

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

For Year ending September 30th, 1917

BOARD OF DIRECTORS

W. D. MATTHEWS, Toronto	President
GE.O. SUMNER, Montreal	Vice-President
JAS. J. WARREN	Managing Director
Sir EDMUND B. OSLER	Toronto
CHARLES R. HOSMER	Montreal
H. S. OSLER	Toronto
W. F. MATTHEWS	Toronto
J. C. HODGSON	Montreal
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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 have pleasure in presenting the Twelfth Annual Report of the operations of the Company, together with the Managing Director's Report, the Financial Statement and the Auditor's Report for the year ending September 30th, 1917.

The net profit is \$1,076,828.50 after writing off \$648,058.19 for depreciation of plant and equipment and charging Profit and Loss Account with \$380,071.13 in development of your properties. The balance at the credit of Profit and Loss Account now stands at \$2,360,274.73.

Your operations at the Smelter, Refineries and mines have been handicapped during the year by strikes, causing a serious shortage of coal, which resulted in the discontinuance for some time of shipments of ore from your Rossland mines and a curtailment of ore shipments from other properties.

Labor conditions have been unsettled and difficult during the year and finally resulted after the close of the year in a general strike of the men employed in the Smelter at Trail, and a complete cessation of the operations of the Company. This strike has within the past few days been settled and the plants and properties will recommence operations immediately.

Notwithstanding all the difficulties encountered during the year, the value of the season's metal product exceeded \$13,000,000.

The large Bank Overdraft is due to the unusual accumulation of ores in anticipation of the needs of the Imperial Munitions Board.

You will find appended the reports of the Comptroller, the Metallurgical Manager, the Manager of Mines, and the Superintendent of Smelting and Refining departments, together with Financial Statements and General Manager's report of the West Kootenay Power & Light Company.

W. D. MATTHEWS,
President.

Toronto, December 28th, 1917.

FINANCIAL STATEMENT

Balance Sheet as at September 30th, 1917

LIABILITIES

CAPITAL	
Authorized:	
600,000 Shares of \$25 each.....	\$15,000,000.00
Issued and Fully Paid:	
419,098 Shares of \$25 each.....	\$ 10,477,450.00
BANK OF MONTREAL: LOAN AND OVERDRAFT.....	2,081,806.24
ACCOUNTS PAYABLE.....	1,092,823.91
DIVIDEND PAYABLE OCTOBER 1, 1917.....	261,936.25
ADVANCES BY IMPERIAL MUNICIPALITIES BOARD TOWARDS COST OF ADDITIONS TO ZINC PLANT (REPAYABLE OUT OF ZINC PRODUCED).....	700,000.00
RESERVES, INCLUDING PROVISION FOR CLAIMS AWAITING ADJUSTMENT.....	20,277.74
PROFIT AND LOSS ACCOUNT—	
Balance at September 30, 1916.....	\$ 2,278,458.73
Profit 12 months ended September 30, 1917.....	1,076,828.50
	\$ 3,355,287.23
Less: Dividend No. 23 declared December 1, 1916.....	\$210,695.00
Dividend No. 24 declared March 1, 1917.....	260,445.00
Dividend No. 25 declared June 1, 1917.....	261,936.25
Dividend No. 26 declared August 31, 1917.....	261,936.25
	3,055,012.50
	\$ 16,994,568.87

ASSETS

MINES, MINERAL CLAIMS AND SHARES IN OTHER COMPANIES	
Balance September 30, 1916.....	\$6,964,885.34
Expenditure 12 months to September 30, 1917.....	338,558.26
	\$ 7,303,443.60
MINING, SMELTING, CONCENTRATING AND REFINING PLANTS—	
Balance September 30, 1916.....	\$4,072,680.32
Construction 12 months to September 30, 1917.....	1,442,883.12
	\$5,515,563.44
Less Depreciation.....	648,058.19
	4,867,505.25
SMELTER PRODUCT ON HAND AND IN TRANSIT TO REFINERIES—	
Pig Lead.....	\$ 29,242.95
ORES AND METALS ON HAND AND IN TRANSIT TO SMELTER:	
Value of metal contents corrected to market quotations:	
Ores on hand.....	\$1,502,698.20
Refinery Metals on hand.....	1,014,819.10
Ore in transit to Smelter.....	68,903.92
	\$ 2,586,421.22
	2,615,664.17
MINE AND SMELTER STORES AND MATERIALS.....	970,954.71
ACCOUNTS RECEIVABLE.....	1,152,801.48
INSURANCE AND TAXES PAID IN ADVANCE.....	28,597.75
CASH IN BANKS AND ON HAND:	
Head Office, Toronto.....	\$ 52,353.92
Sundry Pay-Roll Bank Accounts.....	3,247.99
	55,601.91
	\$16,994,568.87

