Report of the Directors

of

The Consolidated Mining and Smelting Company

of Canada

Limited

For twelve months ending December 31st, 1922

BOARD OF DIRECTORS

JAMES J. WARREN, Montreal	President
Sir EDMUND B. OSLER	Toronto
CHARLES R. HOSMER	Montreal
H. S. OSLER	Toronto
W. L. MATTHEWS	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 and Smelting Company
of Canada, Limited.

GENTLEMEN:—

Your directors submit herewith the Seventeenth Annual Statement with your Auditors' certificate attached.

The General Manager's report, along with the reports of the Manager of Mines and the Comptroller—the report of the Sales Manager—and the Statement of the West Kootenay Power and Light Company are included.

After taking care of Current Development, Depreciation of Plant and Capital Renewals, Depletion of Property and paying interest on Bank loans, the net profits were $1,467,528.11 as compared with $570,043.77 in 1921.

After providing for Bond Interest, the remainder, $1,228,-329.94, was transferred to Profit and Loss Account.

The burden of taxation continues to increase until it is well nigh intolerable. Every activity is penalized, and at every turn. If the imposts levied for Municipal and School taxes and under paternal legislation be added to the amounts shown in the statement, the grand total of such taxes for the year 1922 is more than one-quarter of your net profits.

There may or may not be some justification for the taxation of other industries as it is being done, but to penalize mining in the same way is calculated to paralyse this industry, as it carries a risk peculiar to itself and at best has only one crop.

In the interest of getting the most revenue possible—which seems to be the only objective—Legislatures would be well advised to reduce the rate of taxation and depend upon increased volume for tax returns, rather than a high rate of taxation which stifles industry and deters capital from engaging in enterprise.

There have been some slight reductions in transportation charges. Fuel prices remain extortionate.

At the special meeting held in May last you authorized an issue of $7,500,000 of bonds to refund the then existing issue of $3,000,000, and to provide $3,000,000 to take care of certain past capital expenditures and to pay for the construction of the concentrating mill at the Sullivan Mine—the remaining $1,500,000 of the authorized issue to be subject to the action of the Board.

Nearly all of the $3,000,000 issue have been exchanged par for par for bonds of the new issue—$1,000,000 of the new issue for the Sullivan Mill have been sold at par plus accrued interest without any expense to your Company excepting the engraving of the bonds and trustee and legal fees. The remaining $2,000,000 have been pledged to the Bank rather than sold, as your Directors considered it best to retire these gradually from your Depreciation and Depletion Accounts.

Your unsold inventories of refined lead and zinc are carried in the statement at actual cost of production, but not in excess of market prices. Your gold, silver and copper are carried at current market prices.

The year was the most favorable one for some time. The domestic demand was somewhat better and at higher prices. The surplus production was absorbed by the foreign markets at fair prices.

The output of lead, zinc and silver was quite satisfactory—both as to quantity and cost.

Conditions at the Sullivan Mine continue favorable.

Practically nothing was done in your copper and copper-gold properties. The improved copper position justifies the further development of these properties, and it is planned to do so.

Your plants have been well maintained.

Arrangements have been made with the re-organized Canada Copper Corporation, owning a large copper mine and a concentrating plant near Princeton, British Columbia, under which the mill concentrates will move to your Smelter for treatment. The arrangement includes the marketing of the resultant metals by your Company. A contract has been agreed upon between your Power Company and this re-organized Company for a supply of electrical energy to the latter on mutually satisfactory terms.

The demands for electrical energy in the district served by your Power Company have increased and are increasing to such an extent that further development, both hydraulic and electrical, is imperative. You will be asked at the Annual Meeting to authorize the guarantee of the securities being issued by the Power Company to provide the funds necessary for this additional development.

Incident to your operations, settlements are growing up composed largely of your employees. Water and light are required but are beyond the present resources of these small communities. As there is doubt as to whether your Charter permits you to supply these necessaries, a resolution will be submitted for your approval at the Annual Meeting authorizing an application for the grant of Supplementary Letters Patent giving you the desired powers.

Capital expenditure (including Capital Renewals) during the year amounted to $1,239,024.19, $110,340.15 being spent on property account and $1,128,684.04 on plant account. The principal items were—

Property:	
Coast Copper Company development	$12,710.18
Sullivan Trunk Line development	27,335.82
Sullivan Mineral Claims	16,515.28
Fluorspar property purchase	12,500.00
Rossland Trunk Line development	33,963.49
Plant:	
Sullivan Mine	$108,428.24
Sullivan Mill	630,790.49
Smelter—Classifiers	20,366.18
Smelter—Copper Refinery	43,898.39
Smelter—Customs Zinc Unit	34,365.95
Smelter—Bertram Lathe	13,281.76
Smelter—Extension Lead Refinery	207,149.17
Smelter—Dwight & Lloyd machines	25,766.09
Smelter—Foundry	10,000.00

The extension of the lead refinery to a capacity of 150 tons of lead per day was completed early in the summer, and works very satisfactorily.

