

Report of the Directors  
of  
The Consolidated Mining  
and Smelting  
Company  
of Canada  
Limited

For twelve months ending December 31st, 1921

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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

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**

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**DIRECTORS' REPORT**

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

GENTLEMEN:—

Your Directors submit herewith the Sixteenth Annual Statement along with the General Manager's report carrying with it the reports of the Manager of Mines and the Comptroller.

The Sales Manager's report is also included.

As usual, your Company's Statement is accompanied by that of the West Kootenay Power and Light Company, Limited.

After charging \$232,692.90 in development account—writing off \$105,356.55 for depreciation of plant and capital renewals and taking care of ordinary repairs—and paying interest on bank loans, the net profits were \$570,043.77, as compared with \$291,349.83, in 1920. After providing for bond interest, the remainder, \$338,447.30, was transferred to Profit and Loss Account.

In the past, finished metal stocks have been valued in the Statement at the market prices of the last day of the year. Inasmuch as such a large proportion of your metals is being sold in Asia and Europe, it was thought prudent to adopt as a policy the carrying of your main products, viz.: refined lead and refined zinc, at actual cost of production, but not however in excess of market prices. Gold having a fixed value, and silver and copper being really by-products, continue to be carried at current market prices.

The valuations of refined metals in the Statement now submitted to you were made on this basis.

The year under review was a difficult one. Metal prices were unstable with a sagging tendency owing to the light demand. Uncertainty prevailed as to the future, with the result that purchases were made from hand to mouth, while your operations had to be conducted continuously and on a large scale in order to keep production costs down.

Your metal stocks kept on accumulating until about mid-summer, when foreign sales began to relieve the situation. At the close of the year, unsold metals were about normal in quantity.

Thanks to the skill of your operating staff, and to the metallurgical improvements worked out by them, and to the greater efficiency of your employees, production costs dropped substantially during the year. Further reductions are expected during the current year.

Fuel and transportation are still abnormally high.

The production of lead, zinc and silver is on a very sound basis. Your copper and copper-gold properties are affected by the general copper position, which is still weak. If the 1922 crop be a good one—and world conditions continue to improve—better times will undoubtedly prevail in the copper market. Meantime, your Directors are inclined to mark time in the development of your copper mines.

Capital expenditures during the year, less capital renewals and depreciation, amounted to \$453,139.72. In the main they consisted of additions and extensions decided on prior to 1921, but not completed before the beginning of that year.

The principal items were:—

PROPERTY ACCOUNT:

Advance to Coast Copper Co., Ltd.....	\$73,555.20
Advance to Sunloch Mines, Ltd.....	7,097.09
Trunk Line Development—Sullivan Mine.....	34,948.39
Trunk Line Development—Rossland Mines.....	32,585.59
Payment of Fluorspar property.....	12,600.00

PLANT ACCOUNT:

Construction of Rod Mill.....	\$116,167.64
Enlargement of Copper Refinery.....	39,190.73
Construction of Rossland ore Concentrator (being used temporarily for treatment of Sullivan ore).....	32,581.48
Installation Converter Tilter at Smelter.....	14,932.19
Kimberley Housing.....	24,820.92

There has been such an improvement in the extraction of lead and silver from the Sullivan Mine ore that the capacity of your lead and silver refineries is no longer sufficient to treat the lead bullion produced by the blast furnaces. Your Directors have therefore authorized extensions to enable 150 tons of lead bullion to be treated daily.

Metallurgical processes in the Zinc Plant having reached the point where it is safe to undertake the treatment of customs zinc concentrates in addition to the zinc concentrates from your own mines, your Directors have authorized the installation of the plant necessary for this purpose. It is hoped that shipments from independent producers can be accepted about June 1st next.

A very effective selling organization has been built up. It covers Asia and Europe as well as the domestic market. Its operations are being extended so that ultimately the "Tadanac" brand of lead, zinc and copper will be purchasable in all quarters of the Globe.



Generally speaking, you may look forward with confidence that your products, with the possible exception of copper, will be marketed with a fair margin of profit.

Too much credit cannot be given your Operating Staff and the operating staff of the Power Company, for industry, efficiency and faithfulness to your interests.

During the year Mr. George Sumner, your Vice-President, passed away at a mature age. He took a keen interest in your affairs. His loss is much regretted.

On behalf of the Board,

JAMES J. WARREN,  
President.

MONTREAL, March 22nd, 1922.



