Report of the Directors

of

The Consolidated Mining and Smelting Company

of Canada

Limited

For twelve months ending December 31st, 1924

BOARD OF DIRECTORS

JAMES J. WARREN, Montreal - -	President
CHARLES R. HOSMER - -	Montreal
H. S. OSLER - - - -	Toronto
W. L. MATTHEWS - - -	Toronto
F. GORDON OSLER - - -	Toronto
J. C. HODGSON - - -	Montreal
HENRY JOSEPH - - -	Montreal
J. K. L. ROSS - - -	Montreal
S. G. BLAYLOCK - - -	Trail, B.C.

J. E. RILEY, Secretary

Transfer Agents

THE TORONTO GENERAL TRUSTS CORPORATION, TORONTO
THE ROYAL TRUST COMPANY - - - MONTREAL

The

Consolidated Mining and Smelting Company of Canada, Limited

DIRECTORS' REPORT

To the Shareholders of
The Consolidated Mining & Smelting Company
of Canada, Limited.

Gentlemen:—

Your Directors submit the Nineteenth Financial Statement, duly audited, accompanied by the reports of the General Manager, the Manager of Mines, the Comptroller and the Sales Manager. The Financial Statement of The West Kootenay Power and Light Company is also included.

After taking care of current Development, Depreciation of Plant, Depletion of Property and paying interest on Bank Loans, the net profits were $4,341,014.30 as compared with $2,401,346.71 in 1923, $1,467,528.11 in 1922, and $570,043.77 in 1921.

After providing for Bond Interest, the remainder, $4,069,-023.26, was transferred to Profit and Loss account.

You will notice the large sum $790,120.42 necessarily reserved for Federal and Provincial taxes under the existing exorbitant basis of taxation. This amount is many times what it would have been on the same revenue in pre-war days on the basis of taxation then in effect.

Government operations and projects continue to more than exhaust all the revenue that the people can provide under most excessive taxation. In addition to every Government undertaking costing a great deal more than if constructed by an individual or a private corporation, its subsequent operation is rarely profitable, so that usually not only must the interest on the cost be provided for by fresh taxation, but also maintenance and pay roll must come largely from that source. Private enterprise being subject to ever increasing taxation in order to meet additional Government requirements, there is no real incentive to engage in the industrial or other development of the country—and therefore no substantial progress is being made. Furthermore with the United States reducing its tax rate and its public debt, and Canada making neither reduction, the exodus to the United States is not difficult to understand.

For the time being your Company is fortunately able to withstand the heavy tribute levied by the Governments, but if more private enterprises are not established to share the burden or if other existing private enterprises perish—the load may well become too heavy to be borne.

As expected the year's average prices of lead and zinc were favorable. In the latter part of the year the copper position improved. On the expectation that the market price of this metal will remain above 14 cents a pound for some time, preparations are being made to resume operations by the Allenby Copper Company at Copper Mountain, near Princeton, B.C.

Developments and operations at the Sullivan Mine were satisfactory. Operations at Rossland, as described in the report of the Manager of Mines, were not satisfactory. Conditions in your other properties are practically unchanged.

Your plants have been well maintained.

In view of your additional power requirements your Directors arranged with the West Kootenay Power and Light Company, Limited, to install a second 20,000 Horse-Power unit at Lower Bonnington Falls. The first 20,000 Horse-Power unit will be available early in the summer and the second early next Fall. Besides supplying further electrical energy this additional unit will provide a reserve of power and permit the existing generators to be overhauled from time to time without interrupting operations at the Smelter or elsewhere.

Considering the favorable developments in the Sullivan Mine, your Directors decided early in the year that it was in your interest to bring your reduction works at Tadanac up to the capacity of the Sullivan Concentrator,—plus the probable production by independent shippers of lead, zinc and silver ores.

The zinc plant is being doubled. The daily capacity of the lead refinery is being increased to 325 tons. Other substantial additions are being made to the Smelter.

Though the prices obtained for your products during the year were satisfactory, there is no doubt but that current prices are abnormally high, and there is no reasonable doubt but that a reaction will follow sooner or later, when, as in the past, current prices will be abnormally low. If such a condition should develop the extension and improvements described should enable you to still market your products profitably.

Capital Expenditure amounted to $1,874,769.42, of which $244,602.96 were spent on Property Account and $1,630,166.46 on Plant Account. The principal items were:

PROPERTY:	
Purchase of shares of other Companies	$180,495.96
Payment balance Le Roi "2", purchase	25,076.50
PLANT:	
Sullivan Mine and Mill	331,081.10
Smelter additions	1,112,659.69

Dividends aggregating six percent were declared during the year. The earnings might seem to indicate that a larger distribution might have been made, but your Directors thought it best to pay your debts, develop your mines, extend your plants and strengthen your Treasury rather than increase the dividend rate.

An examination of the statement will show you the amount of working capital required on account of the large quantities of metals now being produced, even if these are disposed of as produced. If, as is quite possible, it should be necessary to store your production for a while owing to a serious reaction in the metal markets, a large amount of money would be required. Your Directors think, therefore, that in addition to ordinary working capital a substantial sum should be accumulated against a short demand for metal. They consider this preferable to depending on borrowing from your Bankers. Besides, as there are nearly four thousand employees and their families dependent on your operations for their livings, your Directors feel that your financial position should be such as to enable you to carry on independently for some months at least.

However, as stated in the last year's report, your Directors favor such distribution of profits as conditions warrant from time to time.

The special loan with which you are familiar was reduced by $500,000.00 during the year and therefore stood at $1,000,000.00 at the year's close. The remainder of this loan has been liquidated since the beginning of the current year.

The Power Company advance, which amounted to $1,493,213.94 at the end of 1923, stood at $504,351.01 at the end of 1924. It will be fully repaid before mid-summer.

There will then be outstanding about $3,800,000.00 of 7 per cent bonds, redeemable at $110 and interest after July 1, 1925, and convertible after July 1, 1927, if not redeemed before that date, into stock on a par for par basis.

