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BRITISH COLUMBIA FINANCIAL TIMES

A Journal of Finance, Commerce, Insurance, Real Estate, Timber and Mining

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VANCOUVER, FEBRUARY 17, 1917

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Mineral Production of British Columbia in 1916

Preliminary Review and Estimate of Provincial Mineral Production in 1916—Notable Increased Output of Metalliferous Mines—Total Production Estimated at \$42,970,555.

Mr. William Fleet Robertson, Provincial Mineralogist, has given out a preliminary review and estimate of the mineral production of British Columbia for the year 1915. This review is published in the form of a bulletin recently issued from the Government press:

This bulletin has been prepared before the receipt of the official reports for the year 1916 of the Gold Commissioners and Mining Recorders of the Province, and the customary returns of mineral production annually made by managers of mines and reduction-works; consequently, it must necessarily be regarded as being simply a preliminary review of the progress of the past year, together with an estimate of the quantities and value of the several mineral products of the province, which it is believed will prove to be approximately correct.

The accompanying table shows an estimated mineral production during 1916 of a total value of \$42,970,555. It will be seen that the total value of the production of 1916 as estimated is some \$13,523,047 greater than that of 1915, equivalent to an increase of about 45.9 per cent., which must be regarded as a very encouraging showing, particularly when it is remembered that the output for 1915 was only exceeded in amount by those of the years 1912 and 1913 in the history of mining in the province. The value of the output in 1916 is larger than that of 1912—the previous record year—by an estimated amount of \$10,529,755, or 32.5 per cent.

Had it not been that the Crowsnest Collieries, through a series of mishaps—accompanied by a serious shortage of labour due to the war, followed by a labour strike—was unable to make as large an output as expected and intended, the coal and coke production would have been much greater; but, as it was, there resulted such a shortage of coke as to partially close the copper-smelters, and these, in turn, compelled the copper-mines to very much curtail their outputs.

But for these untoward circumstances, it is certain that

the output for 1916 would have approached the \$50,000,000 mark, an amount which a few years ago would have been considered visionary.

Taken in the aggregate, our mineral production and development in the year 1916 and the future prospects of the industry are conditions for congratulation at this time.

The continued enormous demand for shells of all sorts for the Allies has continued the great consumption of copper, lead, and zinc, and the prices of these metals have continued very high.

In 1914 the average price of copper for the year was 13.6 cents; in 1915 it was 17.3 cents; while in January, 1916, it was 24 cents, and at the close of the year it was 32 cents; the average for the year being 27.2 cents.

The result of this great increase in price of the metal caused those prepared to make an actual production to increase their outputs to the limit, and in many instances enabled them to mine and smelt lower-grade ores which at the normal prices of the metal would not have been possible commercially.

The output of copper for the year 1916 is estimated to have been about 67,757,075 lbs., which is about 19 per cent. greater than the previous year. The value of the product was \$18,429,924, an increase over last year of \$8,594,424, or 87 per cent., and amounts to about 56.3 per cent. of the value of the metallic minerals produced this year.

The rise in the price of lead, while very considerable, has not been so phenomenal; the average price in New York for the year 1915 was 4.567 cents, while

for 1916 it was 6.777 cents, the year closing with an average for the month of December of 7.4 cents.

Silver is always associated with lead ores in British Columbia, and the price of this metal also had a great rise; the average price for the year 1915 was 49.68 cents, while for the year 1916 it was 65.66 cents, and for the closing month of the year it was over 75.75 cents.

The combined rises in the prices of lead and silver very greatly helped the silver-lead mines of the Slocan. The provincial output of lead this past year is estimated to be about 52,242,183 lbs., worth \$3,186,773, and that of silver was 3,366,205 ozs., worth \$2,099,838.

Zinc in 1916 sold at an average price in New York of

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12.8 cents, while in 1915 the average price was 13.23 cents, which is a seeming decrease; but it must be borne in mind that the normal price of the metal is between 5 and 6 cents, and that the prices of 1915 were due to a "corner" and the shutting-off of the usual sources of supply, so that the present prices must be very acceptable to the producer.

Preliminary figures would indicate that the output of zinc in 1916 was more than two and a half times what it was in 1915, the previous record year. Increased production has been nearly general in all the zinc-producing districts.

The various metals and their production are reviewed in detail later in this report, but it might be noted here that the following table shows the gross value of the metallic minerals recovered in 1916 as being \$32,754,353, which represents an increase over the year 1915 of nearly \$12,000,000, a percentage increase of about 57.8 per cent., which is certainly a matter of congratulation.

It might further be pointed out that the metalliferous output for 1915 was the greatest in the history of mining in the province up to that date, being more than 10 per cent. greater than in the former record year of 1912.

There seems to have been an increased production this year in all the metal values except gold.

There are also increases in both the coal and coke productions as compared with the year 1915.

As far as can be ascertained as yet, there is a slight decrease in the item of building materials, due to the cessation of building operations in the larger cities.

As might be expected with a large increase in the amount of metalliferous minerals produced, the tonnage of ore mined in the province in 1916 also constitutes a record, amounting to about 3,200,000 tons, as compared with 2,690,110 in 1915.

Mineral Production for Two Years, 1915-1916.

The following table shows the quantities and value of the several minerals produced in the year 1915, and the estimated production in 1916. It may here be explained that the prices used in calculating the estimated value for 1916 of silver, lead, copper, and zinc are the average prices for the year, as published in The Engineering and Mining Journal, New York, less a deduction of 5 per cent. off silver, 10 per cent. off lead, and 15 per cent. off zinc.

	Production, 1915		Estimated Production, 1916.		Increase
	Quantity	Value	Quantity	Value	
Gold, placer.....		\$ 770,000		\$ 575,000	*\$ 195,000
" lode.....oz.	250,021	5,167,934	232,909	4,814,229	353,705
Total gold.....		\$ 5,937,934		\$ 5,389,229	*\$ 548,705
Silver.....oz.	3,366,506	1,588,991	3,366,205	2,099,838	510,847
Lead.....lb.	46,503,590	1,939,200	52,242,133	3,186,773	1,247,573
Copper....."	56,918,405	9,835,500	67,757,075	18,429,924	8,594,424
Zinc....."	12,982,440	1,460,524	33,534,829	3,648,589	2,188,065
Total value of metalliferous...		\$20,762,149		\$32,754,353	\$11,992,204
Coal, tons					
2,240 lbs.	1,611,129	5,638,952	2,026,672	7,093,352	1,454,400
Coke, tons,					
2,240 lbs.	245,871	1,475,226	270,475	1,622,850	147,624
Building materials, etc.....		1,571,181		1,500,000	* 71,181
Total value of production.....		\$29,447,508		\$42,970,555	\$13,523,047

*Decrease

Some detailed information from this bulletin will be found under heading "Mining Throughout British Columbia," in this issue.

The award of \$1,700,000 5½ per cent. arrears of tax certificates of the City of Vancouver to the Lumbermen's Trust Company of Portland, Oregon, at 98.51 and accrued interest has been cancelled by the Municipal Council and reawarded to the next highest bidder, Messrs. Spitzer, Rorick & Co., Toledo, Ohio, at 97.75 and accrued interest. The reason for the cancellation is stated to be that the Portland firm wanted more time than was deemed necessary by the Council.

The Western Edge of the Interior Plateau

(D. A. MacKinnon, Esq.)

Description of Little Known District from the Point of View of Agricultural Possibilities.

The area to be covered in this article lies between the Grand Trunk Pacific on the North and the Chilcotin country on the South, and is to be east of the eastern foothills of the Coast Range. This portion of British Columbia is not opened up by any railway or trunk wagon roads, and has but few trails. On account of the nature of the country and its geographical position, a person traveling through it has many obstacles to contend with, the base of supplies being far away, the trips are necessarily long and costly, the result being that only a small part of it has been even prospected. The contact between the Coast Range Batholiths and the interior Volcanics and Sedimentaries occurs somewhere in this area. Thus the mineral possibilities of this strip of country is too large a subject and requires too much detail to be dealt with in this article. There is no doubt, however, that some day many large mining camps will be seen in operation in this area.

The country contiguous to the Grand Trunk Railway is fairly well known throughout Canada. The Skeena and Bulkley Valleys have been well advertised and much has been written concerning all their industrial possibilities. There are at present many large farms in the Bulkley Valley in a flourishing condition. The railway has proved a great boon to this district.

