims.

A person may obtain a lease, or interest in a lease, of eight such claims in the same mining division.

Such leases are not transferable and are subject to the rights any person may already hold to any portion of the surface of such Crown-granted mineral claim.

Taxation of Mines.

Crown-granted mineral claims are subject to a tax of 25 cents per acre. The tax becomes due on April 1st in each year, and if unpaid on the following June 30th is deemed to be delinquent.

All mines are subject to a tax upon income, subject to the exemptions and allowances given in the "Income Tax Act"; provided, in the case of those mines paying an output tax, that an income tax is only collected if such tax prove greater than the output tax, and the output tax is then regarded as part payment of the income tax.

In addition to the ordinary working expenses, mines are allowed to deduct from their income a charge for:—

(1.) Development—being such proportion of this capital expenditure as is ascertained to be chargeable to the year's operation:

(2.) Depreciation of buildings and plant:

(3.) Depletion—being such proportion of the capital cost of the mine as, being a wasting asset, is ascertained to be chargeable to the year's operation.

The above-mentioned charges are allowable at the discretion of the Minister of Finance, subject, however, to an appeal to the Lieutenant-Governor in Council.

The rate of income tax varies from 1 per cent. up to a maximum of 10 per cent. on incomes of $19,000 and over.

All mines, other than coal, are subject to a tax (payable quarterly) of 2 per cent. on gross value of ore, less cost of transportation from mine to reduction-works and the cost of treating same at reduction-works or on the mining premises.

Any such mine, not realizing on ore shipments a market value of $5,000 in any one year, is entitled to a refund of the output tax paid.

Coal is subject to a tax of 10 cents per ton of 2,240 lb., except coal shipped to coke-ovens within the Province. Tax payable monthly.

Coke is subject to a tax of 10 cents per ton of 2,240 lb., except in respect of coke produced from coal upon which this tax has already been paid. Tax payable monthly.

Coal land from which coal is being mined (Class A) is taxed at 1 per cent. upon the assessed value, in addition to any other tax.

Unworked coal land, known as "Coal Land, Class B," is subject to a tax of 2 per cent. upon the assessed value.

For further particulars *see* the "Taxation Act," also the "Public Schools Act," which are obtainable from the King's Printer, Victoria, B.C.

ASSAY OFFICE.

BY

D. E. WHITTAKER.

During the year 1934 there were made by the staff in the Government Assay Office 6,989 assays or quantitative determinations and 251 analyses; of these the majority were for the Department of Mines or for the other departments, for which no fees were received.

The fees collected by the office were as follows:—

Fees for analyses	$98.00
Fees for assaying	65.50
Fees for assayers' examinations	495.00
Total cash receipts	$658.50

Determinations and examinations made for other Government departments, for which no fees were collected:—

Attorney-General's Department	$1,002.00
Agricultural Department	1,985.00
Board of Health	750.00
Forest Branch	95.00
Other departments	190.00
	$4,022.00
Value of work done outside of Mines Department work	$4,680.50

FREE DETERMINATIONS.

In addition to the above quantitative work, about 2,650 qualitative determinations, or tests, were made in connection with the identification and classification of rocks or minerals sent to the Assay Office for a report; for these no fees were charged, as it is the established custom of the Department to examine and test qualitatively, without charge, samples of minerals sent in from any part of the Province, and to give a report on the same. This has been done for the purpose of encouraging the search for new or rare minerals and ores, and to assist prospectors and others in the discovery of new mining districts, by enabling them to have determined, free of cost, the nature and probable value of any rock they may find. In making these free determinations, the Department asks that the locality from which the sample was obtained be given by the sender.

EXAMINATION FOR ASSAYERS.

The writer has the honour, as Secretary, to submit the Annual Report for the year 1934 of the Board of Examiners for Certificates of Competency and Licence to Practise Assaying in British Columbia, as established under the "Department of Mines Act, 1934."