The installation of the unit in the Zinc Plant to treat customs zinc concentrates was finished in June, since when shipments have been accepted from independent producers.

Good progress was made with the construction of the mill at the mine for the treatment there of the "Sullivan" ore. A contract has been entered into with the East Kootenay Power Company for a supply of electrical energy to operate the mine and the mill. It is expected that the new plant will be turning over early in the summer, when the present mill at the Smelter will begin treating Rossland ores. The cost of this new mill will exceed considerably the estimate. Its capacity, though, will be greater than originally intended, and additional machinery installed will improve the metal recovery.

Aided by the efficiency and loyalty of the employees, your Operating Staff and the Operating Staff of the Power Company performed their duties faithfully and successfully.

Your Sales Manager and his staff, and your selling representatives in Asia and Europe, marketed your metals carefully and skilfully.

The indications are that the present favorable market for your metals will continue for most of the current year.

On behalf of the Board,

James J. Warren,

Montreal, 26th March, 1923. President.

The Consolidated Mining and Smel

Balance Sheet

LIABILITIES

Capital:		
Authorized:		
600,000 Shares at $25.00 each..........	$15,000,000.00	
Issued and Fully Paid:		
421,348 Shares at $25.00 each..........		$10,533,700.00
Bonds:		
Authorized $7,500,000.00		
Issued and sold including bonds held for exchange of those of first issue.........		4,000,000.00
Hypothecated as security for Special Loan.	2,000,000.00	
Special Loan:		
Secured by Hypothecation of Bonds of par value...............................		2,000,000.00
Other Bank Loans and Overdraft......		1,271,086.66
Bond Interest Accrued with Exchange Thereon..............................		140,148.62
Reserves for Provincial and Dominion Taxes...............................		222,851.21
Accounts Payable.......................		1,118,907.87
Contingent Liability:		
In Respect of Guarantee in connection with Lands for sale.......................	27,189.80	
Profit and Loss Account:		
Balance December 31, 1921..............	$1,079,736.90	
Profit for Year Ended December 31, 1922..	1,228,329.94	
	$2,308,066.84	
Less:		
Income and Mineral Taxes paid and Reserved for	252,881.63	
		2,055,185.21
		$21,341,879.57

Audit

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., an
of Stores and Materials and of Ore and Smelter Products are as certified by the Comp
quotations of that date, less estimated cost of refining, and the refined Lead and Zinc
report to the Shareholders that the above Balance Sheet is, in our opinion, properly dr
our information and the explanations given to us and as shown by the books of the Co
Morgan and Company, as at the date of closing of the Accounts, December 31, 1922.

Vancouver, B.C., March 26th, 1923.

Company of Canada, Limited

December 31, 1922

ASSETS

MINES, MINERAL CLAIMS AND SHARES IN OTHER COMPANIES:		
Balance December 31, 1921	$10,384,620.07	
Expenditure for Year Ended December 31, 1922	110,340.15	
	$10,494,960.22	
Less Provision for Depletion of Mineral Properties	320,750.85	
		$10,174,209.37
MINING, SMELTING, CONCENTRATING AND REFINING PLANTS:		
Balance December 31, 1921	$6,473,872.69	
Expenditure for Year Ended December 31, 1922	1,283,829.10	
	$7,757,701.79	
LESS:		
Capital Renewals and Depreciation	405,145.06	
		7,352,556.73
ORES, METALS AND SMELTER PRODUCTS ON HAND AND IN TRANSIT		2,023,763.92
MINES AND SMELTER STORES AND MATERIAL		1,510,983.33
ACCOUNTS RECEIVABLE LESS RESERVE		247,689.09
INSURANCE PAID IN ADVANCE		28,542.84
CASH IN BANK AND ON HAND:		
Toronto and Kimberley	$3,834.29	
Sundry Cash Accounts	300.00	
		4,134.29
		$21,341,879.57

Report

Company of Canada, Limited, for the year ended December 31, 1922, including the Mines and we have received all the information and explanations that we have required. The Inventories officials; the values of the Gold, Silver and Copper contents have been corrected to market December 31, 1922, have been included at the cost of production. Subject to the foregoing, we so as to exhibit a correct view of the financial position of the Company according to the best of in British Columbia and the Accounts of the Montreal Office, as audited by Messrs. Edwards,

HELLIWELL, MACLACHLAN & CO.,
Chartered Accountants.