South of the Bulkley Valley between the Maurice River and Fraser Lake, we have the Francois and Ootsa Lake Sections. A wagon road running in a southeasterly direction from Houston, a town on the Grand Trunk Railway a few miles east of the Maurice River, crosses the Nadina River close to where it empties into Francois Lake. It continues on to Ootsa Lake, passing through the Upper settlement about sixty miles from Houston and fifteen miles further on reaching the lower settlement. From this point, which is about the centre of the lake on the North Shore, the road runs in a northerly direction back to Francois Lake, which is crossed by means of a ferry, and then on the Burns Lake, where it meets the railroad again. This road, about one hundred and twenty miles long, and for the most part in good condition, is of great value to the settlers. Until the advent of the railroad this locality had a very slow growth on account of the fact that all supplies had to be packed in nearly two hundred miles over the trail from Bella Coola. Since then, however, many new settlers have come in, supplies are very much cheaper and this section is progressing rapidly.

Mixed farming is carried on in this district, but most of the land being at an elevation of between 2,500 feet and 3,000 feet, the summer frosts are too hard for a good agricultural district. It is more suited to cattle raising and has a good future ahead of it in this industry. Sheep would also do very well if it were not for the coyotes, which are very numerous. The long hard winters necessitate from three to four months' feeding. Wild hay grows in abundance, however, and is cut and stacked for winter feed. There are many large open meadows with a thick growth of beaver hay and large patches of prairie land covered with pea vine and rye grass. The vegetation is really remarkable, the general growth of pea vine, rye grass and fire weed being from four to five feet high. A yield of four tons to the acre is not uncommon, but a yield of two and a half tons is about the average. Practically the whole district is good summer range, the pea vine reaching its greatest growth in amongst the trees.

The Owen Lake section is a part of the valley of the Nadina River which flows into the west end of Francois Lake. This section, though not extensive, deserves men-

tion for its very fine stand of wild hay. Low rolling hills and large flat stretches are often entirely free of timber. When the land is timbered, the trees are mostly poplar from three to six inches in diameter. Many claim the average acre in this district can be cleared for twenty-five dollars, and picked areas as low as fifteen dollars per acre.

The luxurious growth of pea vine and rye grass continues, in many places, for a distance of about ten miles west of a line joining the west ends of Francois and Ootsa Lakes. Westward from here to the mountains, however, the growth is practically confined to the meadows. There are occasional very large meadows and many small ones, generally more or less flooded by beaver. This strip of country is dotted with innumerable lakes and is badly broken up by creeks and small hills which rise from 1000 feet to 1,500 feet above the plateau.

A few words on the geography of this section might not be amiss. This is undoubtedly British Columbia's lake country. There are innumerable small lakes and many large ones. Francois and Ootsa are the best known of the larger lakes. They all lie practically east and west, being fed from the Coast range and draining easterly into the Nechako which flows into the Fraser at Prince George. A large river named the Tahtsa flows into Ootsa Lake at the west end. This river flows in an easterly direction and is about fifty miles long. It drains Tahtsa Lake, which is in the heart of the Coast Range. There is a low pass at the head of Tahtsa Lake through to the Coast, a distance of about twenty miles. About four miles from its mouth the Tahtsa River is joined by the Whitesail River which drains Whitesail Lake, another large lake, the head of which is in the coast range. Whitesail and Tahtsa waters are separated by the Tahtsa mountains, a spur of the Coast Range: Eutsuk Lake lies to the South of Whitesail and at one place the two lakes are scarcely a mile apart. Eutsuk Lake drains into Tetachuk Lake, thence by the Tetachuk River into Nechako waters. Eutsuk is probably the largest lake in this district, i.e., has the most water in it. It is not nearly as long as Francois Lake, but it has many large bays and inlets. Eutsuk Lake is eighty-five feet higher than Whitesail Lake and could easily be drained into Whitesail where the two lakes are about a mile apart, thus providing enormous power, if ever required.

The shores of Eutsuk and Whitesail Lakes are thickly timbered with hemlock and balsam. The trees, however, are small, of poor quality and of little economic value. There are occasional meadows in this vicinity, but for the most part the land is barren, being too high and situated too close to the mountains. The scenery, however, is of the best. It is not on so vast a scale as the Windermere country but more beautiful, having the lakes which Windermere lacks. Any person seeking scenery cannot do better than take a canoe trip from Ootsa Lake into Whitesail Lake and then portage the mile across into Eutsuk Lake. He can then go down Eutsuk to Tetachuk Lake and then by the Tetachuk River to the Ootsa River and then back into Ootsa Lake, making a round trip of nearly two hundred miles.

The land mark of the Francois and Ootsa Lake district is Nadina mountain. The bend of the Maurice River where it changes its course from east to north occurs at the foot of this mountain. Nadina is a lone mountain 7,000 feet high. There are no other mountains close to it, and the average elevation of the surrounding country is from 3,000 feet to 3,500 feet. Thus it can be seen a long distance from all directions.

A point worthy of mention is that no salmon ever get into these lakes. The reason is that the fish cannot get past the falls on the Nechako River. If a fish ladder were

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installed on the Nechako, the lakes would provide a wonderful spawning ground for salmon. The lakes and rivers are otherwise well stocked with the usual inland fish. This is also a good fur producing district, fox are quite common, several fox farms being in operation. There are also large numbers of martin, fisher, lynx and beaver. The coyotes are too numerous for the good of the country, but considerable revenue is obtained by the settlers from the bounty and hides. There are also moose, cariboo and mule deer, providing good hunting.

South of Ootsa Lake the country is much the same as north of the lake until the Tetachuck river is reached. Continuing south from here, however, there is a marked change in character. The pea vine gets more scarce and becomes stunted in growth, disappearing in many places, the wild bean taking its place in the higher altitudes. The feed here is mainly in the meadows and along the creeks. For the most part this country is barren, by far the greater area being dry rocky benches between 3,500 feet and 4,000 feet in elevation and thickly timbered with small jack pine of no value. The Indian village of Uhlgachu at an elevation of 3,900 feet, is situated about forty miles southerly from the Tetachuck river. This village is in a barren locality, and is used entirely for winter hunting purposes. In summer it is generally deserted, many of the Indians being engaged at the canneries around Bella Coola. Continuing south from Uhlgachu about ten miles, the Dean or Salmon River is reached. This river flows into Dean Channel, and is locally better known as the Salmon River. There are many large meadows along the Salmon River Valley, extending along the river to its source. After crossing the Salmon the country is much the same as between the Tetachuck and the Salmon rivers. Thus the Salmon River Valley appears as the one bright spot in an otherwise barren country.

This district has a considerable output of furs, the Indians doing practically all the hunting and trapping. The land mark of the section is Anahim Peak. This is a lone black hill about 6,000 feet in elevation, situated about fifteen miles southeasterly from Uhlgachu. It rises about 2,000 feet above the surrounding country and like Nadina mountain, has no other mountains close to it.

Going south from the Salmon River through barren country for about fifty miles, the Bella Coola Valley is reached. This Valley is about sixty miles long, and is very narrow, some places being only a mile wide. The sides of the valley are high, rugged mountains, the river cutting through the Coast Range. There is a nice stand of timber here, fir, cedar, spruce, hemlock, cottonwood and poplar growing in merchantable size and quality for forty miles from the salt water. Many timber claims are held in the Valley, most of the cottonwood and poplar being held for the pulp industry. The soil is very rich, being an alluvial deposit, and is well adapted to truck gardening and fruit raising. The large thick growth of timber makes land clearing very expensive, the average acre costing about \$300 before it is ready for the plow. There are no very large clearings, but many small farms are in operation for a distance of fifty-five miles up the valley. The rainfall is fairly heavy, producing a luxurious growth. The Valley seems to suffer slightly, however, from the lack of sun, owing to the high hills on either side. There are two main settlements, one at Bella Coola near the salt water, and one at Hagenborg, about twelve miles from the coast.

In rising out of the eastern end of the Bella Coola Valley and continuing southwards, the country passed through is partly barren and partly meadow land, supporting several small cattle ranches. On approaching the Salmon River again the country improves considerably, and there are many large meadows between the Salmon River and the Kleena Kleene River. The Kleena Kleene section has been attracting considerable attention the last few years. There are quite a few settlers now in the vicinity of One Eye Lake, which is about twenty miles from

(Continued on page 9)

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VANCOUVER, B.C., FEBRUARY 17, 1917

No. 4

The sudden death of the Hon. Ralph Smith, Minister of Finance in the government of British Columbia, takes from the government its most experienced legislator and from the executive council one of its most conscientious and ablest members. The loss will be severely felt by the government as well as by a very large number of people in the province who were fortunate to have the genial and sturdy Ralph Smith as a personal friend.