Though it is not unusual for mining companies to issue bonds as a means of providing funds if and when shares cannot be disposed of at a satisfactory price, it is recognized that a mining company is in a much more secure position if it has no bonded indebtedness. Your Directors have decided, therefore, to ask your authority to convert the outstanding bonds prior to the date of conversion stated above, but of course only on such terms and conditions as you may think proper. The present market value of your shares, while not necessarily the basis for conversion, should enable the conversion to be made quite favorably to you.

In order to secure continuity of policy you are being asked to approve of changes in the By-laws under which five of your Directors, elected at the next Annual Meeting, will hold office for two years and at each ordinary general meeting held thereafter one-half in number of the Directors shall at each such meeting be elected for a term of two years.

Your Directors have deemed it prudent to purchase a substantial interest in A. Cameron & Company, Limited (of Japan and China), the Company which has so satisfactorily sold your metals in the Orient for some years.

You will have noticed in the press that your Company are being sued by French's Electrolytic Zinc Process Company for damages for alleged infringement of patent. Your Directors have taken the best legal and technical advice available and are assured that the French Company have no claim whatever.

For some time prior to 1912 your staff were actively engaged in research work leading to the production of zinc from the complex lead-zinc ores of your and other mines in the Kootenay country.

In 1912 your Company was induced to take an option from French's Complex Ore Reduction Company, Limited, a "British Columbia" Company, on the use of the patent in question at the sum of Two hundred thousand dollars. Your technical staff, under the guidance of the alleged inventor or inventors, tried to use the alleged patent so as to produce zinc on a commercial basis, but notwithstanding the expenditure of over Thirty thousand dollars of your money the results were entirely unsatisfactory and the option was abandoned.

Thereupon your technical staff resumed their efforts and after many months of experiment and the expenditure of many hundreds of thousands of dollars processes were worked out in collaboration with the technical staff of the Anaconda Copper Mining Company which are now in use by both Companies—the salient features being covered by patents obtained in the important countries of the world.

Subsequent to the failure of the experiment at your plant, the French's Complex Ore Reduction Company, Limited (the "British Columbia" Company) secured loans guaranteed by the Provincial Government aggregating $65,000.00 and built a plant near Nelson, British Columbia, to use the alleged patent in the treatment of the complex zinc and lead ores of British Columbia. That plant is not operating and of course complex zinc-lead ores are not being treated there. The loans obtained have not been paid and the Provincial Government have been called on to pay the interest under the guarantee.

After many years had elapsed those in control of the "British Columbia" French Electrolytic Zinc Process Company, for reasons best known to themselves, incorporated a "Federal" French's Electrolytic Zinc Process Company with its head office in Montreal, and transferred to it the "assets" of the British Columbia Company, subject to the liabilities of the latter Company. Some time after that this Federal Company began proceedings against your Company in the courts of the Province of Quebec.

While several of the shareholders of the British Columbia Company are natives of Quebec they were and are domiciled in the Province of British Columbia. The option referred to was signed in that Province. The operations of your Company, and those of the British Columbia Company were and are carried on in that Province. All the witnesses except the "experts" live there.

Still your Directors' only objection to the Complainants' choice of forum is that it is exceedingly inconvenient and unnecessarily expensive to have the many witnesses on both sides leave British Columbia to attend a trial elsewhere, particularly as the Judges of the British Columbia Courts have had many years of experience in hearing cases involving mining and metallurgical problems.

Your Staffs—Mining, Smelting, Refining, Accounting and Marketing (including your European and Asiatic selling agents) —as usual performed their duties efficiently. The Power Company Staff were extremely busy during the year giving due attention of both construction and operating.

The relations with your employees continue satisfactory. In appreciation of services performed your Directors, at the end of the year, allotted to each married employee who had been with your Company three years one fully paid share of stock, and to each unmarried employee who had been with your Company that long one-half a fully paid share of stock.

While it is both imprudent and impossible to forecast metal prices it is likely that they will remain about as they are for some months anyway. In the past abnormally high prices have always been corrected in due course, and it is probable that the future will be as the past has been.

During the year the death occurred of Sir Edmund Osler who had been a Director from the inception of the Company. He will be much missed as he took a keen interest in your affairs. The vacancy was filled by the election of Mr. F. Gordon Osler.

On behalf of the Board,

JAMES J. WARREN,

MONTREAL, March 10, 1925. President.

The Consolidated Mining and Smelti

Balance Shee

LIABILITIES

CAPITAL:			
Authorized:			
600,000 Shares at $25.00 each..........		$15,000,000.00	
Issued and fully paid:			
As at December 31, 1923..............		10,533,700.00	
Allotted during 1924:			
In exchange for bonds of the first issue........	$133,500.00		
As Bonus to Employees.	10,500.00		
For Assets acquired.....	18,150.00	162,150.00	$10,695,850.00
BONDS:			
Authorized	$7,500,000.00		
Issued and sold including Bonds held for exchange of those of first issue.........			3,866,500.00
Hypothecated as security for Special Loan..		2,000,000.00	
LESS Redemption per Sinking Fund....		100,000.00	
		$1,900,000.00	
SPECIAL LOAN:			
Secured by Hypothecation of Bonds......			1,000,000.00
ADVANCES FROM WEST KOOTENAY POWER AND LIGHT COMPANY, LIMITED...........			504,351.01
BOND INTEREST ACCRUED WITH EXCHANGE THEREON............................			136,409.07
RESERVE FOR DOMINION AND PROVINCIAL TAXES...............................			624,845.70
DIVIDENDS PAYABLE JANUARY 15, 1925......			320,875.50
ADVANCES ON METALS AND ZINC CONCENTRATES SHIPPED ON CONTRACT AND IN TRANSIT............................			2,328,699.42
FIRE INSURANCE RESERVE................			74,151.22
ACCOUNTS PAYABLE......................			954,327.23
CONTINGENT LIABILITIES:			
As Guarantor of Principal and Interest of West Kootenay Power and Light Company Limited Twenty-year Six Per Cent Bonds of a Par Value of..............		$1,750,000.00	
In respect of Guarantee in connection with Lands for Sale......................		26,960.00	
Bills of Exchange Discounted............		£138,394	
PROFIT AND LOSS ACCOUNT:			
Balance December 31, 1923..............		$3,104,325.73	
Profit for Year ended December 31, 1924..		4,069,023.26	
		$7,173,348.99	
LESS: Income and Mineral Taxes Paid and Reserved for in 1924.................		790,120.42	
		$6,383,228.57	
LESS: Dividend No. 40 Declared June 18, 1924......	$320,167.50		
Dividend No. 41 Declared December 11, 1924.......	$320,875.50	641,043.00	5,742,185.57
			$26,248,194.72

Audito

We certify that we have audited the Accounts of The Consolidated Mining and Sm Smelter Accounts maintained at the offices at Kimberley, Rossland and Trail, B.C., and the Stores and Materials and of Ore and Smelter Products are as certified by the Company's offi that date, less estimated cost of refining, and the refined Lead and Zinc unsold at Decembe Shareholders that the above Balance Sheet is, in our opinion, properly drawn up so as to exh and the explanations given to us and as shown by the books of the Company in British Colum as at the date of closing of the Accounts, December 31, 1924.