Auditor's Report

We have audited the Accounts of The Consolidated Mining and Smelting Company, Limited, for the twelve months ended September 30, 1917, including the Mines and Smelter Accounts maintained at the Offices at Kimberley, Rossland and Trail, and the values of the Metal Contents have been corrected to market prices of that date, and the estimated cost of refining products in course of treatment has been deducted. Subject to the foregoing, we certify that the above Balance Sheet is a true and correct statement of the financial position of the Company, according to the best of our information and the explanations given to us by the books of the Company as at the date of closing the Accounts, September 30, 1917.

HELLIWELL, MACLACHLAN & CO.,
Chartered Accountants.

PROFIT AND LOSS ACCOUNT

For the Twelve Months ended September 30th, 1917

To Smelter Product on hand and in transit from Smelter to Refineries at September 30, 1916.....	\$ 37,039.97
" Ores and Metals on hand and in transit to the Smelter at September 30, 1916.....	2,645,894.20
" Customs Ore, Lead and Bullion purchased.....	5,899,082.10
" Freight on Ore from Company's Mines.....	286,972.81
" Mining, Smelting and General Expenses:	
"Molly Gibson" Mine.....	\$ 22,562.41
"Richmond Eureka" Mine.....	777.82
"Maestro" Mine.....	6,357.81
"Highland" Mine.....	72,315.05
"No. 1" Mine.....	813.09
"St. Eugene" Mine.....	35,237.27
"Sullivan" Mine.....	429,204.69
"Le Roi" Mine.....	186,361.08
"Centre Star" Mine.....	209,898.64
"No. 7" Mine.....	1,552.26
"Lucky Thought" Mine.....	14,992.48
"Emma" Mine.....	75,324.34
"Ottawa" Mine.....	14,156.26
"White Bear" Mine.....	4,961.25
Trail Smelter and Refineries.....	3,456,084.70

4,530,599.15

To Development Expenses:	
"Molly Gibson" Mine.....	\$ 820.01
"Highland" Mine.....	41,151.75
"No. 1" Mine.....	813.06
"Sullivan" Mine.....	140,761.30
"Le Roi" Mine.....	55,774.70
"Centre Star" Mine.....	79,583.99
"Lucky Thought" Mine.....	15,728.04
"Emma" Mine.....	42,838.98
"Ottawa" Mine.....	2,599.30

380,071.13

To Depreciation.....	648,058.19
" Directors' Fees.....	8,800.00
" Sundry items written off, including Bad Debts.....	19,730.16
" Balance -- Profit.....	1,076,828.50

\$15,533,076.21

By Sales of Smelter Product, Ore, etc.....	\$12,700,971.05
" Smelter Product on hand and in transit from Smelter to Refineries at September 30, 1917.....	29,242.95
" Ore and Metals on hand and in transit to the Smelter at September 30, 1917:	
(Value of metal contents corrected to Market quotations):	
Ores on hand.....	\$1,502,698.20
Refinery Metals on hand.....	1,014,819.10
Ore in transit to Smelter.....	68,903.92
	<u>2,586,421.22</u>
" Rents and Sundry Revenue.....	66,440.99
" West Kootenay Power and Light Company Limited, Dividends.....	150,000.00

\$15,533,076.21

Managing Director's Report

TORONTO, December 20th, 1917.

To the Directors

of The Consolidated Mining and Smelting Company
of Canada, Limited.

Gentlemen:

I submit herewith the Financial Statement (including Profit and Loss Account) for the year ending September 30th, 1917. It is accompanied by the reports of the Comptroller, the Manager of Mines, the Metallurgical Manager and the General Superintendent of the Smelting and Refining Departments; also the report of the General Manager of the West Kootenay Power and Light Company, Limited, and the Financial Statement (including Profit and Loss Account) of that Company.

ZINC

The Electrolytic Zinc Plant was completed during the year. Various improvements were made in the process and more are under consideration.