The Consolidated Mining and Smel

Profit and Loss Account

To Ores, Metals and Smelter Product on Hand and In Transit at December 31, 1921		$2,779,434.41
" Customs Ores, Lead and Bullion Purchased		1,194,389.06
" Freight on Ore From Company's Mines		645,808.79
" Mining, Smelting and General Expenses:		
Tadanac Reduction Plant	$3,561,683.15	
Rossland Properties	135,614.21	
White Bear Mine	283.78	
Sullivan Mine	591,460.02	
Molly Gibson Mine	2,011.17	
Richmond Eureka Mine	225.00	
Highland Mine	4,274.21	
Number One Mine	442.32	
St. Eugene Mine	1,853.30	
Ottawa Mine	539.57	
Rock Candy Mine	43,189.76	
Farm Department	39,847.65	
		4,381,424.14
" Development Expense:		
Sullivan Mine	$ 50,408.86	
Rossland Properties	244,411.42	
White Bear Mine	2,708.12	
General Exploration	9,244.79	
		306,773.19
" Capital Renewals and Depreciation		405,145.06
" Provision for Depletion of Mineral Properties		320,750.85
" Bond Interest and Exchange on Coupons		239,198.17
" Interest on Loans		239,549.13
" Directors' Fees		3,550.00
" Sundry Items Written Off, Including Bad Debts		10,335.64
" Balance—Profit		1,228,329.94
		$11,754,688.38

ompany of Canada, Limited

r Ended December 31, 1922

By Sales of Smelter Product, Ore, Etc. .	$9,576,201.17
" Ores, Metals and Smelter Product on Hand and In Transit at December 31, 1922.	2,023,763.92
" Rents, Royalties and Sundry Revenues	26,243.29
" West Kootenay Power & Light Company, Ltd., Dividends.	128,480.00
	$11,754,688.38

General Manager's Report

TRAIL, B.C., March 1st, 1923.

TO THE PRESIDENT AND
MANAGING DIRECTOR.

DEAR SIR:—

I beg to submit the following Report of the Company's operations for the year ending December 31st, 1922, including the Reports of the Manager of Mines and the Comptroller.

Generally speaking, the steady improvements in production costs and metal recoveries which were the main feature of the operations in 1921, continued into 1922, the costs reaching their lowest point about Midsummer. Metal recoveries have shown a steady increase throughout the year, with an assurance of even higher recoveries in the future. In the latter part of the year there was some increase in the cost of both lead and zinc, due partly to increased wages and partly to a falling off in grade of the Sullivan ore, each of which will be referred to later.

The present wage scales are about 33 1-3% higher than the pre-war scales, ordinary supplies are about 50%, and coal and coke are 100% above pre-war prices.

The prices received for metals at the beginning of the year were approximately pre-war prices. The prices for lead, zinc and copper have improved steadily, till at the end of the year the prices for lead and zinc were from 40% to 50% above pre-war prices. As the large accumulation of war scrap metals has been absorbed, it is only reasonable to suppose that if the metal prices fall again, there will be a corresponding drop in the cost of production, particularly as the prices prevailing in 1921 and the first part of 1922 were actually below the cost of production by most producers. Any such reduction would be from the present costs, which are practically the lowest costs of producing lead and zinc ever made at Tadanac. The costs are greatly influenced by the tonnage of metals produced, and consequently everything which may add to production is of first importance.

The Tadanac Concentrator

This Experimental Concentrator has made excellent progress during the year. Very substantial increases in the recoveries of silver, lead and zinc have been made over last year's work, from ore carrying considerably lower percentages of these metals.

This mill has been operated at over capacity during the entire year, and consequently better extraction will be made when the new Mill at Kimberley, with its ample capacity, is in operation.

The Lead Smelter

The excellent work done in this Department last year has been further improved, both as to costs and recoveries.

Additions are being made to the Sintering Plant to take care of the expected increase of lead concentrates.

The Zinc Plant

The Electrolytic Department of the Zinc Plant, which is the controlling factor of that Plant, has been demonstrated to be capable of a materially greater capacity than it was designed for. For a period of ten days in December, when the Zinc Plant was supplied with sufficient concentrates of a suitable grade, the production was slightly over one hundred tons of electrolytic zinc per day. Much improvement has also been made in each Department in this Plant.

During the year, a separate Zinc Roasting and Leaching Plant was installed to treat Customs zinc ore. This Plant has been in successful operation since June the 1st, and has caused no serious complications in the flow sheet. This plant has made it possible to purchase the zinc ores and concentrates produced in British Columbia and immediately south of the line, at rates which compare very favourably for the shipper with any rates made elsewhere. It has converted a comparatively worthless product into a valuable asset for most of the independent mines in the district.

The Lead Refinery

The increasing production of lead made it necessary to enlarge the Lead and Silver Refineries. The Plant, which is rated at one hundred and fifty tons daily capacity, was completed in September, and has proved capable of producing slightly more than that tonnage. The work of this Department has been very satisfactory.

The Copper Smelter and Refinery

These Plants have only been operated a small portion of the year, and on short tonnage.