VANCOUVER, B.C., MARCH 9TH, 1925.

ɔmpany of Canada, Limited
December 31, 1924

ASSETS

Mines, Mineral Claims and Shares in Other Companies:		
Balance December 31, 1923..............	$10,064,414.82	
Expenditure for year ended December 31, 1924................................	244,602.96	
	$10,309,017.78	
Less: Provision for Depletion of Mineral Properties............................	518,055.41	9,790,962.37
Mining, Smelting, Concentrating and Refining Plants:		
Balance December 31, 1923..............	$8,411,310.01	
Expenditure for year ended December 31, 1924................................	1,630,166.46	
	$10,041,476.47	
Less: Depreciation.....................	1,051,413.75	8,990,062.72
Ores, Metals and Smelter Products on Hand and in Transit..................		4,700,468.06
Mines and Smelter Stores and Material		1,755,499.43
Accounts Receivable....................		677,095.34
Insurance Paid in Advance..............		28,774.09
Dominion of Canada Victory Bonds at Cost..................................		77,045.72
Cash in Bank and on Hand:		
Montreal, Toronto, Vancouver and Trail..	$227,586.99	
Sundry Cash Accounts..................	700.00	228,286.99
		$26,248,194.72

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pany of Canada, Limited, for the year ended December 31, 1924, including the Mines and received all the information and explanations that we have required. The Inventories of ... of the Gold, Silver and Copper contents have been corrected to market quotations of have been included at the cost of production. Subject to the foregoing, we report to the ... view of the financial position of the Company according to the best of our information the Accounts of the Montreal Office, as audited by Messrs. Edwards, Morgan and Company,

Helliwell, Maclachlan & Co.,
Chartered Accountants.

The Consolidated Mining and Smelt

Profit and Loss Accouat

To Ores, Metals and Smelter Product on Hand and in Transit at December 31, 1923	$2,021,667.20
" Customs Ores, Lead and Bullion Purchased	1,699,827.15
" Freight and Insurance on Ores from Company's Mines	527,080.79
" Mining, Smelting and General Expenses	8,240,768.29
" Development Expense	440,424.00
" Depreciation of Plant and Equipment	1,051,413.75
" Provision for Depletion of Mineral Properties	518,055.41
" Bond Interest and Exchange on Coupons	271,991.04
" Interest on Loans	183,291.93
" Directors' Fees	3,600.00
" Fire Insurance Reserve	74,151.22
" Sundry Items Written Off	1,800.00
" Balance—Profit, Before Provision for Dominion and Provincial Income Taxes	4,069,023.26
	$19,103,094.04

ompany of Canada Limited

ar Ended December 31, 1924

By Sales of Smelter Product, Ore, Etc.	$14,377,308.06
" Ores, Metals and Smelter Product on Hand and in Transit at December 31, 1924	4,700,468.06
" Interest on Victory Bonds	1,285.09
" Rents, Royalties and Sundry Revenues	24,032.83
	$19,103,094.04

General Manager's Report

TRAIL, B.C. Feb., 24, 1925.

To the President and Managing Director,
The Consolidated Mining & Smelting Co.
of Canada, Ltd.

Dear Sir:—

I beg to submit the following report of the Company's operations for the year ending Dec. 31st, 1924, including the reports of the Manager of Mines and the Comptroller.

The year just passed has been one of more than ordinary importance in the life of the Company.

The Kimberley concentrator, although completed in August, 1923, could not be put in full operation till March, 1924, when the East Kootenay Power Company were able to start the first unit of their Elko plant and supply sufficient power to Kimberley. The tonnage was then rapidly increased to such an extent that the Company's lead production for the year was 66% more than the production in 1923, while the zinc output was increased 50%.

The Trail reduction plant did not have capacity to treat the whole of this increased tonnage.

All of the Lead concentrates were smelted at Trail but some 18,000 tons of lead bullion were exported to England for refining.

The excess production of zinc concentrates, about 57,000 tons, was exported, mainly to Europe, where, owing to the scarcity of the ore supply and the extremely low wages paid, treatment rates were offered which made this movement possible in 1924 for the first time in many years.

Developments at the Trail pilot mill, between the date of designing and completion of the Kimberley Concentrator, indicated that the concentrator. when completed, would have considerably larger capacity than originally estimated. It was soon demonstrated that the mill was capable of handling 3,000 tons of ore daily. Exploration work carried on in the mine during the same period justified the operation at that tonnage.

During the year the mining plant has been supplemented with the additional equipment needed to break and handle the ore and to keep up the required development work.

Early in June it was decided to make the required extensions to the Trail Plant to extract and refine the metals from all of the concentrates from the Sullivan Mine together with all ore offering from independent mines. These extensions included practically doubling the zinc plant; a 150 ton addition to the Lead Refinery; doubling Silver and Gold refinery; the addition of acid and dust Cottrell plants to the silver and gold refinery and a plant for the recovery of antimony from the by-products of silver refining; additional sintering and Cottrell plants at the lead smelter; a lead casting and drossing plant in conjunction with the lead smelter; a flue system for the zinc plant with Cottrell fume collectors and a 400 foot brick lined concrete stack with 21 ft. inside diameter at the top; together with additions to various shops and their equipment.

Some of these improvements were completed by the end of the year and all of the remainder were well under way.

