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ANNUAL REPORT

St. Joseph Lead Company

FOR THE FISCAL YEAR ENDING

APRIL 30, 1914

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OFFICES: 61 Broadway, New York, N. Y.
Bonne Terre, Missouri.

PRESIDENT'S ANNUAL REPORT.

To the Stockholders of the St. Joseph Lead Company:

It seems to me that this first report of the reorganized management of your company, for the sake of clearness of understanding on the part of the stockholders, should be a little fuller than is customary in such reports.

The general facts and figures of the year's production, the balance sheets of the St. Joseph Lead Company and its various subsidiary companies, the reports of certified accountants as to earnings and output, will all be found in their proper place. But, for such of the stockholders who find such formal figures less comprehensible reading, I wish to state rather briefly what your company consists of and what it is appraised to be worth by competent engineers and experts.

PROPERTY.

As appraised by Mr. J. R. Finlay, Mining Engineer, employed by the Stockholders Committee of the St. Joseph and Doe Run Lead Company:

St. Joseph Lead Company:	
Property and Plant	$2,469,195.00
Lead Lands	8,000,000.00
Doe Run Lead Company:	
(95% owned by St. Joseph Lead Company.)	
Property and Plant	2,635,246.00
Lead Lands	5,500,000.00
St. Joseph Lead Company Smelting Plant	1,000,000.00
As appraised by Mr. Arthur S. Dwight, Mining Engineer:	
Mississippi River & Bonne Terre Railway:	
(100% owned by St. Joseph Lead Company.)	
As appraised by Mr. J. W. Kendrick, Railroad Expert, formerly Vice-President of the Northern Pacific Railway and of the Atchison, Topeka & Santa Fe Railway, employed by the Stockholders Committee of the St. Joseph and Doe Run Lead Companies	5,341,749.00
Carried forward	$

Brought forward.....$	
ST. FRANCOIS COUNTY RAILROAD:	
(Owned by the M. R. & B. T. Railway)..... (As appraised by Mr. J. W. Kendrick.)	372,170.00
BONNE TERRE FARMING & CATTLE COMPANY:	
(98.79% owned by St. Joseph Lead Company.)	
As appraised by Judge Swink and John W. McCarthy, of Farmington, Missouri:	
Agricultural Lands.....	431,254.25
Houses and Buildings.....	330,083.67
Total value of property.....	$26,079,697.92

You will notice from this appraisal that the value of your property is roughly $26,000,000, exclusive of current assets, such as cash or coal and the various supplies which are necessary to the conduct of its business. Although the various units comprising this company are, some of them, separate corporations, with their own boards of directors, officers and employees, in thinking of the St. Joseph Lead Company I have got to think, and every stockholder should think, of this total aggregation of property. Your mines, mills and smelter are producing pig lead at the rate of 75,000 tons per annum. Your railroad is a well ballasted, well equipped railroad, with 46 miles of main line and a total of 108 miles, including branches and side tracks, operating under the supervision of the Interstate Commerce Commission and the Public Service Commission of Missouri. 3,000 employees are working for you, supporting a population of over 15,000 people. Your companies own and manage about 1,000 houses for the housing of employees.

Your companies are thus the mainstay of the southeastern Missouri lead belt, producing more lead than all the other companies in the district combined, and employing more people, paying the taxes which build the roads and run the school houses. The county of St. Francois, in which the lead fields are situated, is dependent wholly for its prosperity on the prosperity of the lead companies. The building up of this enterprise was not and could not have been the work of a day. The successful mining of lead in the district dates back 200 years. In the earlier days this lead was taken mainly from the surface. It is only since the formation of the St. Joseph Lead Company in the late '60s that the taking of lead in the form of galena from the limestone has been successfully accomplished. The growth of the companies and of the district is due almost entirely to the courage and devotion of the pioneers in this company.