# Company of Canada, Limited

December 31, 1921

## ASSETS

MINES, MINERAL CLAIMS AND SHARES IN OTHER COMPANIES:		
Balance December 31, 1920.....	\$10,160,767.15	
Expenditure for year ended December 31, 1921.....	223,852.92	
		<u>\$10,384,620.07</u>
MINING, SMELTING, CONCENTRATING AND REFINING PLANTS:		
Balance December 31, 1920.....	\$6,244,585.89	
Expenditure for year ended December 31, 1921.....	334,643.35	
		<u>\$6,579,229.24</u>
Less Capital Renewals and Depreciation..	105,356.55	
		<u>6,473,872.69</u>
ORES, METALS AND SMELTER PRODUCTS ON HAND AND IN TRANSIT.....		2,779,434.41
MINES AND SMELTER STORES AND MATERIAL.		1,312,350.04
ACCOUNTS RECEIVABLE, LESS RESERVE.....		238,783.72
INSURANCE PAID IN ADVANCE.....		27,276.52
CASH IN BANK AND ON HAND:		
Montreal and Toronto.....	\$100,833.72	
Sundry Cash Accounts.....	300.00	
		<u>101,133.72</u>
		<u><u>\$21,317,471.17</u></u>

## Report

Company of Canada, Limited, for the year ended December 31, 1921, 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, 1921, have been included at the average cost of production during the past year. opinion, properly drawn up so as to exhibit a correct view of the financial position of the by the books of the Company in British Columbia and the Accounts of the Montreal Office, as December 31, 1921.

HELLIWELL, MACLACHLAN & CO.,  
Chartered Accountants.

# The Consolidated Mining and Smelt

## Profit and Loss Account for

TO ORES, METALS AND SMELTER PRODUCT ON HAND AND IN TRANSIT AT DECEMBER 31, 1920. ....		\$3,336,463. 19
" CUSTOMS ORES, LEAD AND BULLION PURCHASED. ....		385,998. 31
" FREIGHT ON ORE FROM COMPANY'S MINES		634,872. 52
" MINING, SMELTING AND GENERAL EXPENSES:		
Tadanac Reduction Plant. ....	\$4,213,225. 37	
Rossland Properties. ....	394,692. 99	
Sullivan Mine. ....	546,672. 94	
Molly Gibson Mine. ....	4,629. 89	
Richmond Eureka Mine. ....	208. 60	
Highland Mine. ....	2,651. 66	
Number One Mine. ....	727. 15	
St. Eugene Mine. ....	1,746. 37	
Number Seven Mine. ....	151. 03	
Lucky Thought Mine. ....	38. 85	
Emma Mine. ....	8,448. 01	
Ottawa Mine. ....	409. 47	
San Poil Mine. ....	4,881. 86	
Rock Candy Mine. ....	56,359. 18	
Iva Fern Mine. ....	860. 75	
Farm Department. ....	34,667. 66	
		5,270,371. 78
" DEVELOPMENT EXPENSE:		
Sullivan Mine. ....	\$76,476. 82	
Rossland Properties. ....	144,885. 89	
Emma Mine. ....	1,436. 03	
Rock Candy Mine. ....	2,970. 18	
White Bear Mine. ....	3,824. 02	
General Exploration. ....	3,099. 96	
		232,692. 90
" CAPITAL RENEWALS AND DEPRECIATION. .		105,356. 55
" BOND INTEREST AND EXCHANGE ON COUPONS. ....		231,596. 47
" DIRECTORS' FEES. ....		3,300. 00
" SUNDRY ITEMS WRITTEN OFF, INCLUDING BAD DEBTS. ....		22,735. 60
" BALANCE—PROFIT. ....		338,447. 30
		\$10,561,834. 62

# Company of Canada, Limited

at Ending December 31, 1921

BY SALES OF SMELTER PRODUCT, ORE, ETC . . . . .	\$7,516,865. 22
" ORES, METALS AND SMELTER PRODUCT ON HAND AND IN TRANSIT . . . . .	2,779,434. 41
" RENTS, ROYALTIES AND SUNDRY REVENUES . . . . .	8,574. 99
" WEST KOOTENAY POWER & LIGHT COMPANY—DIVIDENDS	256,960. 00

\$10,561,834. 62

# General Manager's Report

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TRAIL, B.C., March 23rd, 1922.

JAMES J. WARREN, ESQ.  
President,  
The Consolidated Mining & Smelting  
Company of Canada, Limited,  
Trail, B.C.

DEAR SIR:—

I beg to submit the following report of the Company's operations for the year ending December 31st, 1921, including the reports of the Manager of Mines and the Comptroller.