He came to the position of Finance Minister, as he frankly acknowledged, with but limited experience in financial affairs. His attitude toward his portfolio was one of humility. He sought aid and advice of all who could be of assistance. Yet his experience of affairs and his knowledge of men, together with his large capacity of common sense and native shrewdness invariably led him to do the right thing. He could not be imposed upon and he could not be stampeded, and several cases of both occurred during his three months' tenure of office. In an unostentatious, common sense way he effected numerous savings in the administration of finance which inured to the benefit of the province. By dint of hard work he had cleaned the slate of all matters which had been held in abeyance incident to a change in government, and was preparing the budget to be presented to the session of the House and devising schemes of economy and ways and means to enlarge the revenue when his departure came. The keynote of his policy was to act with considerable measure of liberality toward that which would stimulate and encourage industry and production, but to be adamant toward any form of expenditure which did not confer a large public benefit or promise an economic return. Such a policy is the essence of the Common Place; yet the ills of the province are directly attributable to the failure to pursue a like policy.

Common sense, native shrewdness and an open mind, with conscientious effort, will go a long way toward making an efficient administrator. All of these the late Ralph Smith possessed in remarkable degree. His unselfish activities which characterized his public life, inspired devotion in those with whom he came in contact and the editor of this journal is happy to be counted among them.

Money from the United States has been seeking investment in Canada in steadily growing amounts. The outbreak of war naturally brought a stop to investment from that source as well as from Britain, but after the readjustment and the subsequent prosperity induced by the war, money commenced to flow across the boundary line. It had not begun to assume large proportions until about last summer, when several large enterprises were undertaken involving the expenditure of considerable sums of money in the Dominion. British Columbia has been favored particularly in the timber and allied industries and mining.

When President Wilson suddenly handed the German Ambassador his passports, financial interests were naturally apprehensive with the result that negotiations in progress between Canadian opportunity and United States capital were held in abeyance. Several instances of this are known in Vancouver. The natural inquiry is what effect will the present condition or the event of the United States declaring war on Germany have on the investment of American funds in British Columbia enterprise and development.

It was at first thought that the German citizen or the German-American would start riots and in other ways seek to create a reign of terror with the destruction of property, etc. for the purpose of delaying the giving of assistance to the Allies. This idea has been greatly dissipated because of many precautions having been taken and the general expression of loyalty of the hyphenate to his adopted land.

The second contingency may possibly be an embargo against the exportation of capital. In view of the large supplies of gold and the effect of a federal reserve banking system which has hardly been called into use and which is capable of an expansion in credit of several billions of dollars an embargo on capital or credit would be at most only temporary and would appear unlikely of being instituted.

There remains, however, the probability that the shock of war, as just at present the shock of the severance of diplomatic relations upon things financial, would certainly tend to create uncertainty which in the circumstances would preclude investment not only in Canada or British Columbia, but in the United States itself except in the securities of the United States government. We venture the opinion that in the event of the Republic becoming a belligerent, the flow of capital for British Columbia enterprise would be only temporarily interrupted. It is conceivable on the other hand that in the case of newsprint or mining of mineral to be used in making of munitions, that the American government may stimulate and encourage capital to take hold.

The expansion of the shipping of the ports of Vancouver and Victoria renders the business of marine insurance of something more than theoretic interest. The paper read before the Insurance Club of British Columbia recently by Mr. B. G. D. Phillips has great interest to all those engaged in the business of insurance and has particular importance to a growing number of agents who will be called upon to write marine risks and to a growing number of merchants who will engage in shipping goods to the ports of the world.

In a short time another paper will be read by the same gentleman from the practical point of view of a marine agent in Vancouver. Both articles we hope to present to our readers in full, but we must ask their pardon and indulgence in that we have not the space in a single issue to give an entire article. The first article, therefore, will appear in three installments, the first of which is on page eleven of this issue. Subsequent installments will appear in each succeeding issue until both articles have been presented in full.

British Columbia Municipal Statistics

Compiled by Mr. Robert Baird, Provincial Inspector of Municipalities.

CITIES

MUNICIPALITY	ASSESSMENT, 1916					Per-centage of Improvements Taxed	Popu-lation	Area in Acres
	Land	Improvements	Total	Total Exemptions	Grand Total			
Alberni.....	\$ 1,040,265.00	\$ 264,750.00	\$ 1,305,015.00	\$ 21,330.00	\$ 1,326,345.00	....	700	1,553
Armstrong.....	690,065.00	468,360.00	1,158,425.00	87,200.00	1,245,625.00	50	1,500	1,000
Chilliwack.....	997,575.00	854,550.00	1,852,125.00	285,750.00	2,137,875.00	....	1,800	1,040
Courtenay.....	560,380.00	239,894.47	800,274.47	2,700.00	802,974.47	50	500	800
Cranbrook.....	769,800.00	1,095,950.00	1,865,750.00	.....	1,865,750.00	50	3,500	200
Cumberland.....	117,025.00	231,490.00	348,515.00	41,500.00	390,015.00	50	1,600	40
Duncan.....	893,430.00	558,450.00	1,451,880.00	135,100.00	1,586,980.00	....	1,700	500
Enderby.....	343,936.00	352,765.00	696,701.00	144,285.00	840,986.00	50	1,000	655
Fernie.....	863,345.00	1,397,782.00	2,261,127.00	570,525.00	2,831,652.00	50	5,500	331
Grand Forks.....	858,270.00	661,890.00	1,520,160.00	417,455.00	1,937,615.00	50	2,500	1,697
Greenwood.....	170,740.00	269,685.00	440,425.00	155,910.00	596,335.00	33 1/2	1,000	640
Kamloops.....	3,292,610.00	2,086,592.00	5,379,202.00	984,000.00	6,363,202.00	25	6,000	912
Kaslo.....	202,190.00	257,871.00	460,061.00	143,918.00	603,979.00	50	1,200	400
Kelowna.....	1,834,300.00	1,305,025.00	3,139,325.00	438,700.00	3,578,025.00	....	3,000	1,281
Ladysmith.....	428,930.00	365,775.00	794,705.00	185,900.00	980,605.00	50	3,000	220
Merritt.....	618,060.70	.....	618,060.70	13,752.00	631,812.70	....	2,000	1,615
Nanaimo.....	2,692,785.00	2,879,850.00	5,572,635.00	311,375.00	5,884,010.00	....	8,000	720
Nelson.....	1,876,486.00	2,566,425.00	4,442,911.00	536,935.00	4,979,846.00	50	7,000	483
New Westminster.....	14,973,825.00	3,864,530.00	18,838,355.00	4,526,125.00	23,364,480.00	....	17,000	3,481
North Vancouver.....	12,337,195.00	3,449,895.00	15,787,090.00	874,480.00	16,661,570.00	....	8,000	2,750
Phoenix.....	132,540.00	146,095.00	278,635.00	.....	278,635.00	50	1,500	148
Port Alberni.....	1,723,976.00	592,895.00	2,316,871.00	111,412.00	2,428,283.00	....	700	1,960
Port Coquitlam.....	3,625,446.00	.....	3,625,446.00	42,550.00	3,667,996.00	....	2,300	6,200
Port Moody.....	1,795,840.00	738,100.00	2,533,940.00	47,500.00	2,581,440.00	....	1,500	3,000
Prince George.....	2,752,729.00	2,184,921.00	4,937,650.00	726,000.00	5,663,650.00	....	2,000	1,092
Prince Rupert.....	12,261,701.00	2,166,060.00	14,427,761.00	9,997,722.00	24,425,483.00	....	6,000	2,240
Revelstoke.....	1,429,280.00	1,425,560.00	2,854,840.00	488,200.00	3,343,040.00	50	4,000	595
Rossland.....	541,077.00	1,248,968.00	1,790,045.00	601,355.00	2,391,400.00	50	3,500	1,920
Salmon Arm.....	498,410.00	351,100.00	849,510.00	13,500.00	863,010.00	50	800	520
Sandon.....	28,350.00	69,005.00	97,355.00	21,850.00	119,205.00	50	200	200
Slocan.....	59,725.00	68,812.00	128,537.00	29,437.00	157,974.00	10	250	192
Trail.....	446,105.00	1,073,390.00	1,519,495.00	66,795.00	1,586,290.00	50	2,000	664
Vancouver.....	139,463,435.00	74,895,475.00	214,358,910.00	.....	214,358,910.00	....	99,000	10,784
Vernon.....	2,498,018.00	1,521,675.00	4,019,693.00	669,750.00	4,689,443.00	40	3,500	2,000
Victoria.....	62,738,863.00	25,302,431.00	88,041,294.00	15,513,870.00	103,555,164.00	....	55,000	4,637
Total.....	\$275,556,707.70	\$134,956,016.47	\$410,512,724.17	\$38,206,881.00	\$448,719,605.17	....	258,750	56,470