The Mechanical Department

Owing to the difficulty of getting machinery and supplies, and to the excessive cost of the same, it was decided to undertake more manufacturing in the Tadanac shops. To facilitate this work some new machinery was purchased and a modern Foundry was built and equipped. Licenses to build the various machines were secured where required. Practically all the machinery for the new Sullivan Concentrator, with the exception of the primary Crushing Plant, and the Electric Motors, is being made in these shops. The costs on this machinery compare very favorably with the Manufacturers' quotations, while the workmanship is of a much higher grade than is customary to-day.

The Kimberley Concentrator

The construction of this Plant was authorized at the end of May. Work was started on the 1st of June and has been pushed ahead as fast as the drawings can be made, and should be completed about Midsummer. The Mill will be one of the most up-to-date Plants in the world. Its capacity will vary largely with the grade of the ore shipped, but it should probably be rated as a 2000-ton Mill, instead of the 1500-ton Mill originally intended. The buildings are steel frame, gunite walls, roofed with 2 x 4 lumber on edge with a specification felt tar and gravel covering. All floors and foundations are concrete or steel.

The process used is a new flotation process which has been developed at the Tadanac Plant, selecting out first the lead sulphide, then the zinc sulphide, leaving the iron sulphides as tailings.

The Mill proper is designed so that it can easily be enlarged at comparatively small expense. The preliminary Crushing Plants are capable of handling 2500 tons in eight hours.

In General:

The very unsatisfactory condition of the fuel supply has continued all through the year, and no improvement is in sight. The quality of both the coal and coke received is good, but the price is one hundred per cent. above pre-war. It would appear that the worst stumbling block in getting the price of fuel back to a more reasonable price, is that in this Industry the workmen are only working slightly over half time. Railway freights are still very high, due largely to high wages and high price of fuel.

The metal output which has had a steady growth during the year, has greatly exceeded that of any previous year. Owing to concentration this has been accomplished with less than one-half of the record tonnage smelted. Next year should see a still greater production of metals, with little, if any, greater tonnage smelted.

The Workmen's Co-Operative Committees have been in existence for three years, and have provided an ideal method of communication between the men and the Management. Great credit is due to the men who have served on these Committees for the work they have accomplished, and for the fairness and energy with which they have carried on their duties.

I wish to express my appreciation of the co-operation and assistance of the entire Organization.

It is I think, worthy of mention, that there have been no changes in the personnel of the Staff. 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, Asst. Superintendents.

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

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

Refineries: J. J. Fingland, Superintendent; H. R. Motherwell, Asst. Superintendent.

Engineering: G. F. Chapman, Chief Engineer; E. M. Stiles, Chief Draftsman; W. B. Kinnear, M. O'Brien, Asst. Engineers.

Research: F. E. Lee, A. L. McCallum, D. G. Bisset, S. Gray.

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

Yours respectfully,

S. G. Blaylock,

General Manager.

Manager of Mines Report

TRAIL, B.C., 12th February, 1923.

TO THE GENERAL MANAGER.

DEAR SIR:—

I beg to submit the following report on the operation of the Company's Mines for the year 1922, with accompanying tables showing development and production attained.

Production

		12 Months 1922 Tons	1894 to Date Tons
Rossland Mines	Gold-Copper Ore:		
	Smelting	18,566	4,953,863
	Concentrating	....	24,397
White Bear	Gold-Copper Ore	....	3,002
Sullivan	Zinc-Lead Ore	349,830	1,691,587
	Lead Ore	8,926	
	Pyrites	2,088	
St. Eugene	Lead Ore	....	1,026,435
	Zinc Ore	....	
*Molly Gibson	Silver-Lead Ore	62	9,106
*Number One	Silver Ore	75	24,999
*Highland	Lead-Silver Ore	73	4,996
	Lead Concentrates	93	5,238
*Ottawa	Silver Ore	....	1,628
	Concentrates	144	164
Lucky Thought	Lead-Silver Ore	....	675
	Silver-Zinc Ore	....	1,141
Richmond-Eureka	Lead-Silver Ore	....	19,420
*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	4,219	19,741

Note:—Production given includes that of previous owners.

* Since Company acquired property only.

Development

	Drifting & Cross-cutting	Raising	Sinking	Total	Diamond Drilling
Rossland Mines	7,193.5	173.5	318.0	7,685.0	11,718.6
White Bear	94.5	...	...	94.5	...
Sullivan	1,040.5	17.0	...	1,057.5	7,495.0
Molly Gibson	115.0	55.0	...	170.0	...
Number One	10.0	10.0	...	20.0	...

making a total to 31st December 1922, of:—

	Feet	Miles
Rossland Mines	335,334.5	63.50
White Bear	10,382.0	1.95
Sullivan	48,699.5	9.22
St. Eugene	106,321.5	20.10
Molly Gibson	12,181.0	2.30
Number One	10,198.0	1.93
Highland	19,278.0	3.65
Ottawa	11,626.0	2.20
Lucky Thought	3,490.0	.66
Richmond Eureka	9,699.0	1.80
Silver King	20,462.0	3.88
Emma	7,644.0	1.47
Phoenix Amalgamated	2,581.0	.49
Number Seven	5,934.0	1.12
Rock Candy	1,884.5	.36
Coast Copper Company	6,222.5	1.17

Rossland Properties

Shipments of smelting ore to Tadanac were made during the first three months of the year in an endeavor to carry on a one-furnace operation profitably, with the prevailing high price of coke. Production was entirely suspended in April on account of the further unsatisfactory coke situation due to strikes in the Coal Mines in the Crow's Nest Pass field.