Something more than a year ago a committee of stockholders was appointed by the directors of the St. Joseph Lead Company and Doe Run Lead Company, with the avowed purpose of consolidating these two properties. Although the controlling interests in the two companies were the same, there were many stockholders of each company who were not interested in the other, and criticisms of their intercorporate relations made it seem wise that some basis of consolidation should be found. It was in order to find such a basis of consolidation that this committee employed Mr. Finlay to appraise the mining property of the two companies and Mr. Kendrick to appraise the Mississippi River & Bonne Terre Railway. It was during the course of their investigation, under the instructions of this committee, that Mr. Finlay and Mr. Kendrick made their reports, which, in addition to appraising the property, pointed out clearly that, both in mining, milling and railroading, the operating results left much room for improvement. This consolidation committee then practically reformed itself into a reorganization committee, which, by the addition to its number of Mr. Watts, represented all the large interests of the two companies. This committee drafted a report in September, making ten different recommendations to the then existing management. These recommendations were accepted by the boards of directors of the two companies and subsequently ratified by the stockholders. As a result of these recommendations, Mr. Finlay was employed to spend six months at the properties and recommend in detail just how the operating efficiency of the mining and milling departments of your company could be improved. Mr. Finlay completed his residence on the 1st of March last, and reported to your directors that all the possibilities in the reduction of costs which he had predicted had been substantially bettered. This report, although too voluminous to print and send to the stockholders, is on file at this office and at the St. Louis Union Trust Company of Missouri, for the inspection of any stockholder. I will quote, however, from Mr. Finlay's general recommendation as evidence of his satisfaction with the progress made during a very substantial period of time:

> "I have recited the above facts to show that your company's operations have undergone a vast alteration during the past year. My first recommendation is to leave good enough alone and to make for the present no change in the personnel of your managing organization. The suggestions I am going to make are merely to give concrete expression to an arrangement that is already in effect.
>
> I should feel myself lacking in common decency as well as in my duty toward your company and its stockholders if I did not emphatically assert that the loyalty and disinterestedness of the gentlemen who are managing the properties have been beyond reproach. You cannot get such results as have been obtained here without cooperation and without ability. It is a matter of pride with me that improvements which will be worth over a million dollars a year to your company have been made without the introduction of a single new man. It may be argued, of course, that

still better results might have been obtained if new men had been introduced. But this cannot be anything but an opinion. I have always held the belief that your company wanted earning power; that the kind of achievement you wanted was to produce that earning power. Against an idea that others might do better your organization can show you a solid achievement in the form of results far better than you expected."

RAILROAD.

In the management of the railroad, the same gratifying improvement is apparent. Mr. Kendrick's report stated that $111,327 per annum could be saved in the operation of the railroad. The actual saving for the year was $102,753.65. The months showing the greatest saving are those since the new general manager of the Railroad was appointed, and the next fiscal year should show a decrease in operating costs of between $40,000 and $50,000 more.

SMELTER.

Your smelter has been completely re-arranged and reconstructed under the supervision of Mr. Arthur S. Dwight.

The present head of this department, who was recommended by him, has handled this intricate reconstruction work and at the same time increased the pig lead output at the smelter. Your smelter compares favorably today with any other smelter in the world.

CONSOLIDATION AND FINANCE.

The recommendation of the committee in regard to consolidation of the two properties was carried out on December 26th last by the purchase of about 94 per cent. of the stock of the Doe Run Lead Company. The recommendation in regard to the new board of directors which was to control the consolidated company had been put into effect on December 11th, when the following gentlemen were elected, on an agreement, ratified by the stockholders, that they should hold office for one year:

Clinton H. Crane,	Irwin H. Cornell,	R. R. S. Parsons,
Hough N. Camp, Jr.,	Firmin Desloge,	Fred W. Shibley,
Daniel K. Catlin,	Robert Holmes,	E. C. Smith,
C. M. Chapin,	R. F. Howe,	M. F. Watts.
	Max Kotany,	

One of the most serious problems which your board of directors had to face was the taking care of the indebtedness of the companies. On November 30, 1913, the total consolidated indebtedness of the five companies, exclusive of current

bills payable, was about $7,000,000. Of this amount there was due inside of six months about $2,600,000, and there was due, in addition, inside of eighteen months about $1,900,000, or a total due inside of eighteen months of about $4,500,000. The greater portion of this floating debt was carried on the company's notes and borrowed from the banks with which your company kept deposits. The following banks were loaning your companies money in large amounts:

American Exchange National Bank, New York;
National Bank of Commerce, New York;
Liberty National Bank, New York;
Bank of America, New York;
Irving National Bank of New York;
St. Louis Union Trust Company;
Boatmen's Bank of St. Louis;
Third National Bank of St. Louis;
Bank of Farmington, Farmington, Mo.