A daily production of over 60 tons of pure zinc was reached. An extraction of over 90 per cent. was made from certain classes of ore.

Now that the process may be considered to be standardized, every effort is being made to reduce the cost of production. So far there has been no difficulty in disposing of the entire output.

The year's production of 10,000 tons of pure zinc, of a value of \$3,000,000.00, marks another epoch in the metallurgical history of Canada.

A Concentrating Mill with a capacity of 400 tons of ore per day has been erected to treat the Sullivan Zinc ores prior to their being put through the Zinc Plant proper. It has been demonstrated that a much higher extraction can thus be made and at a moderate cost.

LEAD

The production of refined lead amounted to over 22,000 tons—or more than 2,000 tons in excess of the product of the previous year. About seventy-five per cent. of this was sold to the Imperial Munitions Board.

The metallurgical results were the best in recent years.

GOLD AND SILVER

The production of gold was less than in the previous year because of the Rossland mines having been operated only about half the year.

The production of Silver was greater than in the previous year because of the higher silver content in the lead ores received.

ACID PLANTS

The sulphuric acid plant was doubled in capacity. After supplying the entire needs of the Refineries and the Zinc Plant, there is a surplus product for sale commercially.

The hydrofluosilicic acid plant provides the entire requirements of the lead refinery.

IN GENERAL

Operating conditions during the year were unsatisfactory. Supplies of all kinds increased in price. Labor, in addition to demanding (and receiving) a higher wage scale showed a marked decrease in efficiency.

The production of the Rossland mines was only about one-third of normal. This reduced profits and increased operating costs. On the other hand, the Sullivan Mine maintained its position as the largest producer.

The statement of the West Kootenay Power and Light Company shows satisfactory earnings. For the most part these represent revenue from electric energy supplied the parent Company.

The Power Company has contracted with the Northport Smelting and Refining Company to supply a maximum of 1,500 horse power for a term of years and with the Canada Copper Corporation to supply a maximum of 5,000 horse power for ten years. The rates obtained are satisfactory and insure substantial additions to the earnings of the Company.

A transmission line is being extended to the works of the Northport Company. The necessary steps are being taken to extend another transmission line from Greenwood to Princeton and Copper Mountain, where the works of the Canada Copper Corporation are situate.

The value of the year's metal product—over thirteen million dollars—is the greatest, by far, in the history of the Company.

A policy of acquiring and developing gold ore properties is being pursued, to provide against the possibility of a decline in the demand for base metals after the War.

The Canadian commercial requirements for these metals having slackened very considerably during the War, the Imperial Munitions Board have absorbed the bulk of the production. The Board are very keen buyers. Recently they have required that the prices current in the United States markets be met by the Company—except for a fair allowance in the matter of freight charges.

The cost of production in Canada is necessarily higher than in the United States on account of the more refractory character of the ores treated and the smaller size of the operations. Besides, all supplies used in connection with Canadian mining, smelting and refining cost about forty per cent. more than the same supplies in the United States, the Canadian price being practically the United States price plus the duty into Canada.

This operates as a hardship on the Canadian production of metals when they have to be sold at the United States prices. If the Company's sales to the Imperial Munitions Board had been made at the Canadian commercial prices

of the day—instead of the United States prices of the day—the difference in the net profits would be very substantial.

It is hoped that in the future the Board will take a more favorable view of the conditions under which metals are produced in Canada.

MANAGEMENT

Early in 1917 Mr. R. H. Stewart left the service of the Company to engage in consulting and other engineering work in Vancouver.

On July 1st, Mr. F. N. Flynn became General Superintendent of Smelting and Refining. From that date, Mr. E. H. Hamilton devoted his entire attention to the Zinc Plant.

At the end of the year the staff consisted of:—

- Mr. S. G. Blaylock, Assistant General Manager.
- Mr. E. H. Hamilton, Metallurgical Manager.
- Mr. W. M. Archibald, Manager of Mines.
- Mr. F. N. Flynn, General Superintendent of the Smelter and Refineries.
- Mr. T. W. Bingay, Comptroller.

The selling organization, in charge of Mr. W. S. Rugh, West of the Province of Quebec, and of Thomas Robertson and Co., Limited, East of the Province of Ontario, gave satisfactory results.

The members of the staff, the mine and smelter Superintendents and the other officials of the Company performed their duties faithfully and well.