A large percentage of the ore shipped came from the West ground, where values in gold were lower but higher in silver and copper than in ore from the Eastern section, so that the average value per ton shipped showed a decrease in gold and an increase in silver and copper over that of 1921.

Following the suspension of ore production, the development programme was expanded and work carried on at the rate of approximately 1,100 feet per month, until early in September, when, the major part of the work outlined having been completed, and the settlement of the coal strike then effected without benefit to the operation of these mines, it was found necessary to suspend active mining operations entirely until milling facilities were available. Fortunately, the Company's operations at the

Smelter and the Sullivan Mine were able to absorb those of the Rossland employees not retained there on construction and repair work.

Development for the year comprised further trunk line extensions on the East drift on the 16th War Eagle and the South crosscut from the Le Roi 12th with more particular exploration of the ground made accessible by these extensions, together with additional vein exploration in the vicinity of our known ore bodies.

In the East ground, drifting on the Centre Star 7th opened up a strong sulphide vein with irregular and generally low gold values, which, however, holds some possibilities of production on further development. Vein development on the War Eagle 12th and 13th levels opened, west of a dyke, additional stoping ground on an ore shoot which had been productive, on the East side of the dyke from the Centre Star 7th to the War Eagle 13th. The possibility of picking up the downward continuation of this west extension on the 14th War Eagle is also favorable.

A strong sulphide vein was also encountered by diamond drilling and cross-cutting north from the trunk line drift on the 16th War Eagle East; values which were in gold, were irregular and generally disappointing, but hopes are still entertained for its profitable exploitation. Being in virgin ground, the discovery is of some importance, and worthy of adequate development.

Some milling ore was developed from the South crosscut on the 12th Le Roi, and as mineralization in the vicinity is extensive, hopes are held for the development of additional tonnages.

In the West ground on the 1650 Le Roi, drifts were extended both East and West from the present productive South-West ore shoot, but results were disappointing. A winze, however, sunk from this level showed the vein to be continuous and without diminution of values to a further depth of 100 feet. As geological conditions on the 1650 level in the vicinity of the ore shoot are well defined, a satisfactory production below the level is reasonably certain.

Development from the 10th level White Bear of a vein about 200 feet in the hanging wall of the South-West ore shoot, produced satisfactory results, exposing an ore shoot more than 100 feet in length carrying fair gold and good copper values, with ore of milling grade in its extensions. This vein lines up with ore partially developed on the 1650 Le Roi, and the possibilities of profitable production can be extended to that level.

After active development work ceased, a picked force was kept at work renewing timbers at stations and in dykes and stopes of main haulage ways.

Concreting was continued in the Centre Star shaft; extensive repairs were made to the Centre Star head frame, and a new foundation placed under the Le Roi hoist. Repairs to plant and equipment are still being carried on, so that when milling facilities are available, a satisfactory and economical operation may be obtained.

Sullivan Mine

Shipments from the Sullivan Mine during the year were the greatest in its history, comprising, as per tabulated results, 349,830 tons of Zinc-Lead ore, 8,926 tons of Lead ore, and 2,088 tons of Iron Pyrites. The production of the tonnage shipped in the first ten months of the year was attained with a minimum of power and at the expense of development, and was attended at times with appreciable reductions in grade, which, however, on account of improvements in concentration results at Trail, did not seriously reduce the production of refined metal.

Shipments of Lead ore were made possible and profitable through the opening of new stopes with low zinc content on the 3900 level North ore zone.

Development work comprised the extension of the main haulage tunnel 289 feet, all in the vein in the North ore zone, and two crosscuts from it to the footwall, 297 and 263 feet respectively, the first to become a part of the main haulage system in the footwall, and the other when completed to be the starting point of a raise connection to the upper workings of the North zone. This raise will be approximately one-half mile North of the one in the South ore zone which was completed last year.

Apart from that portion of the vein opened by the extension of the main haulage tunnel, diamond drilling performed the only other vein exploration of the year. The results obtained were for the most part satisfactory and tended to confirm our previous opinion of the productiveness of the North ore zone on the tunnel level. Diamond drilling from the surface in addition to furnishing interesting geological information, more closely defined some of the indicated tonnages below and North of the present workings.

