Report of the Directors

The Consolidated Mining and Smelting Company

of Canada, Limited

For Year ending September 30th, 1914

BOARD OF DIRECTORS

W. D. MATTHEWS, Toront	0	150			President		
		•	•				
GEO. SUMNER, Montreal			-	. v	ice-President		
Sir EDMUND B. OS	LER	•		Toror	nto		
CHARLES R. HOSM	IER			Mont	real		
H. S. OSLER .				Toror	nto		
W. L. MATTHEWS				Toror	nto		
J. C. HODGSON				Mont	real		
W. H. ALDRIDGE				New	York		
WM. FARWELL		•		Sheri	orooke, Que.		
Transfer Office							
95 KING STREET EAST					TORONTO		

J. KITTO, Secretary

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 beg to submit the Ninth Annual Report of the operations of the Company, as covered by the General Manager's Report, the Financial Statements and the Auditor's Report for the year ending September 30th, 1914.

The net profit, after writing off \$193,149.69 for depreciation, amounts to \$474,012.24, out of which four dividends (a total of 8 per cent), amounting to \$464,376.00, have been paid, leaving a balance of \$9,636.24, which, added to the balance at the credit of the Profit and Loss Account as shown last year, makes a total of \$1,727,286.73 at the credit of that account.

The Property Account has been increased during the year by the sum of \$283,422.31, which includes the cost of claims adjoining the Rossland Properties and the Sullivan Group, and stock in the Silver King Mines, Limited, together with a portion of the amount expended on the development of the Sullivan, Silver King and other properties which had not commenced shipments, or which only shipped ore to a limited extent.

The Bank Overdraft has materially increased, the reasons for which are given in the General Manager's Report. It can however be reduced very substantially when the conditions of the Metal Markets warrant the Company in disposing of the large stock of refined metals on hand.

The development work at the Rossland mines and also at the Sullivan group is very encouraging, and the various other properties are looking well, while the alterations and improvements at the Smelter make for efficiency and economy.

W. D. MATTHEWS.

President.

Toronto, December 22nd, 1914.

FINANCIA TATEMENT Balance Sheet as prember 30th, 1914

LIABILITIES

C.

ASSETS

Capital Authorised: 75,000 Shares of \$100 each	\$7,500,000.00		·	MINES, MINERAL CLAIMS AND SHARES IN OTHER COMPANIES— Balance September 30th, 1913	\$5,006,974,60	
Issued and Fully Paid- 58.052 Shares of \$100 each		\$5,805,200.00		Expenditure, twelve months to September 30th, 1914.		85 200 306 - 91
Bank of Montreal: Loan and Overdraft Accrued Interest	\$1,434,774.68 2,178.25		1	MINING, SMELTING, CONCENTRATING AND RE- FINING PLANTS	81,516,047.69	eoeo.ou.p1
Pay Roll Accounts overdrawn	\$1.136,952.93 1,951.25			30th, 1914	559,717.24	
Contingent Liability at September 30th, 1914, on Drafts Against Shipments		1,438,904,18	ì	Less Depreciation	\$2,075,764.93 193,149.69	1.882,615,24
ACCOUNTS PAYABLE AND UNPAID DIVIDENDS RESERVE, INCLUDING PROVISION FOR CLAIMS AWAITING ADJUSTMENT PROFIT AND LOSS ACCOUNT— Balance September 30th, 1913 Profit, twelve months cuded September 30th 1914 LESS Dividend—No.—11.—declared	\$1.717.650.49	352,405,57 31,505,54		SMELTER PRODUCT ON HAND AND IN TRANSIT TO REFINERIES Pig Lead, Bullion, Matte, Bluestone and Antimony ORES AND METALS ON HAND AND IN TRANSIT TO SMELTER AT SEPTEMBER 30TH, 1914— Value of Metal Contents corrected to Market quotations: Ores on Hand	\$133,492.80 -	1,000,011.27
December 10th, 1913 8116,088.00 Dividend No. 12. declared March 11th, 1914	464,376.00	1.727,286.73	i	MINE AND SMELTER STORES AND MATERIAL. ACCOUNTS RECEIVABLE	1,910.66	363,986,09 346,338,58 15,735,19
		89,355,302.02				\$9,355,302.02

Auditockeport

We have audited the Accounts of The Consolidated Mining & Smelting Co. 7 and Smelter Accounts maintained at the Offices at Marysville, Ainsworth, Nelson, as certified by the Company's Officials; the values of Metal Contents have been treatment has been deducted. Stores and Materials on Hand at the Mines and Smelting, in our original properly drawn up to an in ordinary. Sheet is, in our opinion, properly drawn up so as to exhibit a correct view of the at

da, Limited, for the twelve months ended September 30th, 1914, including the Mines Trail, B.C. The Inventories of Ore and Smelter Products at September 30th, 1914, are market quotations of that date, and the estimated cost of refining products in course of a verified by the Storekrepers. Subject to the foregoing we certify that the above Balance then of the Company as at date of closing the Accounts to September 30th, 1914.