JAMES J. WARREN,
Managing Director.

Comptroller's Report

TRAIL, B.C., December 15th, 1917.

Operations for the year show a net profit of \$1,076,828.50 after writing off \$618,058.19 for Depreciation of Plant and Equipment and charging to Profit and Loss account \$380,071.13 expended in Development of our operating mines.

Included in the charge for Depreciation is \$450,000.00 written off the Zinc Plant.

The increase in property account during the year is \$338,558.26, and this increase includes the purchase of claims in the Ainsworth and Rossland camps, payments on mining properties under bond, the purchase of bonds of the Coast Copper Company Limited, to finance development of that property, advances to the Silver King Mines Limited for the same purpose, and expenditure on development in anticipation of production on our Rossland properties.

The increase in Plant account during the year, deducting depreciation, has been \$791,824.93.

The heavy stock of metals carried is due chiefly to excessive stocks of silver-lead ore and lead-bearing material having accumulated during the summer of 1917. These ores are produced in small quantities from a large number of shipping mines in the district more or less irregularly and production from these properties has been greatly stimulated by the high prices of silver and lead. Liquidation of these stocks has been retarded by the sudden curtailment of orders for the manufacture of shrapnel in Canada.

Average quotations for metals for the Company's fiscal year as compared with the previous fiscal year are as follows:—

	1917	1916
Montreal lead.....	\$10.91	\$ 7.74
New York silver.....	77.75	60.73
New York Electrolytic Copper.....	28.78	24.43

Respectfully submitted,

T. W. BINGAY,
Comptroller.

Metallurgical Manager's Report

FRANK, B.C., 15th December, 1917.

The following is a brief summary of operations and improvements during the year:—

The Smelter production for the year was as follows:

	Tons Ore Smelted	Gold Produced Ounces	Silver Produced Ounces	Lead Produced Pounds
1894 to date	5,179,307	1,778,921	27,005,350	158,323,524
1916 to 1917	359,191	69,701	2,471,887	11,260,989

	Copper Produced Pounds	Zinc Produced Pounds	Gross Value
1894 to date	75,047,410	23,056,906	\$91,315,754
1916 to 1917	7,401,352	19,968,797	13,021,127

The following additions were made to the plant during the first six months of the year:—

LEAD PLANT

The new ore bedding system was completed and put into operation, affording two large beds for mixing and storing unroasted ore.

Lead Mill—Improved facilities were provided for crushing ore.

Dwight-Lloyd Roasting Plant—A new unit was started on June 21st with a view to ultimately adopting double sintering.

SILVER REFINERY

A flue gas scrubber was installed to recover values previously lost in smoke.

A melting retort was installed in place of the old type reverberatory furnace for treatment of refined silver.

The new Bluestone Plant was put into operation.

ELECTROLYTIC COPPER REFINERY

The capacity of the Copper Refinery was doubled. New air lifts were installed for circulating electrolyte. New slime launders installed.

Copper Melting and Casting Department—Furnace and casting facilities were rebuilt and remodelled to double last year's casting capacity.

SULPHURIC ACID PLANT

During the year 2878.7 tons of 100% Sulphuric Acid were produced.

The capacity of the plant was doubled, and is now capable of producing 30 tons of chamber acid per day.

HYDROFLUOSILICIC ACID PLANT

During the year 196 tons of 100% Hydrofluosilicic acid were produced.

The installation of two new retorts is well under way. This will double the capacity of the plant.

ZINC PLANT

The following additions were made to the plant during the year:

Grinding Department—One ore drying rotary kiln has been installed, also other improvements.

A new tube mill has been added to the equipment.

Roasting Department—Four new Wedge Roasters have been completed, making 13 in all.

Two roasters have been altered and equipped for use as preliminary roasters for the flotation concentrator.

Two Concrete Storage Bins with a capacity of 1,000 tons of Calcine have been built, also screw conveyors, a pumping station, pump, etc., to handle the calcine from these bins.

A link belt steel cased elevator was built and used for calcine.

Leaching Department—During the year the improved counter current system was completely installed and put into operation.

The following additions were made to the plant:—5 new Agitating Pachuca; 3 new Precipitating Pachuca; 10 40-ft. Dorr Thickeners; 4 large Kelley Filter presses bought, installed and operating; 1 large spare Kelley press bought.