The greater part of these plants will be ready for operation by the time the additions to the Bonnington Power plants can supply the power necessary to run them. This should be in the early summer.

With all of the reduction being done at Trail the cost of producing metal will be reduced; besides which there is no guarantee that the continuation of present rates for the exportation of partly refined ores and metals will continue.

With the exception of the concrete stack, all of the designing, construction and installation of the various plants is being done by the Company's own employees at Trail.

The buildings are of permanent, slow-burning or fire-proof construction. Steel construction, concrete floors and gunite (concrete) walls wherever possible. Where wood has to be used on account of corrosion from acid, exposure, etc., fire protection is given special care.

Wage scales, being partly based on the average prices of lead and zinc, were about 7% higher than in the previous year and about 60% above pre-war scales.

The Crow's Nest Miners were on strike most of the year necessitating the hauling of a large quantity of coke from Pennsylvania.

The Sullivan Mine:

The results of the exploration work during 1924 were very satisfactory. The grade of ore mined averaged considerably lower than that mined in 1923. This was not because as rich ore was not being mined but rather, that with the long haul to Trail on the crude ore eliminated, much lower grade stopes could be and were worked at a profit.

Mining costs have been materially reduced. A further reduction should be made in the near future as the mine gets further opened up and organized. The high wage scale in effect at present is also against low costs.

The Kimberley Concentrator:

The concentrator was short of power during the first three months of the year; for the remainder of the year sufficient power was generally available, but much trouble has been given by interruptions and irregularity of the service. The Power Company have been improving their service—a second circuit has been run and extra switching apparatus installed; the Elko tunnel has been lined with concrete and various other betterments made; so that it is hoped there will be a great improvement in future.

The milling process is still in the course of development and many improvements have been worked out and incorporated in the mill during the year, the effect being to increase the tonnage milled and the percentage of zinc in the zinc concentrates without sacrificing recovery; thereby saving freight charges, lowering the cost of further processes and increasing the ultimate recovery of zinc.

The main additions to the concentrator were a 1,200 H.P. Boiler plant with automatic stokers; a middlings retreatment plant; an extension to the receiving bin; one more primary ball mill and various sand pumps.

The first cost of both lead and zinc delivered at Trail has been very greatly reduced.

The Lead Smelter:

The tonnage treated in this plant increased again from 225,000 in 1923 to 274,000 and the lead produced from 48,000 to 80,000 tons. By far the greatest part of this increase was made in the last part of the year.

Smelting costs were again reduced although wages and the price of coke were both higher.

Several very extensive repairs and renewals were made; additional sintering plant was provided; a new Drossing and anode casting plant was constructed; New Cottrell installations, needed to take care of the excess tonnage, were started and are well under way.

The Lead Refinery:

The output from this plant was increased from 48,000 tons in 1923 to 62,000 tons in 1924.

Costs were reduced in this department also.

The extensions to this plant were commenced in June and were well along by the end of the year. When complete the refinery will be able to handle from 300 to 350 tons per day.

The Betts process will be used in this extension, the purity of the resulting lead offsetting any saving which could be made in the cost of installation and refining by any other methods now known, while the Tadanac Brand of electrolytic lead has become well established where high purity is desired.

The Copper Smelter, Refinery and Rod Mill:

One short campaign was made in the Copper plants to smelt and refine the products from the Rossland Concentration tests—700 tons of refined copper being produced.

The Tadanac Concentrator:

This mill was needed for Sullivan ore during the first quarter of the year until sufficient power was available for the Kimberley Concentrator.

In the last three-quarters of the year the Rossland concentration test was carried on continuously. These tests confirmed the preliminary calculations very closely as far as recoveries and costs were concerned—the gold recovery was about 2.8% lower than estimated and the copper recovery was 2½% higher.

The milling costs were about the same as estimated when sufficient tonnage was available.

The concentration ratio was considerably less, being 4.7 to 1 instead of 7.9 to 1. This was due to the ore treated in these tests containing about the relative percentage more sulphides than that treated in the preliminary tests.

The Rossland Mines:

These mines have either been closed down or operated at a loss for some years past. It was decided to make a thorough test to find out if they could be re-established on an economic operating basis by concentrating the lower grade ores and smelting the higher grades. Although the Rossland Camp has on several occasions passed through periods of low grade shipments and loss, further development work has brought the camp back to successful operation in each case. On this occasion the ore reserves, instead of improving, have gone from bad to worse; besides which the ore which is left is generally either in narrow shoots or is inaccessible and costly to mine, making the estimated mining costs impossible. No new ore has been discovered although development has been kept up faithfully.

The values in the ore mined have not been sufficient to cover the cost of mining these expensive areas and reducing the resulting ore.

The broken ore in the mine will be extracted together with a small tonnage mined from some higher grade stopes. When this is accomplished, unless some new ore is discovered in the meantime, it will be necessary to close the mines indefinitely.

The Zinc Plant:

Owing to power shortage the tonnage produced was reduced from 30,025 tons in 1923 to 27,443 in 1924.

Production costs were proportionately higher.

This plant has been working on higher grade concentrates, particularly during the last half of the year. The zinc recoveries have improved on this account though hardly as much as would be expected from the higher grade concentrates.

Efficiency Bonuses:

This system of bonusing extra endeavor which was put into effect last year has continued in force and is of undoubted benefit both to the Company and the Employees.

The Workmen's Co-operative Committees:

These committees have long since passed the experimental stage. They are of great assistance in adjusting all matters concerning the welfare of the employees and have demonstrated time and again their usefulness and their ability to understand and help the management in many ways.

Trail Memorial Hall:

During the year a Memorial Hall was built in Trail. This building is equipped with a hall for the War Veterans, a fine large gymnasium, reading rooms, writing rooms, bowling alleys, dressing rooms and shower baths. About one-half of the cost of the building was contributed by the Company. The Gymnasium classes are attended by over one thousand school children and more than a thousand men have become members of the association.

I wish to express my appreciation of the co-operation and assistance rendered by the entire organization.

The following Officers have been in charge of the various Departments:

General Offices . . . T. W. Bingay, Comptroller; R. C. Crowe, Solicitor; R. Walker, Chief Accountant; W. R. Baxendale, Purchasing Agent; H. B. Fuller, Asst. Chief Accountant.