DISTRICTS

Burnaby.....	\$ 20,588,645.00	\$ 3,402,405.00	\$ 23,991,050.00	\$2,270,120.00	\$ 26,261,170.00	....	15,000	21,500
Chilliwack.....	2,924,200.00	811,495.00	3,735,695.00	.....	3,735,695.00	....	5,500	45,000
Coldstream.....	938,767.00	.....	938,767.00	.....	938,767.00	....	500	17,000
Coquitlam.....	2,233,238.00	.....	2,233,238.00	810.00	2,234,048.00	....	1,250	37,120
Delta.....	5,730,961.00	982,660.00	6,713,621.00	107,800.00	6,821,421.00	50	4,000	42,000
Esquimalt.....	5,854,500.00	1,645,925.00	7,500,425.00	634,200.00	8,134,625.00	....	5,000	1,500
Fraser Mills.....	154,564.00	639,878.00	794,442.00	.....	794,442.00	50	900	390.46
Kent.....	779,116.80	.....	779,116.80	840.00	779,956.80	....	750	47,360
Langley.....	2,086,099.00	1,367,447.50	3,453,546.50	39,553.00	3,493,099.50	....	2,500	75,907
Maple Ridge.....	1,450,810.00	1,073,930.00	2,524,740.00	52,300.00	2,577,040.00	50	3,000	45,000
Matsqui.....	2,054,215.44	1,914,096.00	3,968,311.44	.....	3,968,311.44	....	2,000	54,145
Mission.....	1,089,321.00	1,771,250.00	2,860,571.00	10,893.00	2,871,464.00	50	2,500	52,000
North Cowichan.....	3,120,354.00	1,670,329.00	4,790,683.00	.....	4,790,683.00	5	3,500	35,000
North Vancouver.....	9,157,881.00	1,709,090.00	10,866,971.00	732,972.00	11,599,943.00	....	4,000	48,000
Oak Bay.....	7,129,332.00	3,076,994.00	10,206,326.00	126,342.00	10,332,668.00	....	5,000	2,552
Peachland.....	454,630.00	204,100.00	658,730.00	28,100.00	686,830.00	....	450	3,520
Penticton.....	2,065,715.00	1,633,967.35	3,699,682.35	184,300.00	3,883,982.35	....	3,000	7,044
Pitt Meadows.....	1,272,499.00	277,315.00	1,549,814.00	7,050.00	1,556,864.00	50	300	14,000
Point Grey.....	24,125,418.25	8,797,425.00	32,922,843.25	508,448.00	33,431,291.25	....	15,000	12,000
Richmond.....	4,891,397.25	785,540.00	5,676,937.25	77,161.00	5,754,098.25	50	7,000	30,000
Saanich.....	17,562,581.00	4,513,408.00	22,075,989.00	.....	22,075,989.00	....	8,000	45,000
Salmon Arm.....	1,018,876.00	.....	1,018,876.00	.....	1,018,876.00	....	1,500	46,080
South Vancouver.....	21,339,524.72	9,709,208.00	31,048,732.72	89,266.91	31,137,999.63	....	35,000	9,200
Spallumcheen.....	2,187,325.00	544,435.00	2,731,760.00	.....	2,731,760.00	....	3,500	65,000
Sumas.....	659,403.24	209,540.00	868,943.24	2,700.00	871,643.24	....	600	19,100
Summerland.....	1,617,400.00	1,385,925.00	3,003,325.00	.....	3,003,325.00	....	2,500	13,000
Surrey.....	5,006,825.00	.....	5,006,825.00	.....	5,006,825.00	....	5,000	76,000
West Vancouver.....	3,564,328.00	543,460.00	4,107,788.00	181,680.00	4,289,468.00	....	800	24,320
Total.....	\$151,057,926.70	\$48,669,822.85	\$199,727,749.55	\$5,054,535.91	\$204,782,285.46	....	138,050	888,738.46

British Columbia Municipal Statistics

Debenture Debt at December 31st., 1916.

CITIES

MUNICIPALITY	DEBENTURES								Total Debenture Debt
	Schools	Streets	Other Non-revenue Producing	Waterworks	Electric Light	Sewers (Revenue producing)	Other Revenue-producing	Local Improvements	
Alberni.....			\$8,000.00	\$52,130.00	\$10,000.00				\$70,130.00
Armstrong.....	\$10,500.00	\$11,315.61	9,350.00	41,000.00	78,000.00				150,165.61
Chilliwack.....	33,500.00	75,500.00	87,000.00					\$24,254.48	220,254.48
Courtenay.....									
Cranbrook.....	32,882.65	13,734.00	142,125.55	162,765.30				7,500.00	359,007.50
Cumberland.....								9,659.30	9,659.30
Duncan.....	21,000.00	10,000.00	14,000.00	25,000.00	65,000.00			3,100.00	138,100.00
Enderby.....	27,500.00	2,500.00	21,500.00	29,500.00				18,500.00	99,500.00
Fernie.....	52,000.00	10,000.00	89,500.00	119,000.00	74,000.00	\$67,000.00		17,418.32	428,918.32
Grand Forks.....	6,500.00	44,000.00	49,500.00	77,300.00	18,000.00				195,300.00
Greenwood.....		25,500.00	27,900.00	38,100.00					91,500.00
Kamloops.....	63,500.00	15,000.00	122,500.00	329,000.00	563,500.00	60,000.00		91,873.51	1,245,373.51
Kaslo.....	15,500.00	6,000.00			29,000.00				50,500.00
Kelowna.....	61,500.00	14,000.00	151,000.00	155,500.00				63,118.00	445,118.00
Ladysmith.....					25,000.00	60,000.00		11,477.00	96,477.00
Merritt.....	3,000.00	10,000.00	20,000.00	45,000.00	25,000.00				103,000.00
Nanaimo.....	50,000.00	45,000.00	35,000.00	333,000.00		230,000.00		339,024.87	1,032,024.87
Nelson.....	75,000.00	40,000.00	55,000.00	97,500.00	355,000.00	58,500.00	\$131,000.00	35,960.12	847,960.12
New Westminster.....	389,000.00	1,264,000.00	1,766,400.00	916,500.00	206,000.00			1,363,925.84	5,905,825.84
North Vancouver.....	402,480.00	203,909.08	550,968.22	576,000.00			180,000.00	1,117,789.70	3,031,147.00
Phoenix.....		6,000.00							6,000.00
Port Alberni.....		20,000.00	6,500.00	170,000.00	40,000.00				236,500.00
Port Coquitlam.....	35,000.00	237,000.00	54,500.00	100,000.00					426,500.00
Port Moody.....			35,000.00	80,000.00				50,300.00	165,300.00
Prince George.....		15,000.00	10,000.00	80,000.00	45,000.00				150,000.00
Prince Rupert.....	20,000.00		180,000.00	400,000.00	296,000.00			938,568.10	1,834,568.10
Revelstoke.....	58,000.00	63,000.00	101,430.59	57,700.00	286,145.00			164,726.92	731,002.51
Rossland.....	20,000.00	52,500.00	52,000.00	41,000.00					165,500.00
Salmon Arm.....	1,500.00		8,500.00	85,000.00	42,000.00			3,917.00	140,917.00
Sandon.....			2,000.00						2,000.00
Slocan.....			6,600.00						6,600.00
Trail.....	32,500.00		4,000.00	15,000.00					51,500.00
Vancouver.....	4,146,900.00	4,414,100.00	12,432,800.00	4,749,351.20				9,841,282.95	35,584,434.15
Vernon.....			232,000.00	242,500.00	189,000.00			223,963.28	887,463.28
Victoria.....	1,506,862.00	100,000.00	4,817,233.33	4,256,433.37				8,087,264.10	18,767,792.80
Total.....	\$7,064,624.65	\$6,698,058.69	\$21,092,307.69	\$13,274,279.87	\$2,346,645.00	\$475,500.00	\$311,000.00	\$22,413,623.49	\$73,676,039.39