Air Lifts—A shaft 75 feet deep and lagged has been completed into which 15 air lifts have been installed for handling the acid and other solutions and thus eliminating pumps. The results have been very satisfactory.

Pumps—2 large bronze Gould Triplex plunger pumps for handling electrolyte have been bought and are operating.

Four Dorr Classifiers have been moved to Pachuca floor.

Two Dorr Classifiers placed over neutral thickeners.

A Diaphragm Pump has been developed and many installed. It is both simple and efficient and without it the counter current system on this class of ore would be impossible.

TRAIL, B.C., December 11th, 1917.

Two Electrolyte Storage Tanks with capacity of 1,000 tons each were built and put into operation.

Two Lead Lined Acid Electrolyte Storages with capacity of 1,000 tons each were built and put into operation. Lead linings were put in 8 of the previously installed 16 ft. acid storage tanks. Two 20 ft. storage tanks, one of which is lead lined, were installed with trestles 40 feet high.

Elevators- 3 elevators for calcine were erected. A Leaching Plant for Customs Ore was built. It consists of 3 Pacluca Tanks; 1 20-ft. Dorr Thickener; 1 Oliver Filter; 3 Concrete Bins; Conveyors and Elevators.

A slimes Filtering Plant with a capacity of 100 tons was built.

Electrolytic Department Building and Room No. 2 was completed and operated. The whole circulating system of the two tank rooms, including 832 tanks, was reconstructed and greatly improved.

Melting and Casting Department A new melting furnace was constructed to meet the increased output to 60 tons zinc per day.

Fine Atomizing Apparatus--A small oil fired furnace with oil and air piping, etc., was installed; also an electric furnace for atomizing zinc, also chamber for collecting the zinc and an electrically driven screening system.

A new wash house with shower baths, lockers and room for lunch was built.

Compressor Room--During the year facilities for compressing air were much increased by installing gear drives on the large compressor.

A new high pressure cylinder was added to the Ingersoll-Rand Compressor.

A new high pressure air compressor was bought and installed.

A small air compressor was installed for atomizing zinc.

Generator Room--Seven more motor generator sets were installed, making 13 in all.

A **Machine Shop** with shafting, lathe, shaper, forge and other tools was installed for quick repairs.

The monthly output of pure zinc has risen during the last six months from 830 tons to 1322 tons.

THE PLANT is producing on a commercial scale, Bluestone, Sulphuric Acid, Hydrofluosilicic Acid, Gold, Silver, Copper, Lead and Zinc.

Yours faithfully,

E. H. HAMILTON,
Metallurgical Manager.

Herewith is submitted report of the operations of the Company's mines for the year ending Sept. 30th, 1917. The accompanying tables show the results in production and development.

MINE PRODUCTION

	Year 1916-1917 Weight, Tons	1894 to date Weight, Tons
Centre Star--War Eagle--Gold-Copper Ore	47,896	2,611,143
Centre Star--War Eagle--Concentrates		9
Le Roi--Ore, Gold Copper Ore	57,405	2,007,626
Le Roi--Concentrates		612
White Bear--Ore, Gold Copper Ore	724	
Sullivan--Lead Ore	29,542	
Sullivan--First Class Zinc Ore	95,851	490,791
Sullivan--Second Class Zinc Ore	5,656	
Sullivan--Pyrites	4,205	
St. Eugene Co.--Lead Ore	1,137	
St. Eugene Co.--Leasing Company	561	1,020,936
Ø Molly Gibson--Lead-Silver Ore	470	5,815
Ø Number One--Silver Ore		18,127
Ø Highland--Lead-Silver Ore	1,438	4,319
Ø Highland--Lead-Silver Concentrates	755	4,313
Ø Maestro--Lead-Silver Ore	21	463
Ø Maestro--Lead-Silver Concentrates	88	88
Ø Ottawa--Silver Ore	179	641
Lucky Thought--Lead-Silver Ore	17	675
Lucky Thought--Silver-Zinc Ore	763	763
Ø Richmond--Eureka--Lead-Silver Ore		14,697
Ø Silver King--Silver-Copper Ore		17,238
Emma--Copper Ore	40,523	176,082
Phoenix Amalgamated--Copper Ore		2,493
Number Seven--Silicious Gold-Silver Ore		7,388
Ø Ben Hur--Silicious Gold-Silver Ore		12,075

NOTE Ø:--Production given above includes that of previous owners. Since Company acquired property only, previous record not available.