Mines . . . . W. M. Archibald, Manager of Mines; and Staff.

Concentration . . . . R. W. Diamond, Superintendent; W. H. Hannay, C. T. Oughtred, S. Grey, Asst. Superintendents.

Smelter . . . . James Buchanan, Superintendent; G. E. Murray, Asst. Superintendent; R. K. Blois, Superintendent of Smoke Treaters.

Zinc Plant . . . . B. A. Stimmel, Superintendent; F. S. Willis, Asst. Superintendent, H. Woodburn and Graham Cruickshank, Departmental Superintendents.

Refineries . . . . J. J. Fingland, Superintendent; H. A. B. Motherwell, Asst. Superintendent.

Engineering . . . . . . G. F. Chapman, Mechanical Superintendent; E. M. Stiles, Chief Engineer; W. B. Kinnear and H. N. Tiedje, Construction Engineers.

Research . . . . F. E. Lee, A. L. McCallum, D. G. Bisset, P. F. McIntyre.

Assay Office . . . . . G. W. Cotton, Chief Chemist.

Yours respectfully,

S. G. Blaylock,

General Manager.

Manager of Mines Report

TRAIL, B.C., Feb. 19th, 1925.

To the General Manager.

Dear Sir:—

I beg to submit the following report of the operation of the various mines of the Company for the year, 1924, with accompanying tables of production and development:—

Ore Production

Mine	Ore	12 Months 1924 Tons	1894 To Date Tons
Rossland Mines including Josie	Gold-Copper Ore:		
	Smelting	19,797	5,369,183
	Concentrating	135,502	343,453
White Bear	Gold-Copper Ore	2,205	5,207
Sullivan	Zinc-Lead Ore	988,376	
	Lead Ore	5,941	3,140,099
	Pyrites	1,943	
St. Eugene	Lead Ore	....	1,026,435
	Zinc Ore	....	
*Molly Gibson	Silver-Lead Ore	69	9,247
*Number One	Silver Ore	10	25,009
*Highland	Lead-Silver Ore	3,985	8,981
	Lead Concentrates	....	5,238
*Ottawa	Silver Ore	56	1,703
	Concentrates	....	164
Lucky Thought	Lead-Silver Ore	120	120
	Lead-Silver Concentrates	....	675
	Silver-Zinc Ore	307	307
	Silver-Zinc Concentrates.	....	1,141
Richmond-Eureka	Lead-Silver Ore	19	19,439
*Silver King	Silver-Copper Ore	....	17,238
Emma	Copper Ore	....	262,560
Phoenix Amalgamated	Copper Ore	....	2,493
Number Seven	Siliceous Gold Ore	....	7,388
*San Poil	Siliceous Gold Ore	....	18,470
Rock Candy	Fluorspar Crude Ore	....	299
	Fluorspar Concentrates	....	19,741

Note:—Production given includes that of previous owners.

* Since the Company acquired property only.

Development—Feet

	Drifting	Cross Cutting	Raising	Sinking	Total	Diamond Drilling
Rossland Properties, including Josie and White Bear........	5,185.5	2,811.5	2,060.5	256.5	10,314.0	27,269.5
Syllivan.............	2,683.0	815.5	1,083.5	164.0	4,746.0	4,633.5
Molly Gibson........	90.0				90.0	
Highland............	331.0	105.0	90.0		526.0	
Richmond Eureka....	120.0	90.0	65.0		275.0	
Coast Copper........	1,925.0	209.5	114.5		2,249.0	540.0

making a total to December 31st, 1924, of:—

	Feet	Miles
Rossland Mines..............................	425,648	80.61
Sullivan....................................	56,855	10.76
St. Eugene..................................	106,321.5	20.10
Molly Gibson................................	12,480	2.37
Number One..................................	10,198	1.93
Highland....................................	19,943	3.78
Ottawa......................................	11,847	2.24
Lucky Thought...............................	3,490	.66
Richmond Eureka.............................	9,974	1.85
Silver King.................................	20,462	3.88
Emma..	7,644	1.47
Phoenix Amalgamated.........................	2,581	.49
Number Seven................................	5,934	1.12
Rocky Candy.................................	1,884.5	.36
Coast Copper................................	9,544.5	1.80

Rossland Properties:

Shipments of ore to Tadanac were resumed in March, when power became available for the operation of the Kimberley Concentrator, thereby releasing the Tadanac mill for Rossland ore, and, as shown by the production tables, these amounted to 135,502 tons of milling ore and 19,797 tons of smelting ore.

A liberal development policy was in effect during the year, and covered the rather close exploration of localities in the vicinity of productive ore shoots, as well as trunk line extensions and extensive diamond drilling in new territory, a portion of which had been optioned for the purpose.

The results from this work, which comprised 10,314 feet of drifting, crosscutting, raising and sinking, and 27,269.5 feet of diamond drilling, were on the whole very disappointing.

No new ore shoots of importance were discovered and values at times rapidly decreased in vein extensions, notably in the downward continuation on deeper levels of ones formerly profitably productive.

In the southwest ore shoot, Le Roi, on which the winze was continued to the 2,000 level, development on the 1,850 and

2,000 levels failed to locate commercial ore other than that formerly reported close to the winze. The productive part of this ore body practically ended at the 1750 level, although the vein with diminished values extended to the 2,000.

Diamond drilling to the northwest-southeast system of veins from the lower levels of this winze indicated lower values than prevailed on the 1,650.

Development of the Black Bear ore shoot south vein, Le Roi mine, was also continued to the 2,000 foot level Le Roi where a connection had been made with the 14th Centre Star. Values in this ore body extended to within 80 feet of the 1,850 level, although vein and sulphides continued to the 2,000.

On the 16th level, War Eagle, corresponding to the 14th level, Centre Star, and 2,000 foot level, Le Roi, additional development was performed on the heavy sulphide vein which had been opened east of the Nickle Plate dyke. This work was in a section covering the downward continuation of productive ore shoots on the 8th Centre Star, 12th and 14th War Eagle. Values, however, which were principally in gold, were irregular and generally too low to make ore.