A meeting of the Board of Examiners was held on May 19th and December 3rd, 1934. Two candidates applied for examination on May 19th and both passed the examination. Fourteen candidates applied for examination on December 3rd and all passed the examination. One candidate applied for exemption under section 10, subsection (2), of the Act, on May 19th. During the year several special meetings of the Board of Examiners were held, and eight candidates applied for exemption under section 10, subsection (2), of the Act. The Board recommended that certificates be issued to the above-mentioned twenty-five candidates.

In accordance with the recommendations of the Board, certificates have been duly issued by the Honourable the Minister of Mines to the twenty-five successful candidates.

The following list of assayers holding Provincial certificates of efficiency include all those known or presumed to be alive. In future, the published list will include only those known to be actively engaged in the practice of assaying in the Province.

List of Assayers holding Provincial Certificates of Efficiency under the "Department of Mines Act, 1934."

(Only the holders of such certificates may practise assaying in British Columbia.)

Under section 10, subsection (1).

Adams, J. B.
Archer, E. G.
Armstrong, N.
Ayres, D. A.
Austin, John W.
Backus, Geo. S.
Bainbridge, R.
Bajus, N. J.
Baker, C. S. H.
Barke, A. C.
Beilby, E. B.
Bernard, Pierre.
Bishop, Walter.
Boulding, J. D.
Brachat, Victor A.
Brake, D. S.
Broughton, F. W.
Buchanan, James.
Buehman, A. S.
Campbell, Colin.
Carmichael, Norman.
Church, George B.
Clarke, E. R.
Cobeldick, W. M.
Collison, H.
Comrie, George H.
Cornwall, G. L.
Cotton, G. W.
Craufurd, A. J. F.
Crerar, George.
Crompton, S. V.
Crossley, C. E.
Cruickshank, G.
Davidson, J. R.
Day, Athelstan.
Dedolph, Ed.
DeLespee, H.
Dockrill, Walter R.
Dolphin, John.
Dunn, G. W.
Edwards, A. H.
Ellison, R.
Elmes, Harold.
Farquhar, J. B.
Fingland, John J.
Gardner, C. S.
Goedbloed, L. A.
Grimwood, G. H.
Grosvenor, F. E.
Hamilton, Wm. J.
Hannay, W. H.
Harsant, R. C. C.
Hart, P. E.
Hawes, F. B.
Hawkins, Francis.
Hendricks, R.
Hodgson, A. R.
Hunt, Basil.
Hurter, C. S.
Irwin, George E.
John, D.
Kiddie, Geo. R.
King, R.
Kitto, Geoffrey B.
Lang, T. F.
Langley, A. G.
Laucks, I. F.
Lee, Geo. M.
Ley, Richard H.
Levy, Frank.
Lindsay, W. W.
Locke, V. F.
Longworth, F. J.
Mailleue, G.
Manning, S. M.
Marston, R. W.
Martin, C. J.
Martin, S. J.
Marsh, Richard.
Marshall, H. Jukes.
Marshall, Wiliam S.
Meale, Eric A.
Merrifield, T. T.
Miles, Arthur D.
Milne, A. S.
Mitchell, Charles T.
Mitchell, E. A.
Mitchell, R. F.
McCormick, Alan F.
MacDonald, Alec C.
MacDonald, J. S.
McIntosh, J. H.
McLellan, R. D.
Morgan, Richard.
Morris, J.
Nicholls, Frank.
Nicholson, L. T.
Okell, S. E.
Ortner, G. S.
Parker, Robt. H.
Parsenow, W. L.
Perkins, Walter G.
Pirrie, Noble W.
Poole, H. W.
Prior, C. E.
Puder, H. F. H.
Raht, K.
Richmond, Leigh.
Ringwood, J. G. T.
Robertson, T. R.
Rodgers, Ch. B.
Rogers, G. J.
Rombauer, A. B.
Ross, R. H. LeB.
Schoefield, J. L.
Schroeder, Curt A.
Segsworth, Walter.
Selby, C. C.
Shepherd, G. H.
Sharp, Bert N.
Sharples, H.
Shore, J. T.
Sim, Chas. John.
Sloan, Wm.
Snyder, Blanchard M.
Stephen, Wm. Gordon.
Stimmel, B. A.
Stockly, Galt.
Sundberg, Gustave.
Tally, Robert E.
Taylor, E. S.
Taylor, H. L.
Teed, A. J.
Thirkell, V. R.
Thomas, Percival W.
Thomson, W. G.
Trewhella, M.
Turner, H. A.
Vance, John F. C. B.
Van Agnew, Frank.
Vaughan-Williams, V. L.
Wales, Roland T.
Watson, Wm. J.
Watson, Thomas.
Welsh, J. Cuthbert.
Wells, Ben T.
Wenerstrom, L. H.
West, Geo. G.
West, K. C.
Wetherup, I.
White, E. King.
Whittaker, Delbert E.
Widdowson, E. Walter.
Willemar, Douglas R.
Williams, W. A.
Williams, Eliot H.
Williams, J. R.
Williams, R. N.
Wilson, Thomas S.
Wimberley, S. H.
Youngs, T. N.