DEVELOPMENT

	Drifting and Crosscutting	Raising	Sinking	Total	Diamond Drilling
Centre Star--War Eagle	5,179.5	931.0	350.0	6,520.5	7,938.3
Le Roi	4,567.5	747.0	15.0	5,329.5	669.4
Deer Park					753.7
White Bear	791.0	281.0		1,075.0	
St. Eugene	167.0	104.0			271.0
Sullivan	4,336.5	256.5		4,593.0	
Molly Gibson	6.0	65.0		71.0	
Number One					
Highland	875.0	659.4	113.0	1,647.4	
Ottawa	91.5	209.0		300.5	
Lucky Thought	945.0	422.0		1,367.0	
Emma	1,158.0	507.5		1,665.5	2,618.4
Richmond--Eureka	49.0			49.0	
Silver King	997.0			997.0	
Coast Copper Co.	447.0	115.0	440.0	1,002.0	

making the total development to date in the above mines as follows:—

	Feet	Miles
Centre Star—War Eagle Group	211,853.5	40.10
Le Roi Group	90,280.5	17.10
White Bear	8,322.0	1.58
Sullivan	37,663.5	7.15
St. Eugene	105,910.5	20.04
Molly Gibson	10,742.0	2.03
Richmond-Eureka	9,546.0	1.80
Number Seven	5,934.0	1.12
Phoenix Amalgamated	2,581.0	.49
Number One	8,381.7	1.59
Highland	14,642.9	2.77
Ottawa	10,807.0	2.06
Silver King	20,482.0	3.88
Lucky Thought	3,342.0	.63
Emma	4,077.5	.77
Coast Copper Co.	2,032.0	.38

The year's operation made no material change in ore reserves in the Rossland mines of the Company. On account of decreased and irregular supply of coke for the smelter, shipments of gold-copper ore from these properties were practically suspended for five months, and total tonnage sent to the smelter during the year was about 34% of normal.

Development footage exceeded that of the previous year by 2,200 feet. No new ore bodies of consequence were found, but promising new territory was opened up with possibilities of additional work disclosing commercial ore.

In the Centre Star and War Eagle Groups, development extensions were principally in the eastern ground. Also in the War Eagle a winze was sunk 350 feet from the lowest level, 18th War Eagle, 16th Centre Star, preparatory to further exploratory work at this increased depth.

A continuation of Le Roi development on the 1,850 foot and 2,000 foot levels corresponding to 13th and 14th Centre Star, has shown a wide vein carrying considerable sulphides; values, however, were disappointing and deeper exploration by diamond drilling is being undertaken. Some promising tonnages were made available in the upper workings.

In the White Bear, during the year the west drift from the 1650 Le Roi was extended entirely across this claim, and is now in the Company's west ground. Geological conditions were found to be similar to those in which productive ore bodies have already been worked. Extensive mineralization and two veins of promise were encountered. In the upper workings limited stoping operations and exploratory work were carried on.

At the Sullivan Mine, Kimberley, the lower tunnel was advanced over 3,000 feet. A large flow of water and broken ground retarded progress for several months.

Increased mining operations, made necessary by the demand for zinc ores, assisted in the maintenance of lead ore reserves, and the extensions of lead ore stopes on the lower level have been satisfactory. The tonnage of low grade lead-zinc ores has not been materially diminished by the year's shipments.

Some new crushing equipment in the shape of a Symonds disc crusher was installed, and increased accommodation provided for the men.

Leasing of the upper levels of the St. Eugene Mine, and the Company's operations below the 10th level, produced satisfactory results.

In Ainsworth, the Highland Mine was operated, and development performed on the 5th and lower levels with encouraging results. New ore bins were erected at the mine and new tramway connecting mine and mill installed. A shortage of power and an unusually dry season retarded development and production.

The Maestro lease was cleaned up, the ore being taken to the Highland Mill for treatment.

The No. One Mine was not operated.

At the Molly Gibson Mine, repairs were made to the tram. A Cascade flotation unit was installed in the mill, and shipments of crude ore and concentrates resumed. Condition of stopes and ore reserves at this property are satisfactory and future development possibilities are good.

A few men were employed in stoping and development at the Ottawa Mine, but no material change has taken place.