> HELLIWELL, MOORE & MACLACHLAN, Chartered Accountants.

VANCOUVER, B.C., November 23rd, 1914.

PROFIT ANDOSS ACCOUNT

For the Twelve Monthended 30th September, 1914

\$7,254,167.18

To Smelter Product on hand and in transit from	m Smelter to	
Refineries at September 30th, 1913		8 - 144,957,23
" Ores and Metals on hand and in transit to the		
September 30th, 1913		964,813.13
" Customs Ore, Lead and Bullion purchased		2,117,732,91
" Freight on Ore from Company's Mines		121,423.81
" Mining, Smelting and General Expenses:		
"Molly Gibson" Mine	\$ 25,424.24	
"Richmond-Eureka" Mine.	8,699.18	
"Ottawa" Mine	15,477.64	
"Lucky Thought" Mine		
"Masetro" Mine	16.277.08	
"Highland" Mine	81.587.25	
"No. 1" Mine	41.613.02	
"St. Eugene" Mine	33,180.66	
"Sullivan" Mine		
"Le Roi" Mine.	236.751 20	
"Centre Star" Mine	544 515 84	
"No. 7" Minc.	2 207 77	
Trail Smelter and Refinery	1 643 644 64	
Tran singiter and refinery	1,040,041.04	2,734,625.11
		2(10)1(020).11
To Development Expenses:		
"Richmond-Eureka" Mine.	\$ 6,979.05	
	8,394.28	
"Ottawa" Mine	30,215.29	
"Highland" Mine	•	
"No. 1" Mine	23,317.77	
"St. Eugene" Mine	2,669.09	
"Sullivan" Mine	51,402.36	
"Le Roi" Mine	85,006.94	
"Centre Star" Mine	283,128.85	
"Silver Dollar" Group Mines	1,352.28	
/D D		492,465. 9 1
To Depreciation, General Plant and Equipment		193,149.6 9
" Directors' Fees		8,800.00
" Sundry Items Written off, including Bad Deb	ds	2,187.15
" Balance—Profit		474,012.24
" Balance—Profit		474,012.24

Вy	Sales of Smelter Product, Ore, etc	\$5,778,372.92
	Smelter Product on hand and in transit from Smelter to Refineries at September 30th, 1914	133,492.80
6.0	Ore and Metals on hand and in transit to Smelter at	
	September 30th, 1914:—	
	Value of Metal Contents corrected to Market Quotation	1s
	Ores on hand	
	Refinery Metals on hand	
	Ore in transit to Smelter	
		1,319,758.45
"	Rents and Sundry Revenue	22,543.01

General Manager's Report

Trail, B.C., November 24th, 1914.

To the Directors of

The Consolidated Mining and Smelting Company

of Canada, Limited.

Gentlemen:--

I have the honor to submit herewith results of your Company's operations for the year ending September 30th, 1914, including Balance Sheet, Profit and Loss Account, Statement of Production and Financial Statement.

FINANCIAL STATEMENT

Operations for the year show a net profit of \$474,012.24 after writing off \$193,149.69 for depreciation on plant and equipment, and charging to Profit and Loss Account \$492,465.91 expended during the period in development on our properties.

Increase in plant account for the year, deducting depreciation and sales of plant, amounted to \$366,567.55.

Increase in property account, \$283,422.31.

Average quotations for metals for the year are as follows:—London Lead £19-3-4 (10 months only), as compared with £18-19-7 during the previous fifteen months; New York silver .57181 cents, as compared with .60993 cents; electrolytic copper .14361 (10 months only), as compared with .16113 cents.

PRODUCTION

Total tonnage smelted at Trail was 374,771 tons, having a gross value of \$6,000,662.00, showing an increase in the average monthly tonnage smelted over last fiscal year (15 months) of about 4,090 tons.