During the first part of the year the deflation which had started in the Fall of 1920, continued until practically every metal produced was selling below pre-war prices. At the same time the market was so limited that the metals made could not be sold promptly. During this period however, the costs of production decreased more than the fall in market prices, so that after the first three months of the year no metal was produced at a cost above the market price at the time of production. As much of this metal had to be held until the markets had practically reached the bottom price, a considerable loss was suffered in realizing on the metal in stock at the end of 1920, and also on that produced in the early part of 1921. The reduction in production costs progressed to such an extent that in the latter part of the year the losses sustained in the early part of the year were absorbed and profits made.

At the end of the year all the metal stocks were about normal and were carried at values well below the market. It may therefore, be safely said that the end of the deflation had been reached and its attendant losses absorbed. The reductions made in the production costs have been extremely gratifying; they have surpassed all expectations, and have more than justified the continued operation of the Company throughout this difficult period.

Besides having taken care of all obligations for bond interest, interest on borrowed money, the upkeep of all the properties, and making a profit, the entire organization has been strengthened and held together, and the processes, recoveries and costs have been improved to such an extent that future operations can be looked forward to with confidence.

It should be borne in mind that although the prices received for metals are about the level of pre-war prices, and that

most of these metals have to be sold in the export market, still the supplies necessary for operations are still very much above pre-war level. This is particularly true in the case of coal and coke, which constitutes the largest single item of supplies and which is still one hundred per cent. above the pre-war cost.

The outstanding features in the reduction of production costs were increased efficiency in every Department, improved processes giving increased recoveries and lower costs in every Department, and a very much larger output of refined metals.

### **Reviewing the Departments Separately**

The Manager of Mines' Report gives a summary of the work done at the various properties. I would like, however, to make some further comment on conditions at the Sullivan Mine.

While there is an exceedingly large tonnage of ore developed at this mine, and while everything indicates that future development will disclose a very much greater tonnage still; the fact must not be overlooked that the power equipment at the mine is hardly sufficient to produce the large tonnage called for by the reduction plant, leaving no surplus power for use in development work.

Investigations are being made of a water power near the Sullivan Mine, and negotiations are being carried on with a Power Company operating in the district, for a further supply of electrical energy, as the shortage of power for development purposes puts a strain on the property to keep up the high grade of ore necessary while shipments are being made to Trail instead of to a mill at the mine.

Now that the concentration problem is solved, a concentrator and a sufficient power supply should be provided at the mine as soon as possible.

In addition to the saving in freight and lower operating costs, considerable quantities of ore can and will be treated by a mill at the mine—which will not stand the heavy cost incident to being shipped to Trail—and may be lost if not extracted in the original mining operation. Much improvement has been made in the mining operations, and these with the increased tonnage, have made a very big reduction in mining costs.

### **The Trail Concentrator**

The Concentrator at Trail has been milling Sullivan ore. It is a pilot plant and has been built piece by piece. It has done very spectacular work in successfully separating the finely disseminated sulphides of iron, zinc and lead comprising the Sullivan ore, by selective flotation, and has demonstrated beyond all doubt that this ore can be satisfactorily and economically

concentrated and the laboratory work duplicated. It must be borne in mind that a Concentrator built with the knowledge now acquired should not only make far better costs, but should make better recoveries and higher grade concentrates.

The Concentrator is now handling over one thousand tons of ore per day, and has made very great progress during the year, both in costs and recoveries.

### **The Lead Smelter**

Most of the tonnage treated in this plant was lead concentrates from the Sullivan ore and rejects from the Zinc Plant. The Metallurgists have succeeded in smelting a mixture higher in zinc than any other plant in existence is treating, and have established new plant records both for recoveries and costs.

### **The Zinc Plant**

This Plant has been operating entirely on concentrates from the Sullivan ore. Nearly every month has shown a lower cost than the month before. During the greater part of the year the Zinc Plant was short of an adequate ore supply owing to a change in the character of the Sullivan ore which was gaining in lead contents and falling off in zinc. The Concentrator has been enlarged with a view of treating sufficient raw ore to keep the Zinc Plant working to full capacity.

The Plant, though nominally a seventy-five ton Plant, has turned out over ninety tons per day for weeks at a time, and has made a very satisfactory showing.

### **The Lead Refinery**

This Plant has been working slightly over capacity during a large part of the year owing to the increased tonnage of lead concentrates recovered from the Sullivan ore. The costs though good, would have been considerably better had the Plant not been overcrowded.

In order to take care of the increasing tonnage of lead bullion it has been decided to increase the capacity of the Lead and Silver Refineries.