Stoping operations definitely determined the footwall ore body mentioned in the last report as a faulted portion of the main vein carrying variable silver values.

Mining costs were not reduced during the year, although improvements in the underground drag line scraper equipment increased their operating radii.

The construction of the new concentrator near Kimberley which was undertaken in June, also necessitated improvements in the ore handling facilities and increases in power to meet the necessary expansions in development and general mining operations. To this end Electric power was contracted for from the East Kootenay Power Company from their installation at Bull River. Two 3000 cubic feet Nordberg air compressors directly driven by Synchronous motors were purchased and their installation proceeded with.

The construction of steel and concrete coarse crushing plant and adequate shipping bins, was also undertaken.

The mine haulage system at the 3900 tunnel was changed from 18 inch to 36 inch gauge, and larger cars and more powerful electric locomotives installed. New equipment also included two 6-ton storage Battery locomotives for assembling loads.

The capacity of the dry room was doubled, steel lockers and modern sanitary apparatus being installed throughout.

A new Bunkhouse and modern Dining Hall were erected on the townsite, and construction started on additional dwellings for married employees.

Electric power from Bull River was available at the mine in November, and the first Nordberg compressor placed in operation on the 11th December.

Although some delays have resulted to the operation since the delivery of Electric Power, we are hopeful that the changes in equipment and the better ore handling facilities, which will enable larger tonnages to be handled, will effect substantial reductions in future mining costs.

Miscellaneous Properties

With the exception of the Rock Candy Mine (Fluorspar) near Grand Forks, no work was done by the Company on these properties during the year. Owing to the expansion programme at the Sullivan, it was felt that their development might be postponed.

Leases were in effect on the No. One, Richmond-Eureka, Ottawa and Molly Gibson Mines, and shipments were made from all except the Richmond-Eureka. Although the Lease on the Highland had been given up, a shipment of concentrates resulting from its operation was also made by the Lessee. At the Ottawa, a fire destroyed a small concentrator which had been erected by the Lessees for the treatment of low grade ores and the dumps, and caused a complete suspension of operations.

At the Molly Gibson the Lessee performed 170 feet of development work, and made substantial repairs and improvements, which should be reflected in future production.

The Rock Candy Mine (Fluorspar) was operated during June, July and August, for the purpose of completing existing contracts in the United States before new tariff regulations became effective.

Improvements in concentration methods covering the elimination of silica and other impurities have placed this property in a more favorable position. Technical Journals now report depleted reserves in the prominent producing Fluorspar properties in the United States, and a revival in export shipments may be expected, which, with the supply required for the Acid Plant at Tadanac and Canadian consumption, would insure a profitable operation.

Controlled Properties

No development was performed on the controlled properties during the year.

At the Coast Copper and Sunloch, assessment work was performed on uncrowngranted claims and geological investigations of the surrounding country continued.

A caretaker only was employed at the Silver King.

Exploration

A party under Mr. G. H. Kilburn was sent into the Peace River country to investigate a reported discovery of Tin ore. Results however, were disappointing.

A number of properties which were presented for consideration were investigated, but none appeared to justify their purchase at this time.

Labor and Mine Supplies

Except for seeding and harvest periods, the supply of labor at all operating properties was satisfactory. Wages were reduced 25c. a day in January, bringing that of miners to $4.00 and muckers to $3.50 per day of 8 hours.

In October a bonus increase based on the London selling prices of Zinc and Lead was put in effect, the average increase due to this arrangement for the three months being 43c. per day.

Board was also reduced to the pre-war figure of $1.00 per day in November, and was favorably commented on by employees.

Mine Supplies in general did not register material reductions, although competition through selling agencies seemed to be somewhat keener.

Freight rates and fuel supplies were practically unchanged.

Drills, drill steels, powder, detonators, pipe, wire rope, and mine timber, were slightly lower. Drill repairs were unchanged. Dimension timber and mine rails showed advances.

In general, the year covered was a period of satisfactory operation. The Sullivan Mine, which was worked to the capacity of its equipment, maintained a steady production and met the tonnage requirements of the Tadanac Plant. Development of the Rossland mines was productive of some satisfactory results, and the repairs effected in the workings and to the equipment will insure more economical operation in the future. The properties not operated were taken care of at a minimum expense, in some cases royalties from Leases offsetting some of the principal charges.

Geological investigations in the vicinity of our operations by members of the technical staff have given useful information for dealing with future development.

The construction programme at the Sullivan necessitated the transferring of some members of Mine Operating Staff, all of whom showed a willingness to serve in any capacity that would promote the interests of the Company.