At Silverton, the Lucky Thought Mine was operated and satisfactory results were obtained in the exploration of the ground between the lower adit level and upper workings.

A lease was given on the Richmond-Eureka Mine, Sandon, but no shipments have resulted from it so far.

The Emma Mine was operated throughout the year with satisfactory results. Diamond drilling located a new ore body on the lower level East, and a new vein. Additional development of the latter has so far been disappointing, but the possibilities are not yet exhausted.

No work was done on the Phoenix Amalgamated, Phoenix, or Number Seven Mine, Boundary Falls.

During the year 1,000 feet of drifting was done at the Silver King Mine, Nelson, on the 7th and 9th levels preparatory to further exploration with a diamond drill. On the 9th level a small ore shoot of good grade was passed through.

Report of General Superintendent

Smelting and Refining Departments

TRAIL, B.C., December 14th, 1917.

At the completion of the fiscal year ending September 30th, 1917, I had been connected with your Company less than three months. That time was spent in familiarizing myself with your plant and the local conditions governing its method of operation.

In the copper smelter, I found that department capable of treating all the ore which was expected of it, and doing so at low cost and high metal recoveries.

The copper refinery was doing very satisfactory work and obtaining comparatively low costs considering the small size of the plant. Its melting plant had been built but had not been operated.

The lead refinery was treating all the lead produced by the furnaces, and making a satisfactory showing except for the high acid loss.

The silver refinery, built for treating the lead slimes, was also handling all the slimes from the new copper refinery. And while this plant is rather antiquated it will not be a very expensive task to bring it up to date to satisfactorily treat both classes of slimes.

The lead smelter, while doing what was expected of it in past years, owing to the constantly increasing tonnage of lead ores containing high percentages of zinc sulphides, requires additional roasting facilities, not only to reduce the costs, but also to reduce the metallurgical losses.

In my endeavor to grasp the metallurgical problems, I met with a very cordial welcome and was given every assistance by all the members of your local staff and their assistants.

Very respectfully,

F. N. FLYNN,

General Superintendent Smelting and Refining Departments.

On the property of the Coast Copper Company at Elk Lake, east of Quatsino Sound, a winze was sunk on the vein to a depth of 440 feet from the present adit level, and drifting at this lower level was undertaken. Some dykes and faulted ground were encountered in the sinking but no material change in formation was apparent at the lower level. Copper values existing above have not been found so far. An extension of the drift north on the level of the adit produced satisfactory results.

Camp McKinney and Fairview. Some seventy mineral claims in these camps were acquired by Location and Lease during the year. Promising veins are covered by the ground obtained and there are good possibilities that closer investigation and prospecting will disclose ore bodies of merit.

Experiments for the treatment of Rossland ores by concentration and cyaniding, and of the Silver King ores by concentration, were carried on during the year. Results in the latter case are very encouraging and indicate profitable extraction of ore heretofore too low grade to ship. In the case of the Rossland ores the results do not as yet indicate a definite procedure.

Field work. A large amount of field work was done during the year, and a number of meritorious properties were examined. Some of these are now the subject of negotiation.

Messrs. M. E. Purcell, G. H. Kilburn and H. L. Batten were engaged in examination and exploratory work, and the operations of the various properties of the Company were directed by the following other members of the Staff

Centre Star and War Eagle	E. G. Montgomery.
Le Roi and White Bear	F. S. Peters.
Sullivan and St. Eugene	J. K. Cram.
Highland	L. W. Oughtred.
Molly Gibson	Ronald Stonier.
Ottawa	D. Matheson.
Lucky Thought	D. M. Tattrie.
Emma	Edward Nordman.
Coast Copper Company	Wm. Clancy.

Yours respectfully,

W. M. ARCHIBALD,
Manager of Mines.

The West Kootenay Power and Light Company, Limited

Report of General Manager for the Year ending August 31st, 1917

ROSSLAND, B.C., October 18th, 1917.

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

Dear Sirs:

Our net profits for the year ending August 31, 1917, amounted to **\$30,930.87**, this after writing off **\$99,736.83** for Plant Depreciation. Also providing for dividend on Preferred Shares and dividend on Common Stock, **\$182,666.67**.