### **The Copper Smelter and Refinery**

These plants have been running intermittently and on short tonnage.

### **In General**

All the improvements mentioned in processes, costs and recoveries are still going on, and are expected to continue for some time yet.



A very considerable drop in the price of coal and coke should come into effect early in 1922. Railway freights and other supplies should also be very considerably reduced.

An increased output of both lead and zinc are practically assured and will have the effect of reducing the overhead expenses.

The system of Workmen's Co-operative Committees which was inaugurated last year, has proved to be of great assistance. These committee men serve as a link between the men and the management and have been able to convey the views of each to the other in a way not possible before. It is largely through their efforts that the difficulties on each side have been understood and overcome. This in turn has eliminated friction and has greatly increased the general efficiency of the Plant.

I believe the year just past has in many ways been the most successful in the history of the Company. During the last half of the year it has been established that the Company can operate at a profit under the most trying conditions which have ever affected the Mining Industry.

I would like to express appreciation of the whole-hearted way with which the entire force has tackled and overcome the many difficulties facing the Company at the first of the year.

By the death of Mr. J. L. Maclachlan, late Chief Accountant, in November, the Company lost a valuable and faithful servant. Mr. Maclachlan had been on the staff of the Company since July, 1907.

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

W. M. Archibald, Manager of Mines, and his efficient staff; T. W. Bingay, Comptroller; James Buchanan, Smelter Superintendent; B. A. Stimmel, Superintendent Zinc Plant; J. J. Fingland, Superintendent Copper and Lead Refineries; R. W. Diamond, Superintendent Concentration and Testing; G. F. Chapman, Construction Engineer; G. E. Murray, Assistant Superintendent of Smelter; R. Walker, Chief Accountant; R. C. Crowe, Solicitor; A. L. MacCallum, Superintendent Acid Plants; R. K. Blois, Superintendent Smoke Plants; F. S. Willis, H. Woodburn, and Graham Cruickshank, Department Superintendents in the Zinc Plant; D. G. Bisset, Chief Chemist; E. M. Stiles, Chief Draftsman; F. E. Lee and W. H. Hannay, Research Department; H. R. Motherwell, Assistant Superintendent of Copper and Lead Refineries; W. R. Baxendale, Purchasing Agent; H. B. Fuller, Assistant Chief Accountant.

Yours respectfully,

S. G. BLAYLOCK,  
General Manager.

# Manager of Mines Report

TRAIL, B.C., 23rd February, 1922.

S. G. BLAYLOCK, ESQ.,  
 General Manager,  
 The Consolidated Mining & Smelting  
 Company of Canada, Limited,  
 Trail, B.C.

DEAR SIR:—

Herewith is submitted report on the operation of the various mines of the Company, with tabulated results in Production and Development.

## Production

		12 months to 1921 Tons	1894 to date Tons
Rossland Mines	Gold-Copper Ore		
	Smelting	82,094	4,935,297
	Concentrating		24,397
White Bear			3,002
Sullivan	Zinc-Lead Ore	297,210	
	Lead Ore	53	1,330,743
	Pyrite	1,121	
St. Eugene	Lead-Silver Ore	80	1,026,435
	Concentrates		
*Molly Gibson	Silver-Lead Ore		9,044
*Number One	Silver Ore	220	24,924
*Highland	Lead-Silver Ore		4,923
	Lead Concentrates	35	5,145
*Ottawa	Silver Ore		1,628
	Concentrates	20	20
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	18,738	262,560
Phoenix Amalgamated	Copper Ore		2,493
Number Seven	Siliceous Gold Ore		7,388
*San Poil	Siliceous Gold Ore	8,049	18,470
Rock Candy	Fluorspar—Crude Ore	127	299
	Fluorspar—Concentrates	6,288	15,522

Note:—Production given includes that of previous owners.

\* Since Company acquired the property only.