Produ	CTION,	OCTOBER 1	sт, 1913, то	SEPTEMBER	30тн, 1914	
MINES in	eight Tons	Gold in Ounces	Silver in Ounces	Lead in Pounds	Copper in Pounds	Gross Value
Centre Star-Ore 17	2,379					
Centre Star—Con- centrates	9	90,762	63,131		1,804,191	\$2,139,522
Le Roi—Ore 8 Le Roi—Concen-	0,499					
trates	137	31,030	39,064		1,817,004	894,892
Sullivan-Ore 3	0,919		431,746	21,390,103		879,829
St. Eugene-Ore	1,217		26,119	992,385		45,782
Molly Gibson-Ore	572	7	29,964	137,278		22,701
Number One—Ore	5,790	76	185,230	121,382		112,908
Highland—Ore	1,346					
HighlandConcen-				21.12		phone *******
	2,520		64,579	3,929,856		203,388
Maestro—Ore	262		4,421	241,491		10,403
Richmond-Eureka	- 41		00.000	100.000		00.000
—Ore	541	,	23,698	162,960	• • • • • • • • • •	20,269
LuckyThought—Ore	36		4,295	33,279		3,871
Ottawa—Ore	342	(000)	50,900		(*00.000)	29,070
Silver King—Ore (1	16,031)	(266)	(123,549)		(589,286)	(157,581)
Smelter 37	4,771	129,083	2,568,301	34,617,318	3,645,997	6,000,662
	PR	oduction, I	Beginning 1	894, то Dati	E	
MINES in	eight Tons	Gold in Ounces	Silver in Ounces	Lead in Pounds	Copper in Pounds	Gross Value
	Tons					
MINES in	Tons	Ounces	Ounces	Pounds	Pounds	Value
MINES in Centre Star—Ore.2,20 Centre Star—Con-	Tons 06,343	Ounces	Ounces	Pounds	Pounds	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concen-	Tons 96,343 9 32,237	Ounces 1,107,405 	Ounces 1,082,499	Pounds	Pounds 	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates	Tons 96,343 982,237 612	Ounces 	Ounces 	Pounds	Pounds 36,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21	Tons 96,343 932,237 612 9,567	Ounces 1,107,405 	1,082,499 1,148,362 2,126,148	Pounds	Pounds 	Value \$28,629,137 23,357,532 5,244,634
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore.1,01	Tons 982,237 612 9,567 8,323	Ounces 	1,082,499 	Pounds	90unds 36,065,200 46,451,012	Value \$28,629,137 23,357,532 5,244,634 10,672,390
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore.1,01 Number Seven—Ore	Tons 96,343 92,237 612 9,567 8,323 7,388	Ounces 	1,082,499 	Pounds 	96,065,200 46,451,012	Value \$28,629,137 23,357,532 5,244,634 10,672,390 64,898
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore.1,01 Number Seven—Ore ØMollyGibson—Ore	Tons 96,343 982,237 612 9,567 8,323 7,388 5,084	Ounces	1,082,499 	Pounds 	Pounds 36,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore.1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore	Tons 9,343 9,32,237 612 9,567 8,323 7,388 5,084 9,253	Ounces 	1,082,499 	Pounds 	Pounds 36,065,200 46,451,012	Value \$28,629,137 23,357,532 5,244,634 10,672,390 64,898
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore.1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore	Tons 96,343 982,237 612 9,567 8,323 7,388 5,084	Ounces	1,082,499 	Pounds 	Pounds 36,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore.1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore ØHighland—Con-	Tons 16,343 9 12,237 612 9,567 8,323 7,388 5,084 9,253 1,346	Ounces	0unces 	Pounds 	Pounds 36,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore.1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore ØHighland—Concentrates	Tons 16,343 9 12,237 612 9,567 8,323 7,388 5,084 9,253 1,346 2,666	Ounces	0unces 	Pounds 	96,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore.1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore ØHighland—Concentrates ØMaestro—Ore	Tons 16,343 9 12,237 612 9,567 8,323 7,388 5,084 9,253 1,346	Ounces	0unces 	Pounds 	Pounds 36,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore 1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore ØHighland—Concentrates ØMaestro—Ore Richmond-Eureka	Tons 16,343 9 12,237 612 9,567 8,323 7,388 5,084 9,253 1,346 2,666 419	Ounces	1,082,499	Pounds 	96,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore 1,68 Le Roi—Concentrates Sullivan—Ore 21 St. Eugene—Ore 1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore ØHighland—Concentrates ØMaestro—Ore Richmond-Eureka —Ore 1	Tons 16,343 9 12,237 612 9,567 8,323 7,388 5,084 9,253 1,346 2,666 419 4,661	Ounces	1,082,499	Pounds 	Pounds 36,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore 1,68 Le Roi—Concentrates Sullivan—Ore 21 St. Eugene—Ore 1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore. ØHighland—Concentrates ØMaestro—Ore Richmond-Eureka —Ore 1 LuckyThought—Ore	Tons 16,343 9 12,237 612 9,567 8,323 7,388 5,084 9,253 1,346 2,666 419 4,661 36	Ounces	0unces 1,082,499 1,148,362 2,126,148 5,391,351 58,395 300,450 341,399 66,827 7,337 687,467 4,295	Pounds 	Pounds 36,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore 1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore ØHighland—Concentrates ØMaestro—Ore Richmond-Eureka —Ore1 LuckyThought—Ore Ottawa—Ore Phoenix Amalga-	Tons 16,343 9 12,237 612 9,567 8,323 7,388 5,084 9,253 1,346 2,666 419 4,661 36 342	Ounces	Ounces	Pounds 	Pounds 36,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore 1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore ØHighland—Concentrates ØMaestro—Ore Richmond-Eureka —Ore1 LuckyThought—Ore Ottawa—Ore Phoenix Amalgamated—Ore	Tons 16,343 9 12,237 612 9,567 8,323 7,388 5,084 9,253 1,346 2,666 419 4,661 36 342 2,493	Ounces	Ounces	Pounds 	Pounds 36,065,200 46,451,012	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore1,68 Le Roi—Concentrates Sullivan—Ore21 St. Eugene—Ore.1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore ØHighland—Concentrates ØMaestro—Ore Richmond-Eureka —Ore1 LuckyThought—Ore Ottawa—Ore Phoenix Amalgamated—Ore ØSilver King—Orc(17 SMELTED—Trail	Tons 16,343 9 32,237 612 9,567 8,323 7,388 5,084 9,253 1,346 2,666 419 4,661 36 342 2,493 7,238)	Ounces	Ounces	Pounds 	8,409 (637,357)	Value
MINES in Centre Star—Ore.2,20 Centre Star—Concentrates Le Roi—Ore 1,68 Le Roi—Concentrates Sullivan—Ore 21 St. Eugene—Ore 1,01 Number Seven—Ore ØMollyGibson—Ore ØNumberOne—Ore ØHighland—Ore ØHighland—Concentrates ØMaestro—Ore Richmond-Eureka —Ore 1 LuckyThought—Ore Ottawa—Ore Phoenix Amalgamated—Ore ØSilver King—Orc(17 SMELTED—Trail Smelter 3,92	Tons 16,343 9 12,237 612 9,567 8,323 7,388 5,084 9,253 1,346 2,666 419 4,661 36 342 2,493 7,238) 15,822	Ounces	Ounces	Pounds 	8,409 (637,357) 57,890,794	Value