DISTRICTS

Burnaby.....	\$313,500.00	\$1,235,000.00	\$70,000.00	\$668,650.00					\$2,287,150.00
Chilliwack.....	22,000.00								22,000.00
Coldstream.....		17,000.00	1,200.00	100,000.00				\$20,000.00	138,200.00
Coquitlam.....		82,500.00		8,175.42				10,000.00	100,675.42
Delta.....			15,000.00	205,000.00				94,216.99	314,216.99
Esquimalt.....	27,500.00					\$400,000.00			427,500.00
Fraser Mills.....									
Kent.....			725.96						725.96
Langley.....									
Maple Ridge.....									
Matsqui.....									
Mission.....									
North Cowichan.....		50,000.00							50,000.00
North Vancouver.....	62,000.00	508,243.00	411,757.00	155,000.00				137,070.50	1,274,070.50
Oak Bay.....	70,000.00		98,000.00	200,000.00		425,000.00		480,224.46	1,273,224.46
Peachland.....	1,000.00		2,500.00	10,500.00	\$12,300.00			5,200.00	31,500.00
Penticton.....	32,700.00	42,000.00	43,800.00	168,000.00	87,000.00		\$110,000.00	17,300.00	500,800.00
Pitt Meadows.....									
Point Grey.....	406,138.31	1,920,045.16	3,223,441.14					2,900.00	5,552,524.61
Richmond.....	28,000.00			365,000.00				70,621.50	774,421.50
Saanich.....	33,500.00	450,000.00		391,800.00				116,469.31	991,769.31
Salmon Arm.....			2,500.00						2,500.00
South Vancouver.....	1,002,644.10	3,836,186.40	50,000.00	1,013,050.00				784,284.71	6,686,165.21
Spallumcheen.....			17,750.00					74,071.00	91,821.00
Sumas.....								1,600.00	1,600.00
Summerland.....	5,000.00	19,000.00	6,000.00	280,500.00	19,500.00				330,000.00
Surrey.....									
West Vancouver.....	32,800.00	175,000.00	339,400.00	125,000.00				100,000.00	772,200.00
Total.....	\$2,036,782.41	\$8,645,774.56	\$4,282,074.10	\$3,690,675.42	\$118,800.00	\$825,000.00	\$110,000.00	\$1,913,958.47	\$21,623,064.96

H. BELL-IRVING & CO. LTD.

(Insurance Department)

INSURANCE

AND

Financial Agents

Represent The Caledonia and British Columbia
Mortgage Co., Ltd., of Glasgow, Scotland

322 RICHARDS STREET

VANCOUVER, B. C.

ESTABLISHED 1887

PEMBERTON & SON

GOVERNMENT AND MUNICIPAL
BOND DEALERS

PACIFIC BUILDING

VANCOUVER, B.C.

Phoenix Assurance Company Limited FIRE AND LIFE

General Agents:

CEPERLEY, ROUNSEFELL & CO., LTD.

Winch Building, Vancouver, B.C.

Losses Adjusted and Paid in Vancouver

The General Administration Society

Head Office: Montreal British Columbia Office: Vancouver

Capital Subscribed	- -	\$500,000.00
Paid Up	- -	\$125,000.00
Reserve	- -	\$100,000.00

Trustees, Executors, Administrators and General Financial Agents
Credit Foncier Building, Vancouver, B.C.

MONTREAL HALIFAX TORONTO WINNIPEG VANCOUVER

DALE & CO. LIMITED

Marine and Fire Underwriters

107-110 Pacific Building, 744 Hastings St. W.
VANCOUVER, B.C.

Telephone Seymour 3252

The Toronto General Trusts Corporation

Assets under administration: \$71,869,470

TRUSTEES EXECUTORS FINANCIAL AGENTS

British Columbia Advisory Board: A. H. Macneill, K.C. (chairman) and
Eric W. Hamber of Vancouver, and R. P. Butchart and F. B. Pemberton of
Victoria.

BRITISH COLUMBIA OFFICE:

407 SEYMOUR STREET VANCOUVER, B.C.
FRANK M. PRATT, MANAGER

EXTRA-PROVINCIAL COMPANY LICENSED.

"Automatic Sprinkler Company, of America, Limited"; head office, 112 St. Peter Street, Montreal, Quebec; Provincial head office, 201 Pacific Building, Vancouver; J. Percy Geddes, Vancouver is attorney for the company.....\$10,000

PROVINCIAL COMPANIES INCORPORATED.

Omineca Copper Company, Limited, Vancouver.....	\$ 50,000
Superfluities Motion Pictures, Limited, Victoria.....	300
Columbia Theatre Company, Limited, Vancouver..	5,000
Khalsa International Trading Corporation, Limited, Vancouver	100,000
Masset Inlet Lumber Company, Limited, Vancouver	20,000
Craig-Taylor Lumber Company, Limited, Vancouver	48,000
Actino Optical Institute, Limited, Vancouver.....	10,000
Hatzic Farm Lands, Limited, Vancouver.....	100,000
Echo Shingle Mills, Limited, Vancouver.....	10,000
Ferguson-Higman Motor Company, Limited, Vancouver	10,000
Dewar Shingle Company, Limited, Vancouver.....	45,000
The Pacific Pole and Pile Company, Limited, Vancouver	10,000
T. A. Kelley Logging and Lumber Company, Limited, Vancouver	100,000
T. Meredith, Limited, Vancouver	100,000

ANNUAL MEETING.

The Call Switch Company, Limited, holds its annual meeting today at 525 Pacific Building, Vancouver.

COMPANY CEASING BUSINESS.

Adolph Frankau and Company, Limited, has ceased to carry on business in British Columbia.

ASSIGNMENTS, CREDITORS' NOTICES, Etc.

Frederick P. Arnold, carrying on business as "The Commercial Bazaar," at 1584 Commercial Drive, Vancouver, has assigned to James Roy, accountant, 222 Pacific Building, Vancouver.

The Iowa Lumber and Timber Company, Limited, Vancouver, has assigned to James T. T. Paxton, manager, Yorkshire Building, Vancouver.

WINDING UP PROCEEDINGS

By order of Chief Justice Hunter, the Canadian Estates, Limited, is ordered wound up, and Edward E. Devlin, Vancouver, is appointed official liquidator.

The Municipality of South Vancouver sold to Messrs. Spitzer, Rorick & Company, of Toledo, Ohio, \$450,000 three-year six per cent. certificates secured by arrears of taxes at 97. The arrears of taxes total about \$710,000. The proceeds of the loan amounting to \$436,500, will be used to pay off an overdraft to the bank of \$240,000; \$102,000 will be used to pay debenture interest due in London on April 1st next, and the balance, about \$84,500, will be used to pay outstanding liabilities.



STOCKS, GRAIN COTTON PRODUCE

bought and sold on commission on New York, Chicago, Toronto, Montreal and London Exchanges.
Latest market quotations.

Direct private wire to Chicago and New York.

CORRESPONDENTS:

Logan & Bryan, Chicago and New York; Osler & Hammond, Toronto.

WAGHORN, GWYNN & CO. Ltd.

300 Pender Street

STOCK AND BOND BROKERS

Vancouver, B. C.

Recent Annual Reports

Annual Statements Filed with Registrar of Companies, Victoria

SMALL & BUCKLIN LUMBER COMPANY, LIMITED.

Registered Office, Columbia Street, New Westminster.

Balance Sheet as at December 31, 1916.

LIABILITIES—	
Capital Stock	\$194,200.00
Bills Payable	56,000.00
Accounts Payable	9,498.78
Profit and Loss.....	252,559.18
Total	\$512,257.96
ASSETS—	
Mill Construction and Machinery.....	\$176,856.79
Timber Limits	140,762.31
Real Estate	14,649.92
Accounts Receivable	46,453.03
Logging Inventory	5,638.32
Lumber Inventory	121,980.49
Insurance Inventory	1,231.10
Expense Inventory	120.58
Advanced Interest Inventory	266.65
Cash Balance	4,298.77
Total	\$512,257.96

W. F. H. BUCKLIN,
Secretary.

THE WALHACHIN-ANGLESEY CANNERIES, LIMITED.

Registered Office, Walhachin.

Balance Sheet as at November 30, 1916.

LIABILITIES—	
Capital Authorized	\$50,000.00
Capital Paid Up	\$14,601.00
Total	\$14,601.00
ASSETS—	
Property at Cost	\$ 9,890.10
Machinery on Lease	313.96
Supplies on Hand	16.40
Sundry Debtors	1,330.41
Unexpired Insurance	72.41
Installation of Machinery	1,396.55
Cash at Bank and in Hand	319.55
Profit and Loss Account	1,261.62
Total	\$14,601.00

W. H. SNELL,
Secretary.

WESTMINSTER TRUST COMPANY.

Registered Office, Westminster Trust Building, New Westminster.

Balance Sheet as at March 31, 1916.

LIABILITIES—	
Capital Paid Up	\$ 446,220.00
Reserves	214,793.66
Purchase Money Obligations	30,509.61
Current Liabilities	114,691.70
Profit and Loss Account	23,456.20
Deposit Department	62,336.51
Trust Department	53,189.32
Estates Under Administration	1,096,459.95
Total	\$2,041,656.95
Contingent Liability	\$2,303.65

ASSETS—	
Properties	\$ 376,750.51
Investments	387,607.27
Current Assets	64,788.40
Deferred Charges to Profit and Loss.....	524.99
Deposit Department	62,336.51
Trust Department	53,189.32
Estates Under Administration	1,096,459.95
Total	\$2,041,656.95

R. E. WALKER,
Secretary.

PITT MEADOWS OIL WELLS COMPANY, LIMITED.