## Development

	Drifting & Cross- cutting	Raising	Sinking	Total	Diamond Drilling
Rossland Mines .....	6,007.5	532.5	...	6,540.0	11,381.9
White Bear .....	...	...	...	...	617.0
St. Eugene .....	...	...	...	...	...
Sullivan .....	2,224.0	452.5	...	2,676.5	5,979.5
Molly Gibson .....	40.0	...	...	40.0	...
Number One .....	36.0	179.0	80	295.0	...
Highland .....	33.0	135.0	30	198.0	...
Ottawa .....	60.0	55.0	14	129.0	...
Lucky Thought .....	...	...	...	...	...
Emma .....	58.5	15.0	...	73.5	...
Richmond-Eureka .....	...	...	...	...	...
Silver King .....	...	...	...	...	...
Coast Copper Company ..	30.0	...	...	30.0	2,021.0
San Poil .....	...	...	...	...	...
Rock Candy .....	157.5	...	...	157.5	...
Iva Fern .....	...	...	...	...	...
Making a total to December 31, 1921, of:—					
				Feet	Miles
Rossland Mines .....				327,649.5	62.00
White Bear .....				10,288.0	1.95
St. Eugene .....				106,321.5	20.10
Sullivan .....				47,642.0	9.04
Molly Gibson .....				12,011.0	2.27
Number One .....				10,178.0	1.92
Highland .....				19,278.0	3.65
Ottawa .....				11,626.0	2.20
Lucky Thought .....				3,490.0	.66
Emma .....				7,644.0	1.47
Richmond-Eureka .....				9,699.0	1.80
Silver King .....				20,462.0	3.88
Phoenix Amalgamated .....				2,581.0	.49
Number Seven .....				5,934.0	1.12
Coast Copper Company .....				6,222.5	1.17
Rock Candy .....				1,884.5	.36
Iva Fern .....				266.0	.05

### Rossland Properties

Shipments of smelting ore from the Rossland mines were intermittent, but exceeded those of the previous year by 32,000 tons. Gold values were slightly lower, but increases in silver and copper contents about offset the decrease in gold.

Development for the year comprised the extensions of a trunk line drift East on the 16th War Eagle, and a crosscut South from the Le Roi 12th—the latter for the purpose of gaining access to the Southern holdings of the Company not yet explored—together with the usual vein exploration by drifting, crosscutting, raising and diamond drilling in the ground already opened.

The vein development in the East ground on the Centre Star 6th, 7th and 8th, War Eagle 12th, 13th and 14th, showed great irregularities in gold values, and while the veins were persistent as well as carrying considerable amounts of sulphides, stoping areas and resultant production of smelting ore from this section were not up to our expectations. Fair possibilities still exist, however, for the production of additional tonnages of milling ore.

In the West ground, the further exploration of the ore shoot, reported last year as being opened West of the Porphyritic Monzonite Intrusion, on the 1650 Le Roi, produced fairly satisfactory results. Drifting East and West indicated stoping ground for 200 feet more in each direction, while the opening of the same ore body from the 10th level White Bear (approximately 250 feet above the 1650 Le Roi) and the connection of the two levels with an upraise on the vein have fairly well defined the prospects for smelting and milling ore within these limits. Favorable indications also exist for the development of additional ore by continuing the East and West drifts.

### **Sullivan Mine**

Shipments from the Sullivan Mine during the year almost reached 300,000 tons, of which only 53 tons was lead-silver ore. Continued improvement in concentration results at Trail, particularly as regards lead recoveries, made selective mining and sorting lead ore unnecessary, and greatly improved operating conditions at the mine, being also responsible for part of the *reduction in mining costs*.

The more important development work comprised the completion of the raise from the lower tunnel level to the upper workings, in the South ore zone; the extension of the lower or main haulage tunnel 698 feet, of which approximately 500 feet was in the North ore zone; and the extension North of the 11th level for 230 feet, also in the North ore zone; in addition to some 1,600 feet of drifting, raising and crosscutting preparatory to the extraction of ore, and 5,900 feet of diamond drilling.

The results obtained were in the main satisfactory in that commercial ore was opened up in the north ore zone, on the 11th level beyond that indicated by the North row of diamond drill holes, and on the lower tunnel level where previous diamond drilling had not been sufficient to define the possibilities. Prospects of continued satisfactory development in this direction are excellent.

An interesting, and what may prove to be an important development in the Sullivan ore bodies, was the discovery by diamond drilling of apparently a parallel ore body in the footwall of the main vein, at the north end of the South ore zone.

The work to date is insufficient to determine the relationship or to prove that it is not a faulted portion of the original vein. Assays of drill cores, however, which showed a width of vein of approximately 20 feet, gave better silver values than the average in the main vein, being about one-half ounce to the unit of lead. Zinc values, on the other hand, were rather lower than the run of mine ore.

Stoping operations were improved and facilities for handling the ore in the stopes increased, mainly by the efforts of the Superintendent and Staff at the mine, in the development and expansion of the uses of drag line scrapers operated by compressed air hoists.

The residential section was improved. A new bunkhouse for unmarried employees was erected, and a central heating plant installed. Eight additional dwelling houses were built for the accommodation of married employees. The Boarding house at the tunnel was destroyed by fire, necessitating the erection of temporary quarters pending the construction of a modern one near the new bunkhouses.