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

Mr. F. S. Peters........Rossland Mines and White Bear
Mr. E. G. Montgomery..Sullivan and St. Eugene Mines
Mr. Dan Matheson.....Rock Candy Mine
Mr. L. W. Oughtred....Ainsworth Properties
Mr. Wm. Clancy.......Coast Copper Company
Mr. Geo. H. Kilburn....Sunloch Mines
Mr. R. M. Macaulay....Examining Engineer
Major A. B. Ritchie.....At Trail as Operating Assistant

All performed their duties faithfully and efficiently, and were zealous in their efforts to advance the interests of the Company.

Yours faithfully,
W. M. Archibald,
Manager of Mines.

Comptroller's Report

TRAIL, B.C., March 1, 1923.

TO THE GENERAL MANAGER.

DEAR SIR:—

Operations for 1922 show a net profit of $1,228,329.94 after charging to Profit & Loss $306,773.19 expended in development of our operating mines, writing off for renewals and depreciation of plant $405,145.06, for mine depletion $320,750.85, and providing for bond interest and exchange on coupons $239,-198.17.

Adequate provision has been made for both Dominion and Provincial Income taxes accruing to December 31, 1922.

During the year interest paid on bank loans amounted to $239,549.13. We have been able to reduce our loans from the bank and other accounts payable together by $1,951,039.91. The reduction in metal inventories of $755,670.49 has, of course, assisted. These inventories are now probably as low as they may be while the Tadanac zinc and lead plants are operating. With the copper plant operating also, the total must increase.

Our stock of material and supplies increased $198,633.29, but this is accounted for by construction material accumulated for the new Sullivan Mill and increased stocks of coal and coke in view of a possible stoppage of supplies on March 31st, 1923, when the Crow's Nest wage agreement expires.

Expenditure on Property account was $110,340.15, covering chiefly the acquisition or crown-granting of outside claims at Kimberley and Rossland, Trunk line development at Kimberley and Rossland, payments on the Rock Candy Mine bond and advances to the Coast Copper Company, Ltd., and to the Sunloch Mines, Ltd.

Commencing with this statement, it is intended to write off Mine Depletion yearly, with a view to providing for the exhaustion of our present ore reserves.

Expenditure on plant was $1,283,829.10, the chief items being at Kimberley on the new mill and in preparing the mine for increased production when the mill is in operation, also, at Trail on the Lead Refinery extension.

In March, 1922, the proposed revision of Customs lead ore rates was made and this schedule was considerably more favorable to the shipper than the preceding one. This schedule has been maintained in force though wages have increased and no relief from a reduction of the excessive coal and coke prices has been obtained.

The purchase of customs zinc ores was commenced early in the summer on a schedule which produces a return to the shippers far more favorable than any rates heretofore quoted in this district.

There has been a considerable increase in customs ore business in the year, the value of ore purchased rising from $385,998.31 in 1921 to $1,194,389.06 in 1922.

Following is the metal production for the Tadanac Plant, from 1894 to date, and for the year 1922:

	Tons Ore Treated	Gold Produced, Ozs.	Silver Produced, Ozs.
1894 to date	6,965,923	2,026,246	35,592,557
1922	407,260	18,864	2,116,351

	Lead Produced, Lbs.	Copper Produced, Lbs.	Zinc Produced, Lbs.
1894 to date	722,629,109	101,199,099	214,897,969
1922	84,352,017	1,243,952	55,564,960

1894 to date	$140,230,683
1922	9,104,080

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

	1921	1922
London Lead	£22.752	£24.097
New York Silver	62.654c.	67.521c.
New York Electrolytic Copper	12.502c.	13.382c.
London Zinc	£25.845	£30.003

Respectfully submitted,

T. W. BINGAY,

Comptroller.

Sales Manager's Report

TO THE PRESIDENT
AND MANAGING DIRECTOR:

The general improvement in Canadian business during 1922 was substantially reflected in our sales of Lead and Zinc for domestic consumption, the average increase over the preceding year being slightly more than 60%. The foreign demand was uniformly strong, and prices at home and abroad were steady, with a marked improvement noticeable over the latter part of the year.

1922 Sales were as follows: –

	Lbs.
Lead	86,962,000
Zinc	61,632,000
Copper	1,202,000

Outlook for 1923:

LEAD: A large percentage of the 1922 consumption was in the manufacture of paint, lead-covered cable and storage batteries, and there is nothing in the present situation to indicate a decline in the activities of these industries. Bullet stocks and scrap left over from the War have been well absorbed, and, as there are no signs of an abnormal increase in Lead production, the statistical position is sound.

Prices over the first quarter of 1923 have been higher than during the last quarter of 1922, and, while the present level may not be fully maintained, we believe satisfactory prices will prevail throughout the year.

ZINC: World production for 1922 was 50% greater than for 1921, but consumption also was much stronger, with the result that the substantial stocks of a year ago have disappeared. Visible stocks to-day are below normal, and, as production in 1923 is not likely to exceed consumption, we have reason to expect good prices to continue.

Respectfully submitted,

W. S. RUGH,

Sales Manager.

MONTREAL, 26th March, 1923.