Exploration of the south ground from the 12th level Le Roi was continued throughout the year and resulted in the discovery of several small veins carrying fair values in gold and copper. Additional development on these, however, failed to show maintenance of values over stoping widths.

Diamond drilling from the lower levels in what has been considered as the profitable productive section of the camp, in several instances showed well-mineralized veins, but values were either too low to warrant development or wanting.

Exploration in both the North and South Belts, of veins, which in the early days of the camp had been considered as having fair possibilities, was undertaken by diamond drilling from the surface, and while the programme has not been completed results to date have been disappointing and do not offer hope of the discovery of new ore bodies that will replace the former producers of the camp.

While development by diamond drilling is still being carried on, it should be borne in mind, in the light of present operating conditions resulting from higher wages and costs of mining supplies with no appreciation in the values of the minerals in the ores, that substantial ore bodies of perhaps a little higher grade than the average of the camp must be discovered before these mines can again become profitable producers.

Sullivan:

Production at the Sullivan was further increased during the year. 5,941 tons of crude lead ore and 1,943 tons of pyrites were shipped to Tadanac, and 988,376 tons of lead-zinc ore to the concentrators at Kimberley and Tadanac, resulting in the production of 132,658 tons of lead concentrates and 134,814 tons of zinc concentrates.

The plans of footwall development were further advanced, principally on the 3,900 level, in extensions of crosscuts and drifts and in raises to the vein. The main footwall crosscut in the north ore zone was completed; the station cut and twin raises started for the connection with the 4,500 level (formerly known as 1,100 of the upper mine). One of these raises will be equipped with a double drum, electric hoist and cages for handling men and supplies; the other will handle ore and waste. Nearly all of the development, which totalled 4,746 feet, was in the hard, mineralized quartzites or chert, where drilling conditions were abnormally hard and necessitated the best possible equipment, including high grade steels.

The work accomplished during the year opened up sufficient working places so that present production of 3,000 tons daily is maintained without difficulty.

Diamond drilling from the surface and underground, with extensions of drifts north, have strengthened the possibilities of additional tonnages.

In the south ore zone stopes on the 4,500 and 4,400 foot levels continued to open up satisfactorily, so that former tonnage estimates in that section based on data from rather irregularly placed diamond drill holes may be exceeded.

The air supply was further increased by the installation of a 6,500-foot Ingersoll-Rand air compressor, direct driven with 1,100 H.P. synchronous motor and equipped with pocket unloading device. Airlines were increased and an underground receiver of 80,000 cubic feet capacity constructed.

Mine transportation facilities were improved by the installation underground of a 125 K.W., 250-volt motor generator set and by the addition of 40-80 cubic feet Granby cars and 2-12 ton tandem electric locomotives. The locomotives were built in the Tadanac shops and were of special design with overall dimensions to conform to present dumping arrangements and provide necessary clearance underground.

New construction embraced additions to the dry rooms at both McDougall and the Upper Mine, car repair shop, carpenter shop, new hospital and residences at McDougall, a new general office in Kimberley, residences and bunk-houses at the Concentrator.

Milling facilities were improved by the addition to the concentrator of a retreatment bay for handling zinc middlings and by the installation of three Babcock & Wilcox boilers in the heating plant, which expenditures, with changes and additions to reagents, were responsible for higher recoveries and better products.

Miscellaneous Properties:

The Highland mine, Ainsworth, was operated with a small crew for the last nine months of the year. Stoping operations as well as development were carried on and the resultant production shipped to Tadanac for concentration. Results were fairly satisfactory and the condition of the mine has somewhat improved.

Leases were in effect on the Richmond Eureka, Ottawa, No. One, Molly Gibson and Lucky Thought mines and small shipments resulted from each. The ore from the Lucky Thought mine was concentrated in the Hewitt mill and the product in lead and zinc concentrates shipped to Tadanac.

The Rock Candy mine was not operated as there was sufficient fluorspar concentrates in stock for plant requirements and marketing conditions for our surplus production had not improved.

Title was acquired to the Silver King mine, but no work was undertaken.

Controlled Properties:

At the Coast Copper development work was continued with a small crew and consisted in extensions of the north and south drifts on the adit level on the Old Sport vein and a connection by raise with the winze from the upper workings. Results were encouraging, some fair copper ore with irregular gold values having been developed in both sections and as surface showings of commercial ore have been exposed some distance beyond present faces, which are now 2,900 feet apart, possibilities exist for the development of additional ore on this level.

A small amount of work was done on the Idaho vein on the adit level and ore again picked up beyond a fault.

Assessment was performed on locations and a number prepared for crown-granting.

At the Sunloch assessment work was performed on all locations and applications made for crown-grants for those in order. A new discovery was made on the Olive claim, which, however, will require development before an opinion can be expressed of its value.

Exploration:

Field engineers examined many properties in British Columbia, Manitoba, Ontario and Quebec, and, while some of those presented for investigation undoubtedly had merit, it was impossible to reconcile prices, terms and adverse transportation facilities with the slender possibilities of developing a profitable producing mine.

Several prospecting parties were also in the field.

The area within a radius of 30 miles of the Sullivan Mine was carefully gone over without discovering prominent outcrops or other indications of a similar ore body.

Considerable attention was given to the Rouyn District, Quebec; the exploratory party there comprised a field engineer of experience and an economic geologist, with technical graduates as assistants. Some locations were made by one of our prospectors and a limited amount of surface work performed on them, after which they were abandoned. Showings of merit were held at exorbitant prices and no important development work was undertaken.

Labor and Mine Supplies:

The labor supply for all classes was ample throughout the year; base wages remained at $3.50 per day for miners and $3.00 per day for muckers. The cost of living bonus of 50c. and the metal bonus, which averaged 87c., were continued and increased the daily wage accordingly. Contract work and efficiency bonus still further increased the earnings of the efficient employee.

There was no appreciable change in the cost of mining supplies, powder, steel and fuel remaining about the same as in 1923.

Mining costs at the Sullivan were reduced 11%, but were disappointingly high in Rossland, partly on account of the small tonnages won after stopes had been prepared and through narrowing of working faces in endeavors to raise the grade.

I most heartily acknowledge the valuable and efficient services rendered the Company by all members of the operating staff.