Power is insufficient, and ore handling facilities inadequate for present production, and it is hoped that arrangements will soon be made that these conditions can be improved, and the equipment of the property brought more in line with the capabilities of its production.

## Miscellaneous Properties

Owing to the continuance of the rather unsatisfactory operating conditions and the low prices of the metals, very little work was done on these properties during the year.

Leases were continued on the St. Eugene, No. One, Richmond-Eureka, and Ottawa Mines, and small shipments made from all except the Richmond-Eureka.

The Highland Mine, Ainsworth, was leased in the early part of the year, and a small shipment of concentrates made.

The Molly Gibson Mine was leased in October, but shipments are not anticipated until next year.

The Emma Mine, near Eholt, was operated and the developed tonnage mined and shipped. Possibilities of opening up other ore bodies did not justify additional expenditure on development. The equipment was therefore moved from the property, and stored.

The Rock Candy Mine (Fluorspar) was operated during January, February and March, when the curtailment in the steel industry materially contracted the market for the product and necessitated the closing down of the property. Experiments

in concentration, however, were continued at Tadanac, and shipments of 6,221 tons of rejects from the mill dump were made for this purpose. Satisfactory results were obtained.

Shipments of Siliceous ore were made from the San Poil Mine, Republic. No development work was undertaken, however.

### **Controlled Properties**

Development work was unfortunately greatly restricted on the controlled properties during the year.

The Silver King Mine, Nelson, was not operated, a caretaker only being employed.

At the Coast Copper, only a limited amount of work was performed.

Vein development by drifting and crosscutting was practically suspended in January. Diamond drilling, however, for the purpose of obtaining information on the Idaho vein below the Adit level was continued until May, when underground operations ceased. The result of this work in the location of the Idaho vein at the increased depth, and ore, was disappointing, but valuable geological information was obtained, and the possibilities of the vein being productive below the adit level are still good.

Necessary assessment work was performed on claims not Crown granted, and a closer study made of the geology of the district.

The Sunloch Mines at Jordan River were not operated; necessary assessment work only on uncrown-granted claims being performed.

### **Exploration**

*A limited amount of field work was done during the year, the most important being the investigation of the phosphate beds near Banff by Mr. Macaulay, and the exploration of the country further south for other outcrops. The results of this were not encouraging.*

An investigation of the mineral resources of the Esquimalt & Nanaimo Railway Land Grant, on Vancouver Island, was undertaken on behalf of the Railway Company, with Messrs. Geo. H. Kilburn and M. M. O'Brien in charge of the work.

It may be of interest to note that the supply of labor was ample at all the operating properties, and a considerable improvement in efficiency was obtained.

Reductions in wages amounting to 75c. per day, with corresponding reductions in board of 15c. per day were made and accepted by the men upon satisfactory explanation of the necessity.

Mine supplies in general were but slightly reduced, the most important reduction being in the cost of explosives, which at the end of the year were twenty per cent. cheaper.

The high price of coal was maintained, and freight reductions were negligible.

While conditions did not warrant the re-opening by the Company of those properties in the development stage, or those capable of only small production, the granting of leases to responsible parties resulted in several shipments of ore to the smelter, and their operation was no doubt of some benefit to the several communities adjacent to these mines.

I most heartily commend the energy and efficiency of the Staff in general, all of whom were zealous in their efforts to reduce costs so that the principal operations of the Company might be maintained.

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

Mr. F. S. Peters . . . . . Rossland Mines and White Bear Mine  
Mr. E. G. Montgomery.. Sullivan and St. Eugene Mines  
Mr. M. M. O'Brien . . . . . Rock Candy Mine  
Mr. R. M. Macaulay . . . . . Emma Mine  
Mr. Wm. Clancy . . . . . Coast Copper Company  
Mr. Geo. H. Kilburn . . . . . Sunloch Mines  
and Major A. B. Ritchie, at Trail, as Operating Assistant.

Yours faithfully,

W. M. ARCHIBALD,  
Manager of Mines.

# Comptroller's Report

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TRAIL, B.C., March 22, 1922.

S. G. BLAYLOCK, Esq.  
General Manager,  
The Consolidated Mining & Smelting  
Company of Canada, Limited.

DEAR SIR:—

Operations for 1921 show a net profit of \$338,447.30, after charging to Profit & Loss \$232,692.90 expended in development of our operating mines and writing off \$105,356.55 for capital renewals and depreciation of plant and equipment, and providing \$231,596.47 for bond interest and exchange on coupons.