ØSince Company acquired property only. Previous records not available.

DEVELOPMENT

The total amount of development work in the Company's mines is about as follows:—

	Feet	Miles
Centre Star Group	185,434.5	35.12
Le Roi Group	79,011.0	14.96
St. Eugene	105,299.5	19.94
Sullivan	26,733.5	5.06
Molly Gibson	10,324.0	1.95
Richmond-Eureka	9,497.0	1.80
Number Seven	5,934.0	1.12
Phoenix Amalgamated	2,581.0	. 49
Number One	6,304.5	1.19
Highland	12,107.0	2.29
*Silver King	3,160.0	. 60
*Ottawa	2,380.0	. 45
AND A LANGE AND A		

^{*}From July 1st., 1912, only.

During the year 33,146.5 feet of narrow work and 28,896.6 feet of diamond drilling have been done as follows:—

	Drifting				
	and				Diamond
	Crosscutting	Raising	Sinking	Total	Drilling
Centre Star	11,824.5	1,108.5	249.0	13,182.0	10,479.1
Le Roi	3,026.5	220.5	12.0	3,259.0	12,016.5
St. Eugene	470.0	358.0		828.0	
Sullivan	3,448.0	494.0	28.0	3,970.0	5,681.0
Molly Gibson	766.5	11.0		777.5	
Silver King	1,358.0	332.5		1,690.5	720.0
Number One	1,166.5	449.5	32.5	1,648.5	
Highland	2,285.0	512.0		2,797.0	
Maestro and Banker	477.0	320.0	219.0	1,016.0	
Richmond-Eureka	409.0	225.0		634.0	
Ottawa	1,254.0	620.0	53.0	1,927.0	
Lucky Thought	1,342.0	75.0		1,417.0	
	27,827.0	4,726.0	593.5	33,146.5	28,896.6

The Company's mines in Rossland continue to show an increase in the amount of ore available, the greater part of the increase being due to tonnage developed in the Le Roi mine, where development work has yielded very satisfactory results.