During the past year the operations of your different Plants have been continuous with the exception of a total interruption in service of forty-seven and one-half minutes, this covering seven shut-downs. Three of these shut-downs were caused through fire which got beyond control on our Right of Way between Rossland and Cascade; two were caused through trouble on customer's apparatus; one through regulator trouble in Power House No. 2; and one through relay trouble in Power House No. 2. On the whole I am safe in saying that the service throughout the past year has given every satisfaction to our customers.

For the year ending August 31, 1916, our revenue producing load was 11,152.1 H.P. For the year ending August 31, 1917, our revenue producing load was 22,511.5 H.P., thus showing an increase in power consumption over previous year of 11,359.4 H.P.

The mines and smelters to whom we supply power were compelled to curtail their operations for the months of May, June, July and August, due to coke shortage brought about by labor trouble and a scarcity of labor in the Crow's Nest Pass section from which a coke supply is received. It remains to be seen as to whether or not an ample supply of labor can be secured to bring the coal and coke output up to normal.

As I mentioned in my report for year ending August 31, 1916, due to the increased power consumption of the Consolidated Mining & Smelting Company, we were compelled to increase our generating capacity in No. 2 Power House, Upper Bonnington. I am very pleased to inform you that the installation of No. 4 Unit was completed on the first of November, and was put into actual service on the 18th of November, and has been running continuously since this date, and the installation throughout, including water wheels, generator, switching apparatus, and step-up transformers have come up to the guarantees as set forth by our company under the different contracts, and have given entire satisfaction.

No difficulties have been experienced in the continuous operations of your Plants including No. 1 Plant, Lower Bonnington, No. 2 Plant, Upper Bonnington, and No. 3 Plant, Cascade.

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

WEST KOOTENAY POWER LIGHT COMPANY, Limited

Balance Sheet August 31st, 1917

LIABILITIES

Accounts Payable.....	\$	16,452.80	
Royal Bank of Canada.....		93,362.45	
Cascade W. P. & L. Co.....		16,009.25	
Amount reserved to provide for Sinking Fund, Premium on Bonds and Dividends on Common Stock and Preferred Shares as at 31st August, 1917.....		86,502.00	\$ 212,326.50
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Bond Account.....		\$1,500,000.00	
Preferred Shares.....		400,000.00	
Common Stock.....		2,000,000.00	
Sinking Fund.....		196,711.33	
Balance at credit of Profit and Loss Account.....		433,398.78	
			4,530,110.11
			<hr/>
			\$4,742,436.61
			<hr/> <hr/>

ASSETS

Plant, Buildings, Real Estate, Pole Lines, Horses, Furniture, Fixtures, etc.....		\$3,893,502.57	
Merchandise, Instruments and Food Supplies.....		67,595.05	
Unexpired Insurance and Taxes.....		6,039.83	\$3,967,137.45
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Cash on hand.....		\$ 3,757.93	
Accounts Receivable.....		68,394.69	
South Kootenay Water Power Co.....		87,028.55	
Rossland Water and Light Co.....		715.57	159,896.74
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Investments in other Companies controlled or owned by this Company.....			396,570.03
Expended in Redemption of Bonds for Sinking Fund.....		\$ 196,706.53	
Royal Trust Co.....		4.80	196,711.33
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Capital Expenditure, Rossland Water and Light Co.....			22,121.06
			<hr/> <hr/>
			\$4,742,436.61

Profit and Loss Account August 31st, 1917

1917			
Aug. 31	To Operating Expenses for the year, including maintenance, repairs, etc.....	\$	164,742.03
	" Interest on Bonds (W.K.P. & L. Co.) and Sinking Fund for redemption of same.....		104,400.00
	" Interest on Bonds (C.W.P. & L. Co.) and Sinking Fund for redemption of same.....		23,418.00
	" Interest Acct.....		5,390.05
	" Premium on Bonds.....		658.06
	" Depreciation on Plant.....		99,736.83
	" Dividend Preferred Shares.....	\$	32,666.67
	" Dividend Common Stock.....		150,000.00
			<hr/>
	" Adjustments.....		1,514.35
	" Balance Carried Forward.....		433,398.78
			<hr/>
			\$1,015,924.77
			<hr/> <hr/>

1916			
Aug. 31	By Balance brought forward.....		\$ 402,467.91
1917			
Aug. 31	By Gross Revenue for the year.....		613,456.86
			<hr/> <hr/>
			\$1,015,924.77

Verified.
THOS. S. GILMOUR,
Auditor.