In addition, money had been borrowed through the sale of your company's notes by Messrs. Hathaway, Smith, Folds & Company, note brokers. It was the unanimous opinion of the officers of these banks that it was unwise for your company to borrow such a large amount of money in this way. These banks were doubtful, with the approaching business depression and with the new untried workings of the Currency Law, whether, even granting they should wish to do so, they would be able to continue to loan your company as heretofore. Your directors were convinced that it was imperative to fund at least a portion of this short-time indebtedness. Fully aware of the expense of such funding, and, after a careful canvass of the best methods of obtaining money, your trustees sold the company's gold notes for $2,500,000, due in instalments up to January 1, 1917. These notes were sold for 92½ and interest. The total cost of this issue, including discounts, lawyers' and accountants' fees, salary of consulting engineer to protect the noteholders, printing and trustees' expenses, amounted to about $276,000. This money was used solely to pay off the bank loans and other short-time securities. The interest which is payable on these notes is six per cent. The interest on the bank borrowings which were paid off by the proceeds of these notes was substantially the same.

The company's policy in regard to dividends is to follow absolutely the recommendation of the consolidation committee, namely, to set aside $1,000,000 per annum out of its net profits to reduce its debt. Any surplus remaining after the setting aside of $250,000 each quarter is available for dividends. Sinking fund payments have been so arranged that this plan may be carried out.

Right here it may be of interest to quote in *full* a letter written just after the declaration of our dividend payable March 20th, 1914.

COPY. MARCH 17th, 1914.

MR. ROBERT HOLMES,
10th and Spruce Streets, St. Louis, Missouri.

DEAR SIR:

Your letter of March 14th at hand. The net earnings of the St. Joseph Lead Company applicable to dividends for the quarter ending January 31st were certified by Messrs. Haskins & Sells, Accountants, to be $178,517.97. The dividend of December 20th, 1913, of $99,550.00 was declared out of earnings for the quarter ending October 31st. As it was paid on December 20th, it naturally appears on the books as an expenditure made in that month, just as the dividend recently declared out of the earnings of the last quarter will be charged on the books on March 20th.

Sinking fund requirements are no more properly chargeable against earnings than any other maturing indebtedness.

The Trustees are perfectly aware of these sinking fund requirements, and through their control of the Doe Run Lead Company, the Mississippi River & Bonne Terre Railway Company and the Bonne Terre Farming & Cattle Company, the net earnings of these companies can at any time, and in ample time, be turned into the treasury of the parent company in the shape of dividends.

As you are perfectly well aware, the net earnings of these companies for the quarter ending January 31st, as certified by Haskins & Sells, were as follows:

Doe Run Lead Company	$200,207.16
Mississippi River & Bonne Terre Railway	53,453.05
Bonne Terre Farming & Cattle Company	7,843.00

The 9th clause of the report of the stockholders joint committee makes its recommendation as of the "*Consolidated* Company", and uses the words "at the rate of".

Your interpretation of this clause assumes that the recommendation applies to the St. Joseph Lead Company alone and ignores the words quoted.

Without admitting any legal obligation to do so, the Trustees feel that, dating from the 26th day of December when the St. Joseph Lead Company obtained control of the Doe Run Lead Company by the purchase of more than 80% of its capital stock, it is to the best interest of the Company to set aside at least $250,000. each quarter from the net earnings of all the companies controlled by the St. Joseph Lead Company for the reduction of indebtedness before making any dividend declaration.

This policy would require the setting aside for the quarter ending January 31st, $83,333.33 for the month of January and $13,586.95 for the remaining days of December, or a total to be set aside for the period of $96,920.28 As the joint earnings for the period were $437,182.41 and the total amount of the dividend to be paid on March 20th $140,289.00, it seems to me that we are to be congratulated on having exceeded our agreed policy by the handsome amount of $199,973.13.

Very truly yours,

CLINTON H. CRANE,
President.

OPERATION.