Registered Office, 37-41 Williams Building, Vancouver.

Balance Sheet as at October 31, 1916.

LIABILITIES—	
Sundry Creditors	\$ 5,212.19
Vancouver Oil & Natural Gas Co., Ltd.....	19,404.59
Capital Authorized	\$1,000,000.00
Capital Paid Up	800,000.00
Total	\$824,616.78

ASSETS—	
Oil Lease 374	\$800,000.00
Development Account	23,857.28
Incorporation Expenses	759.50
Total	\$824,616.78

J. A. HARVEY,
Secretary.

The Western Edge of the Interior Plateau

(Continued from page 4)

the source of the Kleena Kleene River. South of here we have Tatla Lake and Tatlayoko Lake across the western end of the Chilcotin country. There are several cattle ranches in operation at present between the Kleena Kleene River and Tatlayoko Lake, and the summer range would accommodate many more cattle. The drawback is that in many cases some land would have to be cleared to grow hay for winter feed. This would not be a very serious matter, however, as it is claimed that land in that vicinity can be cleared suitably for growing hay at a cost of twenty dollars an acre. There are also quite a number of meadows that are not taken up on which some hay could be cut. The average elevation of this district is about 3,000 feet, so that most of the land is too high for a good agricultural district.

It thus appears that from the Grand Trunk Railway south to the Chilcotin country there is east of the Coast Range a strip of country varying from twenty to forty miles which is, for the most part, practically barren land. East of this, however, we have a country specially adapted to stock grazing and, for the greater part, low enough in elevation to allow sufficient farming to be carried on for local needs.

GREAT WEST LIFE ANNUAL REPORT

On another page will be found a summary of the twenty-fourth annual report of the Great West Life Assurance Company, of Winnipeg, Manitoba.

In 1907 this Company had \$33,000,000 of insurance in force, and in 1916 they have \$133,000,000. Its assets during the same period increased from \$4,500,000 to nearly \$22,000,000, and a surplus of about \$500,000 to over \$3,000,000, which does not include \$1,000,000 paid up of capital stock. The rate of interest earned last year on its investments was a trifle over 7½%. Its total income last year was over \$5,500,000. Its scale of dividends for 1917 are on the same basis as for many years past. They have paid without regret during the past year almost \$400,000 on the lives of the brave defenders of the Empire who died at the front. The Company, with its usual foresight, had accumulated practically the same amount during the past two years as a special reserve, so that the general results of the Company were not affected by this. Over \$2,300,000 in new business was sent from the Vancouver and Victoria branches during the year 1916.

The Royal Trust Company

HEAD OFFICE: MONTREAL

Capital Fully Paid - - - - \$1,000,000
Reserve Fund - - - - - \$1,000,000

BOARD OF DIRECTORS:

Sir Vincent Meredith, Bart., President
Sir H. Montagu Allan, C.V.O., Vice-President

R. B. Angus
A. Baumgarten
A. D. Braithwaite
E. J. Chamberlin
H. R. Drummond
C. B. Gordon
Hon. Sir Lomer Gouin, K.C.M.G.

E. B. Greenshields
C. R. Hosmer
Sir William Macdonald
Captain Herbert Molson
Lord Shaughnessy, K.C.V.O.
Sir Frederick Williams-Taylor, LL.D.

A. E. Holt, Manager

BRANCHES IN BRITISH COLUMBIA:

Vancouver—732 Dunsmuir Street. A. M. J. English, Local Manager.

Victoria—Rooms 206-7, Union Bank Building. F. E. Winslow, Acting Local Manager.

H. C. AKROYD,
Notary Public.

J. S. GALL,
Notary Public.

Richards, Akroyd & Gall

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Paid-Up Capital - - - \$6,000,000.00
Reserve Fund (earned) - 5,000,000.00
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held its twenty-fourth Annual Meeting on February 6th, 1917

Attention is drawn to the following statements:

Business issued, 1916	\$ 25,575,373
Increase for the year	1,117,444
Business in force, Dec. 31st, 1916..	133,016,448
Increase for the year	13,550,381
Income for 1916	5,594,041
Increase for the year	814,551
Assets, Dec. 31st, 1916	21,702,570
Increase for the year	2,498,024

The expense rates were lowered in 1916, and the interest rate was maintained at over 7½%. In addition to the actuarial reserves, the balance sheet shows, in surplus, capital and special funds, the sum of \$4,433,759, being over 20% of the assets.

The Company is continuing in 1917 the same liberal scale of profits, for which it has been noted. Write for full report and profit booklet.

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History and Development of Marine Insurance

By Mr. B. G. D. Phillips.

The Beginning of Marine Insurance, the Development of the Various Policies, Their Nature and Present Standard Forms in Three Parts—Part One. A Paper Read Before the Insurance Club of British Columbia by the Provincial Manager of Dale & Company, Limited.

Of the origin of Marine Insurance very little is known. It probably existed in some form or other from the earliest ages, though very different to what is in use at the present day. The ancient Phoenicians, the Greeks and the Romans, though they, of course, knew nothing of the word "underwriting" as practised at Lloyd's, were, nevertheless, in the habit of guarding themselves against some of the risks encountered at sea by various systems of insurance either in the shape of loans or mutual guarantees.

There is reason to believe that the loan form of insurance, known as bottomry, was the earliest form. Bottomry may be described as the mortgage of a ship, that is, her hull or bottom; and its effect is that if the ship is lost, the lender or mortgagee loses the money which he has lent, whilst if the ship comes safely to port he receives back not only the amount of his loan, but also a premium by way of interest.

Bottomry in its earliest use was a form of insurance, but later it came to be a subject of insurance. Supposing, for example, a ship arrived damaged in a foreign port, and in order to enable her to continue her voyage, repairs were necessary, before the telegraph and cable were in use, as they are at the present day, the master was not in a position to obtain funds from his owner and probably did not carry a large amount of money with him on the ship. The repairs, however, had to be paid for and in order to do this the bottomry loan was often raised on the security of the ship, thus being a subject of insurance, inasmuch as the lender on bottomry had an insurable interest in the safe arrival of the ship at her destination.

What are known as respondentia loans are similar with the exception that they apply to cargo as distinct from the ship.

The only difference between the original form of bottomry as a means of insurance, and insurance existing at the present day is that whilst bottomry loans were compensations advanced before the actual loss of a ship, modern forms of insurance are promissory notes to pay if the loss should occur.

It is not the purpose of this paper to deal with the history of Marine Insurance exhaustively, but it is interesting to note that the word bottomry occurs for the first time in what is known as the "Laws of Wisby," which was the insurance code of the northern nations dating about the commencement of the fourteenth century. This code is probably the product of the Hanseatic League, which was a confederacy of merchants of northern Germany, and perhaps one of the most famous mercantile bodies that ever existed.

The word "insurance," as we understand its meaning today, occurs for the first time in an old historical work, the "Chronyk van Vlaendern," which refers to the existence of Marine Insurance at the town of Bruges, one of the chief towns of the Hanseatic League, where it is said that one hundred and fifty ships used to come into the port of Sluys, its outer harbor, in one tide.

The words of the "Chronyk van Vlaendern" are as follow:

"On the demand of the inhabitants of Bruges the Count of Flanders permitted, in the year 1310, the establishment in this town of a Chamber of Assurance, by means of which the merchants could insure their goods exposed to the risks of the sea or elsewhere, on paying a stipulated percentage. But in order that an establishment so useful to commerce might not be dissolved as soon as formed, he ordered the laying down of several laws and regulations which the assurers as well as the assured are bound to observe."

The Hanseatic League, to which attention has been called above, had their representatives in England, who were known as the Merchants of the Steelyard, which appears to have been something like a commercial monastery. These merchants carried on all their affairs with the utmost secrecy and lived in an entire state of seclusion. They had vast warehouses on the Thames, and what portion of these warehouses they did not use for their immense stores of merchandise, was divided into cells, built only for single men, the whole opening out into common reception rooms. No inmate of the Steelyard was allowed to marry, or even to speak to a woman, and any of them who broke this rule were instantly expelled. They had to be in at a certain hour every evening, usually about six o'clock, and went out to their business at a stated hour every morning, varying with the seasons. They did not smoke because smoking was not invented in those days, but apparently they were not prohibitionists, as having practically an entire monopoly of trade they were able to choose the choicest vintages, and there is no reason to believe that they neglected their

opportunities in any way. Owing to the fact that they always had a plentiful supply of money at their command, which they were ready to loan, and did loan to the somewhat needy kings of England, they succeeded in obtaining rights and privileges which practically amounted to an entire monopoly of English trade. This monopoly existed until the reign of Queen Elizabeth, when the English people themselves began to take an interest in their own trade and the Merchants of the Steelyard were eventually expelled from England by royal edict on the last day of February, 1597.