Under section 10, subsection (2).

Archer, Allan.
Blaylock, Selwyn G.
Bisset, D. G.
Bolton, George E.
Brennan, Charles Victor.
Browne, R. J.
Browne, P. J.
Bryant, Cecil M.
Bryden, James.
Bullen, R. L.
Burwash, N. A.
Cavers, Thomas W.
Clothier, George A.
Cole, Arthur A.
Cole, G. E.
Cole, L. Heber.
Collins, H. E.
Conway, E. J.
Coo, Cecil William.
Coulthard, R. W.
Cowans, Frederick.
Cuttress, G. S. C.
Dawson, V. E.
Dempster, R. C.
Dempster, A. S.
Dick, John P.
Dixon, Howard A.
Eardley-Wilmot, V. L.
Edwards, H. C.
Ethredge, F. M.
Farrar, Ben. K.
Fortheringham, D. F.
Galbraith, M. T.
Gibson, Swanson.
Gilman, Ellis P.
Gray, Stanley.
Green, J. T. Raoul.
Guess, George A.
Hallam, F. Lloyd.
Harding, Wilson M.
Heal, John H.
Hearn, Roy D.
Hilliary, G. M.
Howells, J. O.
Hurley, T. Mason.
Johnston, William Steele.
Kaye, Alexander.
Kendall, George.
Kidd, G. L.
Kilburn, Geo. H.
Lathe, Frank E.
Lay, Douglas.
Manson, Robert.
Mathews, L. G.
Mellish, Albert Henry.
Merrit, Charles P.
Millen, J.
Munro, Neil.
Murphy, C. J.
Musgrave, W. N.
McArthur, Reginald E.
McBean, K. D.
McLeod, Norman A.
McDiarmid, S. S.
McGinnis, Wm. C.
McKay, Robt. B.
McLellan, John.
McMurtry, Gordon O.
McNab, J. A.
McPhee, W. B.
McVicar, John.
Maclennan, F. W.
Moran, P. J.
Newton, W. E.
Nicolle, C. C.
Norrie, James P.
Oliver, Charles E.
Oughtred, S. W.
Outhett, Christopher.
Owen, Francis J.
Pellew-Harvey, Wm.
Pemberton, W. P. D.
Reid, J. A.
Ritchie, A. B.
Roaf, J. R.
Roscoe, Harold M.
Rose, J. H.
Rutherford, R. C.

Under section 10, subsection (2)—Continued.

Sampson, E. H. S.
Scott, John Mitchell.
Scott, Oswald Norman.
Shannon, S.
Sharpe, G. P.
Shorey, P. M.
Sloan, David.
Stevens, F. G.
Stewart, A. G.
Stroud, J. E. C.
Sullivan, Michael H.
Sutherland, T. Fraser.
Sutherland, Wm.
Swinney, Leslie A. E.
Thompson, W. K.
Watson, A. A.
Watson, Henry.
Weir, William.
White, E. Grove.
Willis, F. S.
Winslow, R. H.
Wilson, Ridgeway R.
Workman, Ch. W.
Wright, Richard.
Wynne, Llewellyn C.
Yuill, H. H.