Your management feels that it can point with justifiable pride to the work of the year that has passed. In spite of a strike in August, which cost the company approximately $100,000, of an increase in wages of 25 cents per day per man, resulting from that strike, amounting roughly to $200,000 per annum more, and in spite of the largest legal expenses in the history of the company, amounting to close to $100,000, a fire at the smelter which completely destroyed the smeltering plant building, and of the lowest average price of lead since 1908, the earnings for the year, after paying these extraordinary expenses, are distinctly higher than for the year ending April 30, 1913.

Your smelter produced for the year ending April 30th, 1914, 65,563 tons of pig lead.

Your mills produced 108,374 tons of lead concentrates, 103,331 tons of which were shipped to your smelter and 5,033 tons to the Picher Lead Company.

The average price received for lead at East St. Louis was 4.0196 cents per pound as compared with 4.34 in 1913 and 4.20 in 1912.

Special attention is called to the following [illegible] items which should be the subject of great congratulation to the stockholders: For years lead has been carried away in the waste waters of all milling plants.—Lead so finely ground that no known method of recovery could save it. In December last, it was called to your management's attention that a method had been developed in the district which would enable us to save this lead at a very small expense for installation and treatment. Speaking in round figures, there was $20,000 a month profit which could be had for the taking, on a capital investment not to exceed $60,000. It seemed to your management that nothing should stand in the way of this process being put into effect as rapidly as possible. Work was begun on January 10th; by March 10th the process was in partial operation, and it is now in full operation

at all the plants. This process is so simple that it may be of interest to describe it briefly. The waste from the mills is discharged in two forms: The coarse refuse called "chats", which is piled in great piles of rather fine gravel and the "fines" or "slimes" which should carry about 3 per cent. lead. These fines are diluted to the extent of 40 parts of water to one part of solids. The first step is to settle these solids in thickening tanks so as to reduce the water to a ratio of 4 to 1. This thickened product, or "pulp" as it is called, is then led into a mixing machine, where it is mixed with a very small quantity of oil. This oil attaches itself to the small particles of lead and comes to the top of the water in the form of a froth, leaving the particles of lime rock behind. This has two very broad effects on your property: It makes possible a larger profit on a given grade of ore, and also makes it possible to work to a grade of ore so lean that heretofore it has been unprofitable to use it. In addition to the rich lead deposits on your properties, there is a vast amount of what has heretofore been considered a grade too low to work, and the life of your property has been substantially increased by this process.

The second process the construction of which was stated over a year ago and which is just going into effect is the bag house at Herculaneum, your smelter. Heretofore the smoke which went up the big smokestack was carrying 2 per cent. of all the lead smelted. By leading this smoke through a chamber containing bags 40 feet in length these fine particles of lead are strained out of the smoke and accumulated in the form of a dust by shaking these bags.

MANAGEMENT.

One word further as to the policy of your management and I leave you to the perusal of concrete figures. In my opinion—an opinion which is borne out by the practise of the best run industrial plants in this country—the only way that a business as large as yours, employing thousands of men, can be run is to judge a man by his results. The stockholders elect trustees, who, in turn, elect executive officers. These trustees are then advisors of the executive officers, but the actual management and orders to heads of departments must be left in the hands of the officers. Similarly, the president must give his orders through his heads of departments, holding them responsible for the work of the men under them. Every time an executive officer goes over the head of his junior to someone lower in the scale of organization he injures the authority of that junior and makes it more difficult for him to accomplish the results which must be required of him. In order to judge by results, a most careful cost and accounting system is absolutely essential. Each different process must be kept track of separately, and, if it is costing more to perform that detail than it should, someone must explain. Roughly, it is costing $1.57-½ today per ton of ore, where it cost $1.81 a year

ago. The same method of judging by results must be applied to the use of supplies. Coal must be judged by the number of its heat units and the amount of steam that it produces. No amount of inspectors or spies will keep a man up to his work so well as knowing just what he should produce and holding him to it. A head of department, so long as he is head of department, must have absolute authority over his subordinates. This implies authority to hire and to "fire." He will, if he is sensible, consult with his superior officer before taking any serious step, but, if he is to be obeyed, when the final test comes, he must be backed up.