There is little doubt that the form of insurance known as bottomry was practised by these merchants. Apparently nothing is known as to whether their insurance went any further than this.

About the middle of the thirteenth century there was a large influx of Lombards into England. These Lombards, as their name shows, were Italians, natives of Lombardy, and the reason of their arrival was owing to the fact that a certain German Kaiser, Friedrich II., had invaded their country and was subjecting it to much the same treatment as that to which his successor of the present day is subjecting Belgium. The poor inhabitants had to stay where they were and put up with the treatment they received, but the more wealthy got together all their money and belongings and eventually arrived in England. They did not take up any particular trade, but engaged in money lending, or as it was then called, usury, and on this account they incurred the intense dislike, not to say, hatred, of a vast majority with whom they came in contact. Edicts of all kinds were drawn up against them, but owing to the fact that they were very useful to the kings of England, being always ready to lend them money at the highest rates of interest, the edicts were not of much avail. Furthermore, they acted as the pope's agents, and were entrusted with the business of selling pardons and of remitting the sales of these, and of the large revenues derived by the Roman Catholic clergy, to Rome. On all such remittances they doubtless took a large commission for themselves and in addition the pope took them under his special protection. Notwithstanding, or rather, due to this fact, popular hatred broke out against them periodically, and resulted in attacks by the mob on their lodgings. In order to guard against this in the future, the Lombards petitioned King Henry IV. to grant them the privilege of securing dwellings for themselves, in spite of old alien laws which necessitated all aliens to live in lodgings assigned to them by the Lord Mayor and aldermen of London. Doubtless they accompanied this petition with a substantial bribe, and as a result the civic authorities of London were told to give the Lombards a piece of land. In compliance with this order the authorities very kindly handed them over the worst piece of land which they had in their possession, which was practically a marsh lying between Bishopsgate and the Thames. This was eagerly accepted by the Lombards, and in a very short time they built a row of houses, which was called by the people, and the spot to this day continues to be called, Lombard Street.

(To be continued in next issue, March 3rd.)

RECENT FIRE LOSSES.

Recent fire losses reported to Superintendent of Insurance, Victoria:—

Kamloops, Dec. 1.—Dominion and Ninth Avenue; owner, Owen Morris; unoccupied; wood tenement; value of building \$1,500, value of contents nil; no insurance. Total loss, \$1,000. Cause, supposed incendiary.

Nelson, Dec. 27.—511 to 523 Ward Street; owner, J. E. Annable; occupants, business stores and living apartments; brick stores and dwellings; value of building \$50,000, insurance on same \$20,000; value of contents \$3,500, insurance on same \$1,000. Total loss, \$20. Cause, defective chimney. Nat. Ben Franklin, Stuyvesant, State of Penn., Springfield, Guardian, Sun, Norwich Union.

Abbotsford, Jan. 12.—Lot 20, Block 40, S. D. S.W. ¼ Sec. 22, Tp. 16; owner, Maggie Murphy; occupant, Mrs. C. Brooks and sister; wood restaurant; value of buildings \$1,000, insurance on same \$1,000; value of contents \$600, insurance on same \$500. Total loss, \$10. Cause, incendiarism. Aetna, Western Assurance.

Natal, Jan. 16.—Lot 1, Block 13; owner, Imperial Bank; occupant, J. C. Wedd; frame banking house and dwelling above; value of building \$2,500, insurance on same \$2,000; value of contents \$1,500, insurance on same \$1,000. Total loss, \$50. Cause, candle carelessness. Providence-Washington.

Burnaby, Feb. 1.—3925 Triumph Street; owner and occupant, F. J. Wood; wood dwelling; value of building \$1,000, insurance on same \$1,000; value of contents \$500, insurance on same \$500. Total loss, \$1,475. Cause, live soot escaping through defective brickwork in chimney and igniting wood of cupboard. National.

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402 PENDER STREET WEST, VANCOUVER, B.C.



SYNOPSIS OF COAL MINING REGULATIONS.

Coal mining rights of the Dominion, in Manitoba, Saskatchewan and Alberta, the Yukon Territory, the North-West Territories and in a portion of the Province of British Columbia, may be leased for a term of twenty-one years renewal for a further term of twenty-one years at an annual rental of \$1 an acre. Not more than 2,560 acres will be leased to one applicant.

Application for a lease must be made by the applicant in person to the Agent or Sub-Agent of the district in which the rights applied for are situated.

In surveyed territory the land must be described by sections, or legal sub-divisions of sections, and in unsurveyed territory the tract applied for shall be staked out by applicant himself.

Each application must be accompanied by a fee of \$5, which will be refunded if the rights applied for are not available, but not otherwise. A royalty shall be paid on the merchantable output of the mine at the rate of five cents per ton.

The person operating the mine shall furnish the Agent with sworn returns accounting for the full quantity of merchantable coal mined and pay the royalty thereon. If the coal mining rights are not being operated, such returns should be furnished at least once a year.

The lease will include the coal mining rights only, rescinded by Chap. 27 of 4-5 George V. assented to 12th June, 1914.

For full information, application should be made to the Secretary of the Department of the Interior, Ottawa, or to any Agent or Sub-Agent of Dominion Lands.

W. W. CORY,
Deputy Minister of the Interior.

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OTTAWA

JAN. 9, 1917

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THE PEOPLE OF CANADA TO
BEGIN NOW
TO SAVE MONEY FOR THE
NEXT WAR LOAN

JAN. 9, 1917

DEPARTMENT OF FINANCE
OTTAWA

Mining Throughout British Columbia

Some Notes from the Bulletin of the Provincial Mineralogist on the Development and Production of Silver, Lead, Copper and Zinc Mining for 1916.

The quantity of silver produced is estimated to have been about 3,366,205 oz., worth \$2,099,838, a decrease from the production of 1915 of 301 oz., but, owing to the higher market value of silver, an increase in value of \$510,847. The increase in the market price of silver which commenced in the last months of 1915 continued throughout 1916.

Approximately the output was the same as in 1915. Increases occurred in Fort Steele, Ainsworth, Omineca, Nelson, Boundary, and the Coast Districts, and decreases occurred in Slocan, Skeena, and Trail Creek Divisions.

The Slocan District again leads all others in the production of silver, although this year's output of that district was apparently about 200,000 oz. less than in 1915.

The largest producer in the Slocan was again the Standard, at Silverton, with an output estimated at about 680,000 oz., followed by the Rambler-Cariboo and the Galena Farm. The production of the Slocan District would have been considerably greater but for the destruction, early in the year, by fire of the mill where the Surprise ore was treated. This mine, therefore, only made a small output as compared with about 300,000 oz. in 1915. A new mill has been erected and is in operation, so this property will contribute substantially to the silver production in 1917. The total number of shipping mines in the district was about thirty.

The larger production in Ainsworth is due to increased production from the Highland, owned by the Consolidated Company, and the Bluebell, both of which were operated continuously throughout the year.

In East Kootenay the main production is from the Sullivan mine, which is expected to have produced about 500,000 oz., which is a slight increase over the 1915 production of 474,253 oz. Small amounts come from the St. Eugene, Monarch, and Paradise mines.

Over 55 per cent. of the Boundary production of silver comes from the Granby Company's mines at Phoenix. Other mines contributing are the Mother Lode, Sally, Horn Silver, and Union.

The silver production from Trail Creek comes from the smelting of the gold-copper ores of Rossland camp, which carry about one-half ounce of silver to the ton.

The Skeena production comes almost entirely from the Granby Company's Hidden Creek mine, at Anyox.

The Omineca production shows an increase of about 34 per cent. as compared with the previous year, largely due to an increased production from the Silver Standard mine, at Hazelton.

The Coast production of silver comes from the smelting of copper ores carrying low values in the precious metals. As a larger tonnage of copper was smelted, the silver-output shows an increase.

About 82.5 per cent. of the total Provincial output of silver comes from the treatment of silver-lead-zinc ores and the balance mainly from the smelting of gold-copper ores carrying silver.