The following gentlemen were in charge of the various operations:—

Mr. F. S. Peters, Supt., and
Mr. M. M. O'Brien, Ass't. Supt. Rossland Properties
Mr. E. G. Montgomery, General Supt.
Mr. Wm. Lindsay, Supt. Tunnel Mine, Sullivan Mine
Mr. Frank Fortier, Supt. Upper Mine
Mr. L. W. Oughtred, Ainsworth Properties
Mr. Dan Matheson, Rock Candy Mine
Mr. C. A. Seaton, Coast Copper Company
Mr. Geo. H. Kilburn, Sunloch Mines
Mr. R. M. Macaulay and Mr. Geo. H. Kilburn as examining Engineers.

Major A. B. Ritchie continued as a valuable operating assistant at Trail.

Yours faithfully,

W. M. Archibald,

Manager of Mines.

Comptroller's Report

TRAIL, B.C., March 2nd, 1925.

To the General Manager.

Dear Sir:

Operations for 1924 show a net profit of $4,069,023.26 after charging to Profit & Loss $440,424.00 expended in the development of our mines, writing off for depreciation of plant $1,051,-413.75, for mine depletion $518,055.41, and providing for bond interest and exchange on coupons $271,991.04. During the last quarter of the year the prices of lead and zinc both rose to a level considerably above normal, and this increase had a quite appreciable effect upon the profit earned.

Adequate provision has been made for both Dominion and Provincial Income taxes accruing to December 31st, 1924. The amount $790,120.42, to which must be added Real Estate taxes and the many varieties of so-called nuisance taxes, is an indication of the extent that capital is being withdrawn from productive industries by the various Governments.

Interest paid on loans amounted to $183,291.93, or $36,772.-06 less than in 1923. Progress has been made during the year in the direction of becoming independent of bank loans for our working capital. The special bank loan was reduced $500,000, and the advance from the West Kootenay Power and Light Company $988,862.93.

There is a heavy increase in metal stocks, the total having increased $2,678,800.86 in the year. The increase is largely due to base bullion and zinc concentrates produced and exported in excess of our present refining capacity, upon which settlement is pending. We have received advances against this metal of $2,328,699.42. When the plants at Tadanac and Bonnington, now under construction, are finished all this metal will be refined at Tadanac.

Some of the increase in metal stocks will necessarily be permanent with the increased operations in lead and zinc, and the resumption of copper refining, so that more working capital will be required than in the past.

For many years the experience of the Company with fire insurance has indicated the payment of excessive premiums, and a start was made in 1924 on a programme involving the gradual assumption of our own fire risk. We have reserved for this purpose $74,151.22, and invested it in Victory bonds.

Though we have exported a considerable surplus of zinc concentrates and lead bullion temporarily while waiting for plant extensions to be provided, all our Customs shippers have had their ores taken care of as usual. There were no changes in Schedules in 1924, but both lead and zinc ore schedules were revised in favor of the shippers shortly after the close of the year. We hope to make further reductions in rates later in 1925 when our new plant is in operation, in continuation of our policy of passing on savings from increased operations to our shippers.

Customs ore business increased slightly in the year, from $1,631,766.34 in 1923 to $1,699,827.15 in 1924. There are indications of a further increase in 1925.

Following is the metal production for the Tadanac Plant, and the tons of ore treated in Tadanac and Kimberley plants together from 1894 to date, and for the year 1924:—

	Tons Ore Treated	Gold Produced Ounces	Silver Produced Ounces
1894 to date	8,619,059	2,064,335	42,627,315
1924	1,133,523	26,976	4,074,044

	Lead Produced Pounds	Copper Produced Pounds	Zinc Produced Pounds
1894 to date	979,971,078	102,581,849	329,834,563
1924	161,400,769	1,382,750	54,885,643
		Exported	37,312,181
			92,197,824

1894 to date	$168,464,816
1924	16,882,129

Average metal quotations for the present, as compared with the previous fiscal year, are as follows:—

	1923	1924
London Lead	£27.147	£34.421
New York Silver	64.873c.	66.781c.
New York Electrolytic Copper	14.421c.	13.024c.
London Zinc	£33.058	£33.728

Respectfully submitted,

T. W. BINGAY,

Comptroller.

Sales Manager's Report

To the President
and Managing Director.

During the year 1924, the markets for Lead and Zinc were favorable for the sale of our production. While domestic demand was comparatively light, world consumption continued on a large scale and prices over the year were satisfactory.

The market was strong during January and February, and heavy consuming demand was responsible for a substantial rise; but a tendency to overreach on the part of the speculative element became apparent, and while further buying bulged prices to an abnormal point, the reaction which followed carried both metals below their value. The decline commenced in March and lasted until the middle of May, when the improvement in European and American economic conditions started a recovery, which continued steadily to the end of the year. The peak was reached during the last week in December, when Lead sold in London at £44 and Zinc at £39 per ton.

The world's production of Lead during 1924 was the heaviest in history; and the Zinc production almost equalled the high level established during the War. Stocks of both metals were unusually light at the close of the year, indicating a record consumption.

In Canada, although industrial conditions were not entirely favorable, sales were steady and in good volume—almost equalling the tonnage placed in 1923.

Canadian consumption for 1925 is showing signs of improvement. Several new galvanizing industries are in operation, or in prospect, which tend to materially increase the domestic market for Zinc. Consumers of Lead are active and are confidently looking forward to a steady and increasing demand throughout the year for their various products. But, as our production of Lead and Zinc far exceeds the consumption in Canada, the successful marketing of the surplus depends on world conditions.

Generally speaking, the outlook for foreign business is promising. The abnormally high prices of December, which were largely speculative, particularly in Lead, have receded, and Lead at £37, with Zinc £36, are now more in keeping with supply and demand value. This has been good for trade, and as market prices are likely to remain around present levels for some time, we expect a strong demand to continue.

Sales for 1924 were as follows:

	Pounds
Lead, refined	122,348,000
Lead, in bullion	35,949,000
Zinc, refined	58,442,000
Zinc, in concentrates	37,312,000
Copper, refined	1,164,000

Respectfully submitted,

W. S. Rugh,

Montreal, March 3rd, 1925. Sales Manager.