As the Stockholders are well aware there has been severe criticism of the executive and operating management of the Company by a Trustee who differs with the other twelve Trustees in almost every item of management. Full and free discussion in a board meeting is a sign of healthy life, but the majority must rule, and when a single member undertakes by appeal to the courts to overturn the honest decision of his twelve confreres no good can result, only futile litigation on his part and needless expense for the Company and damage to its credit.

While I welcome honest criticism from any Stockholder which will help to effect economies and promote the general welfare, I can only regard as a menace criticism that descends to common abuse of the operating heads, and by indiscriminate gossip with the local employees tends to undermine discipline.

It is the determination of the management of this Company to promote the interests of every Stockholder, to get every dollar possible out of the property consistent with intelligent development, and it should not be hampered in this endeavor by constant expensive law-suits and by a campaign of villification as undignified as untrue.

NEW YORK, May 21, 1914.

CLINTON H. CRANE,
President.

ST. JOSEPH LEAD COMPANY.

Condensed General Balance Sheet—April 30, 1914.

ASSETS.

LAND		$ 6,725,342.16
BUILDINGS AND EQUIPMENT		3,763,678.56
INVESTMENTS:		
Capital Stock and Notes of Subsidiary Companies	$10,483,327.39	
Other Notes Receivable	40,377 84	
Total Investments		10,523,705.23
SIX PER CENT. GOLD NOTES IN TREASURY—PAR VALUE		260,000.00
WORKING AND TRADING ASSETS		732,259.89
CURRENT ASSETS:		
Cash on Hand and Deposit	$ 413,180.78	
Accounts Receivable	291,283.92	
Total Current Assets		704,464.70
DUE FROM AFFILIATED COMPANIES		13,184.80
DEFERRED ACCOUNTS		446,581.75
TOTAL		$23,169,217.09

LIABILITIES.

CAPITAL STOCK—1,472,252 SHARES OF $10.00 EACH		$14,722,520.00
SIX PER CENT. GOLD NOTES, DUE JANUARY 1, 1918		2,500,000.00
MISSISSIPPI RIVER & BONNE TERRE RAILWAY LOAN, DUE OCTOBER 1, 1931, AT 5%		2,418,567.78
FARMERS & MINERS TRUST COMPANY—IN LIQUIDATION		51,964.45
CURRENT LIABILITIES:		
Notes Payable	$172,495.23	
Accounts and Wages Payable	103,964.28	
Accrued Accounts	65,534.30	
Total Current Liabilities		341,993.81
DUE TO AFFILIATED COMPANIES		476,019.62
RESERVE FOR DEPRECIATION OF BUILDINGS AND EQUIPMENT		223,956.43
PROFIT AND LOSS SURPLUS		2,434,195.00
TOTAL		$23,169,217.09

THE DOE RUN LEAD COMPANY.

Condensed General Balance Sheet—April 30, 1914.

ASSETS.

PROPERTY AND PLANT:		
Land	$11,771,822.91	
Plant and Equipment	2,714,859.22	
Total Property and Plant		$14,486,682.13
INVESTMENTS		18,070.00
CASH IN SINKING FUND FOR REDEMPTION OF FIRST MORTGAGE BONDS		1,655.64
TREASURY STOCK—34 SHARES		3,400.00
WORKING AND TRADING ASSETS		136,618.93
CURRENT ASSETS:		
Cash on Deposit	$ 80,682.78	
Accounts Receivable	7,857.28	
Total Current Assets		88,540.06
DUE FROM AFFILIATED COMPANIES		376,645.36
DEFERRED ACCOUNTS		64,279.55
TOTAL		$15,175,891.67

LIABILITIES.

CAPITAL STOCK—65,783 SHARES OF $100.00 EACH		$6,578,300.00
FIRST MORTGAGE, SINKING FUND, 6%, THREE-YEAR, GOLD BONDS		1,291,000.00
NOTES PAYABLE, DUE APRIL 1, 1915		53,500.00
CURRENT LIABILITIES		76,254.88
DUE TO AFFILIATED COMPANIES		1,414,344.58
RESERVES.		
Depreciation of Plant and Equipment	$ 202,157.54	
Doubtful Accounts Receivable	4,724.10	
Premium on Bond Purchases for Sinking Fund	9,476.15	
Total Reserves		216,357.79
PROFIT AND LOSS SURPLUS		5,546,134.42
TOTAL		$15,175,891.67

MISSISSIPPI RIVER & BONNE TERRE RAILWAY.