The total amount of lead produced in 1916 is estimated to have been 52,242,183 lbs., valued at \$3,186,773. This represents, as compared with the previous year, an increase in quantity of 5,738,593 lbs., and in value of \$1,247,573. This is the greatest production of silver-lead since the year 1913, and the value of the 1916 output, by reason of the high market price for lead, is the greatest in the history of mining in the province. The previous record year was in 1900, when 63,358,621 lbs. was produced, valued at \$2,691,887.

The market price of lead remained at a high mark all year; the average price for January, 1916, was 5.921 cents,

the December price 7.51 cents, and the average 6,858 cents a pound.

The large production in Fort Steele Division comes almost entirely from the Sullivan mine, owned by the Consolidated Company; the 1916 output of the mine was nearly the same as in 1915.

The figures for Slocan show a slight decrease from the output of the previous year, due principally to the temporary withdrawal of the Surprise from the shipping-list. The heaviest contributor was again the Standard, at Silverton, with an output of about 6,500,000 lbs., followed by the Galena Farm with 1,900,000 lbs., the Rambler-Cariboo with 1,300,000 lbs., and the Slocan Star with over 1,000,000 lbs.

The production from Ainsworth shows an increase of 5,253,655 lbs., or 153 per cent. This large increase was due to the return of the Highland to the shipping-list with a production estimated at 2,580,000 lbs., and to the operation of the Bluebell mine for a full year instead of one-half year as in 1915, with a corresponding doubling of production or nearly so.

Nelson Division produced about 200,000 lbs. more lead than in 1915. The principal shipper is the Emerald, but the 1916 production was augmented by shipments from the H. B., Molly Gibson, and Spokane mines.

The Windermere-Golden District produced about three times as much lead as in 1915. The Monarch, at Field, made about the same output as in 1915, but a number of properties were worked in the Windermere District which had been idle for some years. Of these, the Paradise was the most important and the Lead Queen was the next biggest shipper. In all, seven or eight properties are reported to have shipped from the Windermere Division.

The Omineca production of lead was about the same as in 1915, and the greater portion of it came from the Silver Standard mine, at Hazelton, which produced 193,000 lbs. of lead.

The amount of copper estimated to have been produced during the year 1916 is the largest in the history of copper-mining in the province, amounting, as it does, to 67,757,075 lbs., worth \$18,429,924; the highest previous production was made in 1915.

The production as estimated for 1916, compared with that of the previous year, shows an increase in quantity of 10,838,670 lbs., and in value of \$8,594,424, or 87.4 per cent.

The large increase in quantity of copper produced this year is due to a greatly increased production from the Granby Company's Hidden Creek mine, at Anyox, on Observatory Inlet, to a return to a nearly normal output from the Boundary District, and to a nearly doubled production from the Britannia mine.

The Rossland District is expected to have made a slightly decreased output, due to a smaller tonnage from the Rossland mines, which, in turn, was due to a coke shortage preventing the Trail smelter from operating throughout the year at full capacity.

The big mine and smelter of the Granby Company at Anyox were operated continuously throughout the year, and the tonnage was gradually increased, until, at the end of the year, 2,200 tons a day were being smelted. The Granby Company this year produced from its mines in Skeena and Boundary 59 per cent. of the province's copper production.

Another important producer of copper in the northern portion of the Province is the Rocher Deboile mine, near Hazelton. The production of this mine in 1916 was about 10,000 tons, containing over 1,250,000 lbs. copper.

In the Boundary District the Granby Company's mines at Phoenix and smelter at Grand Forks were operated to nearly full capacity throughout the year, but were slightly handicapped by the coke shortage. A larger tonnage of ore was mined and smelted than in 1915, but the production in

copper was slightly less. This was due to handling a considerable tonnage of ore from which a recovery of only 10 lbs. to the ton was made, which, owing to the high market price of copper, it was possible to handle at a profit and thereby increase the ore reserve of the mine. A lot of this low-grade material was handled by the electric shovel, and the cost of mining and handling was therefore, very low.

The British Columbia Copper Company operated steadily throughout the year and made a larger production than in 1915, although this company was also affected by the coke shortage and for part of the year could only run one furnace.

The Britannia mine had a very successful year, the tonnage of ore mined and milled being about 400,000 tons, containing 18,000,000 lbs. copper, 98,000 ozs. silver, and 800 ozs. gold. The ore reserves at this mine are large—claimed to be about 17,000,000 tons—and it is expected the yearly tonnage treated will increase still further, as the ultimate plans of the company are to have milling capacity to handle 4,000 tons a day.

The copper-mines on Texada Island are expected to have made a larger output than in 1914; the most important producer is again the Marble Bay.

More small shipments of copper ore were made from Vancouver Island and along the coast than in 1915. The high price of copper has stimulated the work of developing copper-showings on the Coast, and while this has not resulted in any great quantity of ore being shipped in 1916, it is likely that a considerable increase of production will take place in 1917.

The only production of copper in the Nelson Division was from the Eureka mine, but the re-opening of the old Silver King mine about the end of the year may assist copper production from this division in 1917.

Copper-mining is now the most important form of mining in the province, and this year the value of the copper mined exceeded the total value of all other metalliferous minerals, and also exceeded the combined value of coal and coke production. It formed 56.3 per cent. of the total value of the metalliferous mines and 42 per cent. of the total mineral production. In the working of the large, low-grade copper-deposits and the subsequent smelting of the ores produced, a great number of men are employed and a large proportion of the money value is retained in the country in the payment of wages and purchase of supplies.

All the copper ores carry small amounts of the precious metals, and therefore, any increase in the copper production also increases the output of gold and silver. The high price of copper during the past year has stimulated prospecting and the development of copper claims, and there is no doubt that the provincial output will steadily grow in future years.

The most important metallurgical development in connection with copper-mining during the year 1916 was the establishment of a copper-refinery at the Trail smelter. Until this year all copper produced in the province was ship-

ped to Eastern points as blister-copper and there refined, but with a start at refining having been made, it may be expected that an increasing amount of the copper-output will be refined in the province.

The plant at Trail has a capacity of 10 tons of refined copper a day, but is being increased to 15 tons a day; it treats blister-copper from the Trail smelter and part of the blister-copper produced at the Greenwood smelter of the British Columbia Copper Company.

The smelting plant at Ladysmith owned by the Tye Copper Company, which has lain idle since 1911, was sold near the end of the year, but no announcement has yet been made as to who has bought it. It is said that the purchasers intend to enlarge the smelter, equip it with converters, and possibly to erect a copper-refinery to refine the blister-copper produced. It is said that a supply of ore to keep the smelter going steadily has been secured or is controlled, and in addition the smelter will be in the field for custom ore.

The quantity of zinc estimated to have been produced in 1916 amounted to 33,534,829 lbs., having a value of \$3,648,589. These figures are very much higher than those of 1915, which was itself a record year. While the years 1915 and 1916 show great increases in production as compared with previous years, the very high price of zinc in those two years makes the value of the production still higher in comparison with previous years.

It is interesting to note that in 1916 the value of the zinc production was greater by \$461,816 than the value of the lead produced, which latter itself was a record.

An important event during the year was the commencement, in the spring, of the production of refined zinc at the new electrolytic zinc plant at the Trail smelter. This plant, which has a capacity of 25 tons a day of refined zinc, uses a new process which takes in the raw ore and turns out refined zinc. This is the first time that zinc ore has ever been treated in a commercial plant in British Columbia, and therefore adds a new industry to those which centre around mining. The plant was designed and built to treat ore from the Consolidated Company's Sullivan mine, but towards the end of the year some zinc concentrate was bought from the Lucky Jim mine and treated.

Mr. W. L. Watt, agency director of the New York Life Insurance Company, with headquarters at Vancouver, returned during the week from an agency director convention of the company at Augusta, Georgia. He was much impressed with the prosperity of the south and all over the sections of the United States he travelled through. In view of conditions he looked for the largest business ever written this year by his company which in point of view of assets and business in force is the largest old line company in existence.

Provincial Coal and Coke Tonnage for the Month of December, 1916

Name of Company.	Mine	Coal Tonnage	Coke Tonnage
Canadian Collieries, Ltd.	Comox	27,156	1,373
" " "	Wellington	15,237	nil
Western Fuel Company	Nanaimo	48,497	"
Pacific Coast Coal Mines, Ltd.	South Wellington	8,715	"
Vancr.-Nanaimo Coal Mfg Co.	East Wellington	4,281	"
Crow's Nest Pass Coal Co.	Michel	2,178	6,002
" " "	Coal Creek	18,100	7,205
Corbin Coal & Coke Co.	Corbin	7,535	nil
Middlesboro Collieries, Ltd.	Middlesboro	5,388	"
Inland Coal & Coke Company	Merritt	3,000 (Estimated)	"
Princeton Coal & Land Co.	Princeton	4,750	"

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