The West Kootenay Power and Light Company Limited

Annual Report and Statement
for Twelve Months Ending
December 31st, 1924.

The West Kootenay Power and Light Company, Limited

TWENTY-SEVENTH ANNUAL REPORT OF GENERAL MANAGER

For the 12 Months' Period Ending December 31st, 1924

ROSSLAND, B.C., Feb. 18th, 1925.

To the President and Directors,
West Kootenay Power & Light Company, Ltd.

Gentlemen:-

The Company's gross consolidated revenue for the year ending December 31st, 1924, was $683,516.20.

The Revenue producing load for the 12 months ending December 31st, 1923, was 30,515.4 H.P. and for the year ending December 31st, 1924, was 29,889.2 H.P., showing a decrease of 626.2 H.P. This decrease is accounted for by No. 2 Generator being out of commission for approximately three months, due to unfortunate burn out, otherwise our revenue producing load for the year 1924 would have exceeded that of the year 1923.

Penticton, Kelowna and Southern Okanagan Extensions

As I mentioned in my report for the year ending December 31st, 1923, I did not expect that conditions would change very much as to the revenue we might expect from this district. However, due to decreased crop generally throughout the fruit producing areas, this meant that the Okanagan growers, although having approximately 60% crop, were able to dispose of same to advantage and the last few months of the year showed a decided improvement over the same months for the year 1923, and it is to be hoped that this improved condition will continue.

Copper Mountain Extension

The Granby Consolidated Mining, Smelting and Power Co., who took over the holdings of the Canada Copper Company at Copper Mountain and Allenby, apparently were not able to proceed with the reconstruction of the mill at Allenby, due to the very unsettled conditions of the copper market, and for probably the reason of the large tonnage of copper which continued to be delivered in New York from foreign countries at a price which, apparently, many of the Canadian Companies cannot compete with. This probably was the reason for the Granby Company not resuming operations at Copper Mountain and Allenby.

Bonnington No. 1 Extension

As per your authorization of October 1923, just so soon as the necessary railway siding was completed, which was early in the year 1924, we immediately started in to wreck No. 1 Plant. In view of the fact that certain rock excavations which were completed when old No. 1 Plant was being constructed, I feel that at this time we cannot put the proper credits through until new No. 1 Plant is completed. Therefore, the question of what is a fair amount to be allowed against the construction of old No. 1 Plant has not been dealt with, but will be taken into consideration in the year 1925, after the work is completed and other charges are being put through.

As I stated in my report for year ending December 31st, 1923, due to scarcity of labor, we were unable to actually start construction until October 1923. However, I am very pleased to report that during the year 1924 we were able to accomplish satisfactory progress on this development, and as at December 31st the work of developing hydraulically this additional 60,000 H.P. was as follows:—

Rock Excavation	85% completed
Concrete work, including Power House Structure	75% completed
Outdoor Step-up Station	80% completed
60,000 volt Transmission Line Bonnington to Tadanac	75% completed

This whole undertaking will be completed and we expect to put same in operation in the early summer of 1925.

We have been very fortunate in gathering together a very efficient construction staff, and the work which we have been able to accomplish is of A1 grade, and will, I should say, when completed, come very closely to our estimated cost.

Your other operating plants and all distributing lines have been maintained in the usual high operating condition.

We have been fortunate in maintaining an efficient staff throughout the year, which enabled us to maintain service to the satisfaction of all our customers.

LORNE A. CAMPBELL,
Vice-President and General Manager.

The West Kootenay Po

Consolidated Profit and Loss A
Amalgamating Accounts of West Kootenay
Companies, viz: Cascade Water, P
Company, Rossland Water & Li
Northport P

To Operating Expenses	$241,619.95
" Interest on Bonds	106,768.47
" Bad Debts Written Off	199.20
" Depreciation	232,655.12
Balance	102,273.46
	$683,516.20

Balance S

LIABILITIES

Share Capital $5,500,000.00:			
Issued 32,120 Common Shares at $100.00 each		$3,212,000.00	
Issued 5,000 Preferred Shares at $100.00 each		500,000.00	$3,712,000.00
Bonds Issued		$3,550,000.00	
Less redeemed through Sinking Fund		570,706.29	2,979,293.71
Accounts Payable			22,052.52
Accrued Liabilities			73,290.50
Amount reserved for Bond Interest, Sinking Funds and Premium on Bonds.			
Reserve Account			462,235.85
Profit and Loss Account			11,374.54
Balance 31st December 1923		$11,309.65	
Profit for year		102,273.46	
Adjustment Provincial Income Taxes for year 1923		2,170.09	
		$115,753.20	
Contribution to Sinking Fund	$40,941.16		
Reserve for Sinking Fund Series "A"	28,437.50		
Dividends (Preferred)	35,000.00	104,378.66	
			$7,260,247.12

Light Company, Limited

Year Ending December 31, 1924
ight Company, Limited with its Subsidiary
t Co. Ltd., South Kootenay Water Power
agan Water Power Company, and
t Company.

By Gross Revenue	$683,516.20
	$683,516.20

December, 1924

ASSETS

Plants, Transmission Lines, Buildings & Real Estate	$6,280,282.40
Autos, Mdse, Meters, Instruments, Furniture and Fixtures	183,972.38
Cash on Hand	26,250.57
Accounts Receivable	480,307.49
Accounts Receivable Suspense Account	225,000.00
Prepaid Operating Charges & Expense	61,492.12
Sundry Investments	1,460.55
Royal Trust Co. Sinking Fund Acct	1,581.61

I have audited the books and accounts of the West Kootenay Power & Light Company, Limited, and Subsidiary Companies for the year ending December 31st, 1924, and have obtained all the information and explanations I have required and certify that the above balance sheet and Profit and Loss Account present in my opinion a true and correct view of the Companies' affairs at the said date as shown by the books of the Companies. Inventories have been certified to by the Accountant of the Companies.

Note:—Attention is drawn to the General Manager's Report on the wrecking of the Plant known as No. 1. No depreciation has been written off by the Subsidiary companies except the Northport Power & Light Company.

THOMAS S. GILMOUR, C.A.,
Auditor.

Rossland, B.C., February 17th, 1925.

$7,260,247.12