Under section 10, subsection (3).

Carmichael, Herbert.
Galloway, J. D.
Harris, Henry.
Hedley, Robt. R.
Kiddie, Thos.
Marshal, Dr. T. R.
McKillop, Alexander.

PREVIOUSLY ISSUED UNDER THE "BUREAU OF MINES ACT, 1897," SECTION 12.

Thompson, James B.

GOLD COMMISSIONERS AND MINING RECORDERS.

The following list shows the Gold Commissioners and Mining Recorders of the Province:—

Mining Division.	Location of Office.	Gold Commissioner.	Mining Recorder.	Deputy Recorder.
Atlin	Atlin	H. F. Glassey	H. F. Glassey	
Sub-office	Telegraph Creek			J. V. Boys.
Sub-office	Haines (U.S.)		(Com. for taking Affidavits)	B. A. Barnett.
Sub-office	Squaw Cr. via Atlin			Mrs. F. Muncaster.
Sub-office	Tulsequah			H. L. Fraser.
Sub-office	Juneau (U.S.)		(Com. for taking Affidavits)	Harold E. Brown.
Stikine	Telegraph Creek	J. V. Boys	J. V. Boys	
Sub-office	Boundary via Telegraph Creek			Duncan Miller.
Sub-office	Burns Lake			T. E. Taylor.
Liard	Telegraph Creek	J. V. Boys	J. V. Boys	
Sub-office	McDame Creek			Thos. A. Perry.
Sub-office	Fort St. John			F. W. Beatton.
Sub-office	Fort Nelson			J. S. Clark.
Sub-office	Dease Lake Townsite			John Fleming.
Skeena	Prince Rupert	N. A. Watt	N. A. Watt	
Sub-office	Kitimat			Chas. E. Moore.
Sub-office	Copper River			L. G. Skinner.
Sub-office	Terrace			O. T. Sundal.
Sub-office	Stewart (Portland Canal)			H. W. Dodd.
Sub-office	Rosswood			Mrs. Alberta Smith.
Sub-office	Kimsquit			Percy Gadsden.
Nass River	Anyox	N. A. Watt	E. Ross Oatman	
Sub-office	Alice Arm			Mrs. L. Cummings.
Sub-office	Stewart			H. W. Dodd.
Portland Canal	Stewart	N. A. Watt (at Prince Rupert)	H. W. Dodd	
Bella Coola	Prince Rupert	N. A. Watt	N. A. Watt	
Sub-office	Bella Coola			C. A. Brynildsen.
Sub-office	Bella Bella			
Sub-office	Ocean Falls			Geo. H. Hill.
Sub-office	Kimsquit			Percy Gadsden.