The West Kootenay Power and Light Company, Limited

REPORT OF GENERAL MANAGER
For the Twelve Months' Period
ending December 31, 1922

ROSSLAND, B.C., February 21, 1923.

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

DEAR SIRS:—

The Companies' gross Consolidated Revenue for the year ending December 31, 1922, was $746,441.82.

Revenue Producing Load

The revenue producing load for the twelve months ending December 31, 1921, was 28,065.7 H.P., and for the year ending December 31, 1922, was 27,778.4 H.P., showing a decrease of 287.3 H.P.

In my report for year ending December 31, 1921, I advised that the Provincial Government had arranged to finance the Grand Forks Irrigation Project. Work was started on the installation of the necessary pumping apparatus and the laying of latterals in the early spring of 1922, and it was early in August before the irrigation system was completed and tested out. The approximate acreage now under water in this valley is 2,600 acres, and the system is now in shape to supply water for irrigation purposes during the irrigation season of 1923.

Kelowna Extension

Work on this extension was started in May, 1922, and the line and necessary step-down station at Kelowna completed by the end of October, and service was commenced, and everything worked out to the entire satisfaction of the Municipality.

In November we installed the necessary step-down transformers and secondary line for the supplying of power for lighting purposes to Naramata, and service was started early in December.

Southern Okanagan Project

Step-down station having capacity of 1,500 K.V.A. was installed at Oliver. This to take care of the pumping required for the land above the present irrigation ditch. Service in this station was started early in May, and due to the unfortunate conditions which existed in the way of marketing produce, the load did not come up to our expectations. However, now that an attempt is being made to improve their selling organization, and if this is accomplished, and they are able to get the cost of production reduced there is no reason why this load should not increase from year to year.

Penticton, Kelowna and Summerland extensions

The load for lighting purposes which we expected to secure from the above three places did not come up to our expectations. This due to the fact that the fruit growers experienced great difficulty in marketing their product. However, with the improved selling organization which I mentioned above, and if the ranchers are able to get the cost of production down whereby they can compete with other sections there is no reason that I can see why conditions should not improve thereby bringing about increased power consumption required for lighting and power for operating of small motors for the different industries which are in existence, and which will be created due to there now being available power at the above three places and intermediate points.

Your generating stations and all distributing stations and distributing lines have been maintained in the usual high operating efficiency.

We have been very fortunate in maintaining an efficient staff throughout the year, which has contributed largely in bringing about the satisfactory showing evidenced by our report.

LORNE A. CAMPBELL,

Vice-President and General Manager.

The West Kootenay Po

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

To Operating Expenses	$194,267.26
" Interest on Bonds	103,500.00
" Interest	9,899.65
" Bad Debts written off	1,440.06
" Depreciation	287,047.83
" Balance Profit	175,967.79
	$772,122.59

Balance Sh

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		$1,800,000.00	
Less Redeemed through Sinking Fund		472,313.03	1,327,686.97
Bills Payable		275,000.00	
Accounts Payable		37,873.34	312,873.34
Accrued Liabilities			40,792.50
Amount reserved for Bond Interest, Preferred Dividends, Sinking Funds, and Premium on Bonds.			
Reserve Account			383,310.09
Profit and Loss Account			8,672.08
Balance December 31, 1921		32,027.56	
Profit for year		175,967.79	
		$207,995.35	
Sinking Fund Contribution to Reserve Account	$ 35,843.27		
Dividends Declared	163,480.00	199,323.27	
			$5,785,334.98

Light Company, Limited

Year Ending December 31, 1922

ight Company, Limited with its Subsidiary
t Co., Ltd., South Kootenay Water Power
agan Water Power Company, and
t Company.

By Gross Revenue........................		$746,441.82
" Interest on Bonds held by Trustees for Sinking Funds:		
West Kootenay Power & Light Co., Ltd..	$21,443.27	
Cascade Water, Power & Lt. Co., Ltd....	4,237.50	
		25,680.77
		$772,122.59

st December, 1922

ASSETS

Plant, Transmission Lines, Buildings and Real Estate.......	$5,261,895.00
Autos, Mdse., Meters, Instruments and Furniture and Fixtures	181,104.18
Cash on hand..	61,896.83
Accounts Receivable..................................	15,983.07
Accounts Receivable, Suspense Account..................	255,437.67
Prepaid Operating Charges..............................	3,145.50
Sundry Investments....................................	3,860.55
Royal Trust Co. Sinking Fund Account..................	2,012.18

I have audited the books and accounts of the West Kootenay Power & Light Company, Limited, and Subsidiary Companies, for the year ending December 31st, 1922, and have obtained all the information and explanations I have required, and certify that the above Balance Sheet and Profit & 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.

THOS. S. GILMOUR, C.A.,
Auditor.

Rossland, B.C., February 17th, 1923.

$5,785,334.98