Adequate provision has been made both for Provincial and Dominion Income Taxes.

The increase in Property Account during the year is \$223,852.92, covering the purchase of bonds of the Coast Copper Company, Limited, and the Sunloch Mines, Limited, payments on the bond on the Rock Candy Mine and expenditure on trunk line development at Kimberley and Rossland.

Metal stocks decreased in value \$557,028.78 in the year. Stocks were more nearly normal at the close than they were at the beginning of the year. Stocks increased seriously month by month until August when metal began to move more freely, especially to export markets. A good deal of difficulty was experienced in financing operations during this period.

Some progress has been made in reducing stocks of stores and material during the year. This account has been reduced \$174,570.90. Prices of supplies used have reduced to some extent but coal and coke are still at the maximum prices.

Late in the year, when marketing conditions became easier, very considerable reductions were made in Customs ore rates and shippers of lead ore were given the benefit of improvements in operating costs and metal recoveries. As further improvements have taken place, another revision in favor of the shipper is now in course of preparation.



Preparations are being made for the purchase of Customs zinc ores to provide an outlet for the zinc concentrates produced by the independent mines of the district. These ores carry considerable silver contents and must be treated separately so that the residues may be smelted to recover the silver, and some special construction in our Zinc Leaching Plant is now in progress for this purpose.

Following is the metal production for the Tadanac Plant, from 1894 to date, and for the year 1921:—

	Tons Ore Treated	Gold Produced, Ozs.	Silver Produced, Ozs.
1894 to date.....	6,558,663	2,007,382	33,476,206
1921.....	432,078	56,334	1,198,114
	Lead Produced, Lbs.	Copper Produced, Lbs.	Zinc Produced, Lbs.
1894 to date.....	638,277,092	99,955,147	159,333,009
1921.....	57,683,328	3,056,910	52,988,159
1894 to date.....	\$131,126,603		
1921.....	6,836,420		

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

	1920	1921
London Lead.....	£37. 832	£22. 752
New York Silver.....	100. 9c.	62. 654c.
New York Electrolytic Copper.....	17. 456c.	12. 502c.
London Zinc.....	£44. 372	£25. 845

Respectfully submitted,

T. W. BINGAY,  
Comptroller.

# Sales Manager's Report

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JAMES J. WARREN, ESQ.,  
President,  
The Consolidated Mining & Smelting  
Company, of Canada, Limited.

DEAR SIR:—

The increase in foreign sales was the outstanding feature of the year.

During 1921 our Agency in the Far East gave us substantial orders and were particularly successful in placing Lead and Zinc over the last quarter. Their sales, with the orders received from our European Agents, were mainly responsible for clearing off surplus accumulation of refined metals, permitting us to close the year with normal stocks. Our "Tadanac" metals are now well and favourably known abroad, and we feel assured of an export demand which should be sufficient to enable us to profitably place future surplus production.

Foreign selling connections were materially strengthened during the year by personal contact.

Domestic sales were light. The period of readjustment was drawn out beyond expectations and general business conditions in Canada were reflected in the policy of the manufacturer or jobber who bought only for actual requirements. Domestic metal stocks, both virgin and scrap, were well liquidated, and the year closed with abnormally light inventories.

There are many signs of encouragement for the current year's business, and we believe the worst of the period of price readjustment in Lead, Zinc and Copper is behind us. The increase in the home demand over the first quarter of 1922 is very encouraging and, with present prospects for foreign trade, we anticipate no difficulty in disposing of our maximum production at satisfactory prices.

1921 sales were as follows:—

	Lbs.
Lead.....	58,022,000
Zinc.....	49,594,000
Copper.....	4,982,000

Respectfully submitted,  
W. S. RUGH,  
Sales Manager.

MONTREAL, March 31st, 1922.

The West Kootenay  
Power and Light Company,  
Limited

# The West Kootenay Power and Light Company, Limited

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## REPORT OF GENERAL MANAGER For the Twelve Months' Period ending December 31, 1921

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ROSSLAND, B.C., March 1, 1922.

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, 1921, was \$767,709.17.

### Revenue Producing Load

The revenue producing load for the sixteen months ending December 31, 1920, was 23,711.7 H.P., and for the year ending December 31, 1921, was 28,065.7 H.P., showing an increase over the preceding year of 4,354.0 H.P.