GOLD COMMISSIONERS AND MINING RECORDERS—*Continued.*

Mining Division.	Location of Office.	Gold Commissioner.	Mining Recorder.	Deputy Recorder.
Queen Charlotte	Queen Charlotte	N. A. Watt	G. A. Charter, M.D.	
Sub-office	Jedway			W. T. Reavley.
Sub-office	Masset			T. D. Brunton.
Sub-office	Lockeport			
Omineca	Smithers	H. B. Campbell	H. B. Campbell	
Sub-office	Fort Grahame			L. T. Kempple.
Sub-office	Bella Coola			C. A. Brynildsen.
Sub-office	Finlay Forks			A. MacKinnon.
Sub-office	Fort St. James			Alec Kynoch.
Sub-office	Manson Creek			W. B. Steele.
Sub-office	Telkwa			T. J. Thorp.
Sub-office	Prince George			Geo. Milburn.
Sub-office	Hudson Hope			F. F. Monteith.
Sub-office	Kimsquit			Percy Gadsden.
Sub-office	Fort St. John			F. W. Beatton.
Sub-office	Whitewater (Finlay River) via Fort Grahame			James Ware.
Sub-office	Fort McLeod			J. E. McIntyre.
Sub-office	Cedarvale			John Thompson.
Sub-office	Terrace			O. T. Sundal.
Sub-office	Fort Fraser			J. D. Moore.
Sub-office	Vanderhoof			Geo. Ogsdon.
Sub-office	Pacific			T. H. McCubbin.
Sub-office	Hazelton			Wm. Grant.
Sub-office	Burns Lake			T. E. Taylor.
Sub-office	Usk			Jas. L. Bethurem.
Sub-office	Takla Landing			Mrs. Wilhemina Aiken.
Sub-office	McConnell Creek			H. K. Henry.
Sub-office	Copper River			L. G. Skinner.
Peace River	Fort St. John	H. B. Campbell (at Smithers)	F. W. Beatton	
Sub-office	Prince George			G. Milburn.
Sub-office	Finlay Forks			A. MacKinnon.
Sub-office	Hudson Hope			F. F. Monteith.
Sub-office	Pouce Coupe			M. S. Morrell.
Cariboo	Barkerville	J. P. Scarlett	J. P. Scarlett	Miss L. D. Boyd.
Sub-office	Quesnel			E. C. Lunn.
Sub-office	Prince George			Geo. Milburn.
Sub-office	McBride			R. McKinlay.
Quesnel	Williams Lake	L. C. Maclure	L. C. Maclure	
Sub-office	Quesnel			E. C. Lunn.
Sub-office	Likely			A. Morrison.
Sub-office	Barkerville			J. P. Scarlett.
Sub-office	Horsefly			A. B. Campbell.
Clinton	Clinton	R. J. A. Dorrell	R. J. A. Dorrell	
Sub-office	Williams Lake			L. C. Maclure.
Sub-office	Haylmore, Bridge River P.O.			W. Haylmore.
Sub-office	Hanceville			Edwin Hance.
Kamloops	Kamloops	E. Fisher	E. Fisher	
Sub-office	Chu Chua			George M. Fennell.
Sub-office	Vavenby			H. Finley.
Sub-office	Salmon Arm			A. P. Suckling.
Ashcroft	Ashcroft	E. Fisher (at Kam.)	W. C. Adam	Geo. D. Mead.
Sub-office	Lytton			J. A. Carmichael.
Nicola	Merritt	E. Fisher (at Kam.)	A. G. Freeze	
Yale	Hope	E. Fisher (at Kam.)	H. Beech	J. W. Chadwick.
Sub-office	Lytton			J. A. Carmichael.
Similkameen	Princeton	Chas. Nichols	Chas. Nichols	
Sub-office	Hedley			R. E. Baxter.
Vernon	Vernon	R. M. McGusty	R. M. McGusty	F. H. C. Wilson.
Sub-office	Kelowna			C. W. Dickson.