The crosscut from the Centre Star shaft, mentioned in the last Annual Statement as being driven to connect with veins developed on and above the War Eagle 14th level, and three hundred feet below that level, reached the ore about the first of January, and although the ore bodies so far opened up on this 16th level have not been as large as on the 14th level, the prospects are that a large tonnage will be obtained between these levels.

The Centre Star shaft below this level is now being repaired, with a view to driving another crosscut, below this 16th level, to tap the vein at three hundred feet greater depth.

The satisfactory results of development in the lower levels of the War Eagle strongly indicate the favorable possibilities of still deeper development.

At Kimberley development of the Sullivan group has demonstrated a very large amount of complex zinc-lead ore, of which a considerable portion can be shipped under present conditions and smelted for lead; while there remains a very large tonnage, which is comparatively high in zinc, and is, as yet, not available for shipment, although its gross value is upwards of \$20.00 per ton.

Other properties owned by the Company, most of which are under development, have been closed down owing to the situation imposed by the war, mainly on account of the facts that the prices of metals are low, most of the metals difficult to market, and many of the properties require considerable money for development.

There have been no new developments in the St. Eugene mine, which was operated in a small way during part of the year.

The Molly Gibson was operated for a short time, but was closed down at the commencement of the war, little development having been done; but such as has been done has shown the vein in the bottom level to be as promising as in the levels above.

Nothing new has been developed in the Richmond-Eureka group.

The Lucky Thought mine, at Silverton, mentioned last year as being under bond to the Company, has been developed to a small extent, with the exposure of some small shoots of high-grade ore, but nothing of importance has so far showed up.

At Slocan City the Ottawa mine has showed up some small shoots of high-grade ore.

At Ainsworth developments in the Highland and Number One mines have only been fairly satisfactory. Both mines have produced considerable ore during the year, but the reserves of ore have not been increased. The same applies to other properties at Ainsworth.

NEW PROPERTIES

The charge to property account includes purchase of the Mabel mineral claim, adjoining the Centre Star properties in Rossland; the purchase of a one-fifth interest in the Pilgrim mineral claim, in Rossland, adjoining the War Eagle mine; the purchase of the Paul Boy and Eddie J. in Rossland; the Annie E. and the property of the Canadian Goldfields Syndicate in Rossland; purchase of some stock of the Silver King Mines, Limited; and some small expenditures on claims adjoining the Sullivan.

There is also included in this charge a portion of the amount expended on development of the Sullivan, Silver King, Ainsworth and Slocan properties, which, owing to conditions imposed by rebuilding at the smelter, were unable to ship to full capacity during the year, or had not reached the shipping stage.

IMPROVEMENTS

Expenditure on plant account during the year has been \$571,207.01.

Of this amount \$482,134.44 has been spent in improvements to the smelter.

This has been expended mainly as follows:--

On re-building the lead plant, including--

Two Wedge roasters, having a capacity each of from 85 to 95 tons per day.

Conveyors and automatic scales for handling the ore from storage to the roasters, and for handling the pre-roasted product from roasters to sintering pots.

Three new lead blast furnaces and extensions to building, with crane for handling receivers and by-products, such as matte.

A Cottrell plant for clearing the blast furnace gases of lead fume.

Flues connecting the blast furnaces with the Cottrell plant.

New charge cars and some small equipment for the lead sampling mill.

Alterations to the copper plant, including—

Rebuilding of three of the five blast furnaces and increasing the dimensions of two of them.

Building of a new smoke stack.

Repairs to the flues.

Installation of a crane in the copper furnace building, and rebuilding of the launders leading to the slag dump.

Improvements in the blower-room, including-

Installation of an additional blower, having a capacity of 40,000 feet of air per minute.

Extensive repairs to the blower-room on account of the rotting of timber foundations, floors and retaining walls, all of which have been replaced with concrete.

Rebuilding of the fire protection system was also necessary during the year:

Small expenditures were made on tracks; on tunnels for recovering ore from storage; and on extra locomotives for charging the furnaces.

The objects of these alterations and improvements have been-

First, to increase the capacity of the plant.