In my report for period ending December 31, 1920, I advised that the prospects in the Grand Forks Valley were more promising, and would say that the Irrigation Project referred to in this report has been started and financed by the Provincial Government, and it is the intention to have water on approximately 2,000 acres by May, 1922. I am led to believe that it is the intention to extend the Irrigation District from time to time, and when taking into consideration that there is an approximate acreage of 8,000 acres which can be brought under water to advantage, I would say that eventually the Grand Forks Valley, through irrigation, will be able to produce a very large tonnage of produce, and therefore not only will our revenue be increased for the power required for the pumping of water for this Irrigation Project, but also will improve through the increased prosperity which will be brought about in the City of Grand Forks.

### **Penticton Extension**

Work was started on this extension in September, 1921, but, due to the non-delivery of supplies and apparatus, very little headway was made until towards the middle of October. Work was then rushed and line completed and service started at Penticton, January 7, 1922. As soon as work was completed on this extension we then extended our secondary line from Penticton to Summerland, and service was started at Summerland the first of February, 1922. Everything throughout this extension has worked out in a satisfactory manner, and revenue derived from power required for the operating of the lights as well as for pumping water for irrigation purposes will be as per my estimate and I am of the opinion that we will be able to work up considerable additional business in this territory.

### **Kelowna Extension**

Contract for power supply with the Municipality of Kelowna has been accepted. This extension will call for the erecting of approximately thirty miles of transmission line from Penticton to Kelowna. The line as located passes through Naramata and Okanagan Mission. In the case of Naramata we will be able to pick up whatever business is offered in the way of lighting, and at Okanagan Mission there should be quite a load picked up for the pumping of water for irrigation purposes. In the case of Kelowna, I am of the opinion that considerable load can be picked up for the pumping of water for irrigation purposes as well as for the lighting of the town and district and other purposes, which should be increased from time to time, and it looks as if considerable revenue can be derived from this extension.

Your Plants throughout as well as all distributing stations and pole lines have been maintained in the usual high operating efficiency. I have much pleasure in stating that your staff throughout has been most efficient and through their efforts we have been able to put up continuous service as in the past.

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

# West Kootenay Power

## Consolidated Profit and Loss Account

### Amalgamating Accounts of West Kootenay Companies, viz: Cascade Water, Power Company, Rossland Water & Light Company, Northport Power

To Operating Expense.....	\$205,430.56
“ Interest on Bonds.....	103,500.00
“ Interest.....	6,406.72
“ Bad Debts written off.....	4,627.39
“ Depreciation.....	291,993.99
“ Balance—Profit.....	179,048.57
	\$791,007.23

## Balance Sheet

### 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...	429,259.72	
		1,370,740.28
Bills Payable.....	\$100,000.00	
Accounts Payable.....	75,406.43	
		175,406.43
Accrued Liabilities.....		41,401.97
Amount Reserved for Bond Interest, Preferred Dividend, Sinking Fund, and Premium on Bonds.		
Reserve Account.....		347,574.91
<b>Profit and Loss Account.....</b>		<b>32,027.56</b>
Balance 31st December, 1920.....	\$179,717.02	
Profit for year.....	179,048.57	
		\$358,765.59
Adjustments Dominion Income Tax, Water Fees, and Cascade Interest on Bonds Redeemed..	\$ 6,184.97	
Sinking Fund Contribution to Reserve Account.....	33,843.06	
Dividends Declared.....	286,710.00	
		326,738.03
		\$5,679,151.15

# Light Company, Limited

Year Ending 31st December, 1921

Light Company, Limited, with its Subsidiary  
Light Co., Ltd., South Kootenay Water Power  
Company, and  
Kootenay Water Power Company, and  
Light Company.

By Gross Revenue.....		\$767,709.17
Interest on Bonds held by Trustee for Sinking Funds:		
West Kootenay Power & Light Co.....	\$19,443.06	
Cascade Water Power & Light Co., Ltd.	3,855.00	
		<u>23,298.06</u>
		<u>\$791,007.23</u>

## 31st December, 1921

### ASSETS

Plant, Transmission Lines, Buildings and Real Estate.....	\$5,303,408.85	
Autos, Mdse., Meters, Instruments and Furni- ture and Fixtures.....	175,226.14	
		<u>5,478,634.99</u>
Cash on hand.....	24,642.07	
Accounts Receivable.....	167,921.87	
		<u>192,563.94</u>
Prepaid Operating Charges.....		3,719.48
Sundry Investments.....		3,860.55
Royal Trust Co. Sinking Fund Account.....		372.19

I have audited the books and accounts of the West Kootenay Power & Light Company, Limited, and Subsidiary Companies, for the year ending December 31st, 1921, 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,  
Auditor.

Rossland, B.C., February 16th, 1922.

\$5,679,151.15