GOLD COMMISSIONERS AND MINING RECORDERS—*Continued.*

Mining Division.	Location of Office.	Gold Commissioner.	Mining Recorder.	Deputy Recorder.
Greenwood	Greenwood	L. A. Dodd	L. A. Dodd	
Sub-office	Kettle Valley			G. B. Gane.
Sub-office	Beaverdell			T. W. Clarke.
Sub-office	Oliver			E. B. Rossiter.
Grand Forks	Grand Forks	E. Harrison	E. Harrison	
Osoyoos	Penticton	W. R. Dewdney	W. R. Dewdney	
Sub-office	Keremeos			L. S. Coleman.
Sub-office	Hedley			R. E. Baxter.
Sub-office	Oliver			Edward B. Rossiter.
Golden	Golden	A. W. Anderson	A. W. Anderson	H. C. Moore.
Windermere	Windermere	A. W. Anderson (at Golden)	A. M. Chisholm	
Fort Steele	Cranbrook	J. E. Kennedy	J. E. Kennedy	
Sub-office	Fernie			J. R. Nolan.
Ainsworth	Kaslo	Ronald Hewat	W. M. H. Dunn	
Sub-office	Trout Lake			H. Macpherson.
Sub-office	Poplar Creek			Arthur G. Johnston.
Slocan	New Denver	Ronald Hewat (at Kaslo)	Frank Broughton	
Sub-office	Sandon			W. J. Parham.
Slocan City	Slocan	Ronald Hewat	T. McNeish	
Nelson	Nelson	J. Cartmel	J. Cartmel	
Sub-office	Creston			R. H. Hassard.
Sub-office	Ymir			Wm. Clark.
Sub-office	Salmo			M. C. Donaldson.
Arrow Lake	Nakusp	J. Cartmel (at Nelson)	N. A. Herridge	
Revelstoke	Revelstoke	Wynfield Maxwell	W. Maxwell	
Lardeau	Beaton	Wynfield Maxwell (at Revelstoke)	Stephen Rowe	
Sub-office	Trout Lake			H. Macpherson.
Trail Creek	Rossland	W. H. Reid	W. H. Reid	
Nanaimo	Nanaimo	C. L. Monroe	C. L. Monroe	
Sub-office	Ladysmith			J. A. Knight.
Sub-office	Alert Bay			A. M. Holman.
Sub-office	Vananda			Wm. Stromberg.
Sub-office	Shoal Bay, Thurlow P.O.			C. C. Thompson.
Sub-office	Granite Bay			Henry Twidle.
Sub-office	Powell River			A. C. Sutton.
Sub-office	Cumberland			S. B. Hamilton.
Alberni	Alberni	W. H. Boothroyd	W. H. Boothroyd	
Clayoquot	Clayoquot	W. H. Boothroyd (at Alberni)	W. T. Dawley	
Sub-office	Ceepeecee			P. McGregor.
Quatsino	Quatsino	Ditto	Ed. Evenson	
Victoria	Victoria	R. J. Steenson	R. J. Steenson	
New Westminster	New Westminster	A. P. Grant	A. B. Gray	
Sub-office	Chilliwack			Chas. J. Whittaker.
Vancouver	Vancouver	A. S. Tyrer	R. A. Burgoyne	
Lillooet	Lillooet	L. J. Price	L. J. Price	T. B. Williams.
Sub-office	Haylmore, Bridge River P.O.			W. Haylmore.

GOLD COMMISSIONERS' AND MINING RECORDERS' OFFICE STATISTICS, 1934.