Second, to increase recoveries.

Third, to decrease costs of operation.

Your lead plant formerly handled a considerable tonnage of high-grade clean concentrates, comparatively low in sulphur and free from zinc, which was supplied mainly from the St. Eugene mine. With the working out of the St. Eugene mine, it has been necessary to replace the tonnage, to a large extent, with ore of lower grade and of a much more refractory nature, largely from the Sullivan mine; and carrying more sulphur and requiring more capacity for roasting and furnacing in order to produce an equal tonnage of lead.

In the roasting plant, particularly, the seven Godfrey roasters with which the smelter was previously equipped had a capacity of only 25 tons per day each of Sullivan ore; the two Wedge roasters, just installed, have a capacity each of from 85 to 95 tons per day, and are costing at present about 50 cents per ton less to operate, the saving being mainly in fuel and firing.

The installation of conveyors handling the ore to and from the roasters will still further reduce costs of operation of the roasters, by substituting mechanical equipment for manual labor.

The costs of operating the Heberlein pot plant have already been materially reduced by the substitution of mechanical appliances for hand labor, which alterations were made last year.

The building of new lead furnaces was made necessary by the condition of the old ones, which had been in operation for a long time, and it was considered advisable in rebuilding them to place them further from the copper plant, in order to allow for any necessary extensions to the copper plant; also to allow for better arrangements for charging and handling the products.

The installation of the Cottrell plant was very necessary on account of large losses in fume from the blast furnaces. The flues and Cottrell plant are now saving in the neighborhood of eight tons per day of material high in lead, a considerable portion of which was previously lost.

Improvements to the copper plant were made necessary by the wearing out of jackets on the old furnaces. In rebuilding, two of them have been increased in size from 300 ins. to 420 ins. in length, and from 42 ins. to 50 ins. in width at the tuyeres. The enlarged furnaces so far show an increase in smelting capacity of from 60 per cent. to 80 per cent. over the older ones. This increase in capacity will result in a proportionate decrease in cost of labor and, probably, in a decrease in cost of coke per ton of ore smelted.

Generally speaking, we believe that the changes made in the smelter during the past two years will result in sufficient saving in costs of operations and recoveries to pay for themselves within the next two to three years' operation.

At the Number One and Highland mines a hydraulic power system was installed which will save its cost in less than a year's operation. Other expenditures at Ainsworth have been, mainly, equipment of the properties with air drills and hoists, with a few small additions to the Highland sampling mill.

At the Sullivan mine a boiler plant was installed to operate the compressor during the season of low water—the boilers being transferred from the St. Eugene plant.

At the Centre Star it was found necessary to rebuild the shipping bins.

GENERAL CONDITIONS

The increase in amounts due the banks is attributable to the following:-

Expenditure on plant account at the smelter and mines.

Increase in metals on hand at the smelter, due, partly, to inability to smelt the ores received during the heavy repairs, and, partly, to increased metals carried at the refinery on account of increase in the number of lead tanks in operation.

Development of new properties, from which returns have not yet been received in the shape of ore shipments.

This amount would have been very materially reduced at the time of writing had the metal markets been normal. Owing to the present situation, however, heavy accumulations of refined metals have taken place, which may have to be held for a time, or until the markets resume more normal conditions.

The unexpected and sudden drop in the value of metals has made a very considerable difference in the estimated value of stocks on hand—the drop in silver at September 30th amounting to about 8 cents per ounce; while copper sold as low as 11.1 cents per pound as compared to 16 cents in the previous year.

Conditions at the mines, generally speaking, have been satisfactory, with a prospect for increased tonnage had it not been for the closing down of a number of mines owing to the unsettled condition of metal markets.

MANAGEMENT

The properties and departments of the Company have been in charge of the following gentlemen:—

Mr. S. G. Blaylock, Assistant General Manager; T. W. Bingay, Comptroller; James Buchanan, Superintendent of Smelter; M. H. Sullivan, Assistant Superintendent of Smelter; J. F. Miller, Superintendent of Refinery; M. E. Purcell, Superintendent Centre Star Group of Mines; E. G. Montgemery, Assistant Superintendent; F. S. Peters, Superintendent Le Roi Mine; C. H. McDougall, St. Eugene and Sullivan Mines; K. B. Carruthers, Molly Gibson Mine; W. A. Cameron, Slocan Lake properties; W. M. Archibald, J. M. Turnbull and A. W. Davis, Mining Engineers.

Respectfully submitted,

R. H. STEWART,

General Manager.