District and Division.	Free Miners' Certificates.			Lode-mining.					Placer-mining.				Revenue.		Total.	
	Individual.	Company.	Special.	Mineral Claims recorded.	Certificates of Work.	Bills of Sale, etc.	Certificates of Improvements.	Leases of Reverted Crown-granted Mineral Claims.	Placer Claims recorded.	Placer Leases recorded (Bench, Creek, and Dredging).	Certificates of Work, Placer Leases.	Bills of Sale, etc.	Free Miners' Certificates.	General.	Mining Divisions.	Districts.
North-western District (No. 1)																**$28,618.65**
Atlin	438	6	3	119	142	39	5	1	94	45	62	138	2,833.00	9,409.00	12,242.00	
Stikine	101		1	13	15	7				12	3	8	471.00	520.25	991.25	
Liard	57			143	5	13				17	43	18	244.00	4,323.50	4,567.50	
Nass River	82	2		110	136	24							499.00	697.40	1,196.40	
Portland Canal	205	5	1	542	541	47	15						1,480.25	4,193.95	5,674.20	
Skeena	229	3		92	65	29		47	5	10		3	1,207.75	1,945.25	3,153.00	
Queen Charlotte	84			29	37	26			7	1	1	5	169.20	353.25	522.45	
Bella Coola	19			64	16	2			1				66.50	205.25	271.75	
North-eastern District (No. 2)																**71,083.90**
Cariboo	474	4	2	1,935	1,650	418	20		95	222	285	90	3,018.00	32,531.95	35,549.95	
Quesnel	941	3	4	802	647	119			90	171	173	132	2,648.00	16,693.65	19,341.65	
Omineca	709	3	1	708	927	160	19	3	47	87	94	32	3,259.00	12,238.30	15,497.30	
Peace River										18	6			695.00	695.00	
Central District (No. 3)																**14,611.60**
Nicola	67	1		238	87	31	1		1				376.00	950.00	1,326.00	
Vernon	379	3	2	461	121	77		8	37	18	15	7	1,750.25	3,279.05	5,029.30	
Kamloops	773		3	699	307	114		8	80	32	23	18	3,047.75	5,208.55	8,256.30	
Southern District (No. 4)																**31,261.05**
Grand Forks	283			243	65	14		72	3	4		15	927.50	2,947.70	3,875.20	
Greenwood	304	10	4	708	387	151	2	142	5	12	35	23	1,819.25	8,435.65	10,254.90	
Osoyoos	712	9	5	1,083	347	145		62	2				3,115.50	5,748.75	8,864.45	
Similkameen	361	1		407	268	76		9	3	45	63	50	1,581.75	6,684.75	8,266.50	
Eastern District (No. 5)																**40,003.04**
Fort Steele	575	2	2	397	222	100	5	14	44	37	90	84	2,528.25	8,033.05	10,561.30	
Windermere	44	2		82	61	21			16	1		8	306.50	619.05	925.55	
Golden	115	3		73	56	14			9	10	3	6	656.50	2,483.14	3,139.64	
Ainsworth	106	3	1	79	244	17	11	55	28	3	9	12	859.50	2,747.60	3,607.10	
Slocan	42	1		43	186								304.50	313.25	617.75	
Slocan City	62			61	72	11			5				186.50	694.00	880.50	
Nelson	535	12	1	713	725	185	23	187	68	5	3	15	2,977.25	9,959.65	12,936.90	
Arrow Lake	55			109	12	30			6			2	207.50	457.75	665.25	
Trail Creek	165	3		22	15	4	8	39					969.25	1,111.35	2,080.60	
Revelstoke	186	2	3	87	138	49	6	17	15	18	9	21	902.25	2,544.00	3,446.25	
Lardeau	65	1		97	191	15			4				372.00	770.20	1,142.20	
Western District (No. 6)																**113,656.80**
Nanaimo	136		3	444	281	143	10	20	3				469.75	3,320.80	3,790.55	
Alberni	167			203	82	47		10	4	9	2		626.25	1,753.45	2,379.70	
Clayoquot	62			128	147	42				7	1		258.50	1,766.30	2,024.80	
Quatsino	33			22	14								153.75	90.00	243.75	
Victoria	438	22	1	63	23	12		14	15	7	21	8	3,357.50	2,057.70	5,415.20	
Lillooet	1,127	26	6	3,796	3,364	1,178	97		8	36	102	26	9,390.60	27,601.45	36,992.05	
Clinton	248	1		773	299	34	39		44	9	16	42	1,046.00	4,854.20	5,900.20	
Ashcroft	183	1	1	803	342	145	12		21	22	14	13	963.50	6,727.45	7,690.95	
Yale	350	6	4	908	752	240			95	11	16	5	1,868.75	8,619.30	10,488.05	
New Westminster	362	8	2	679	107	85	6	6	49	23			1,931.50	4,129.65	6,061.15	
Vancouver	3,280	228	35	134	105	13		6					31,858.25	812.15	32,670.40	
Totals	14,554	371	85	18,112	13,201	3,877	279	720	904	892	1,089	781	$90,708.05	$208,526.99	$299,235.04	**$299,235.04**

B.C. DEPT. OF MINES.

Salmon Glacier—looking towards August Mountain. Portland Canal Area.

Tatshenshini River Area—looking South-east towards Talbot Creek from the Divide to Squaw Creek.

Hydraulic Operation on Quartz Creek, Tributary of McDame Creek, Locality of 1934 Lode-gold Discovery, Dease Lake Area.

Fourth of July Creek—looking North-east towards Gladys Lake. Atlin Area.