Condensed General Balance Sheet—April 30, 1914.

ASSETS.

PROPERTY INVESTMENT:		
Road and Equipment:		
Road	$2,599,307.32	
Equipment	1,176,518.68	
Total Road and Equipment	$3,775,826.00	
Securities Pledged	2,418,567.78	
Other Investments	12,187.28	
Total Property Investment		$6,206,581.06
WORKING ASSETS:		
Cash	$ 35,552.49	
Accounts Receivable	124,264.52	
Materials and Supplies and Other Working Assets	49,100.18	
Total Working Assets		208,917.19
ACCRUED INTEREST NOT DUE		10,455.67
DEFERRED DEBIT ITEMS:		
Cash and Securities in Sinking and Redemption Funds	$ 81,432.22	
Other Deferred Debit Items	15,975.94	
Total Deferred Debit Items		97,408 16
TOTAL		$6,523,362.08

LIABILITIES.

CAPITAL STOCK, 30,000 SHARES OF $100.00 EACH		$3,000,000.00
FUNDED DEBT:		
First Mortgage, Sinking Funds, 20-year, 5% Gold Bonds	$2,500,000.00	
Equipment Mortgage 5% Gold Notes	250,000.00	
Equipment Notes Favor American Car & Foundry Company	33,500.35	
Total Funded Debt		2,783,500.35
WORKING LIABILITIES:		
Notes Payable	$ 358,098.64	
Traffic and Car Service Balances Due to Other Companies	33,169.18	
Accounts and Interest Payable	19,187.85	
Total Working Liabilities		410,455.67
ACCRUED LIABILITIES NOT DUE		23,342 47
DEFERRED CREDIT ITEMS		1,634 27
PROFIT AND LOSS SURPLUS		304,429.32
TOTAL		$6,523,362.08

NOTE.—The Railway has a contingent liability of $150,000.00 as guarantor of the bonds of the St. Francois County Railroad Company.

BONNE TERRE FARMING & CATTLE COMPANY.

Condensed General Balance Sheet—April 30, 1914.

ASSETS.

PROPERTY:		
Land (surface value only)	$431,254.25	
Buildings—Bonne Terre, Herculaneum, and Leadwood	305,583.67	
Land and Buildings—St. Louis	24,500.00	
Live Stock and Implements, etc	20,402.35	
Total Property		$781,740.27
WORKING ASSETS		36,386.12
CURRENT ASSETS:		
Cash on Hand and Deposit	$ 13,693.15	
Accounts Receivable	7,389.60	
Total Current Assets		21,082.75
DUE FROM AFFILIATED COMPANIES		7,422.59
TOTAL		$846,631.73

LIABILITIES.

CAPITAL STOCK—50,000 SHARES OF $10.00 EACH	$500,000.00
CURRENT LIABILITIES	7,812.43
DUE TO AFFILIATED COMPANIES	1,980.85
RESERVE FOR DEPRECIATION OF BUILDINGS	3,263.86
PROFIT & LOSS SURPLUS	333,574.59
TOTAL	$846,631.73

ST. JOSEPH LEAD COMPANY AND AFFILIATED COMPANIES.

Summary of Consolidated Income and Profit and Loss for the Year Ended April 30, 1914, after Eliminating Inter-Company Interest and Dividends.

	Consolidated Total.	Consolidated Eliminations.	St. Joseph Lead Company.	The Doe Run Lead Company.	Mississippi River & Bonne Terre Railway.	Bonne Terre Farming & Cattle Company.
NET PROFIT FROM OPERATIONS	$2,240,132 49	.....	$ 906,853.93	$1,073,668.52	$238,689.16	$ 20,920.88
OTHER INCOME	87,595.71	$240,037.82	145,873.30	18,435.86	161,634.39	1,689.98
GROSS INCOME	$2,327,728.20	$240,037.82	$1,052,727.23	$1,092,104.38	$400,323.55	$ 22,610.86
INCOME CHARGES	743,789.80	217,427.65	406,511 37	371,803.14	179,504.69	3,398.25
NET INCOME FOR THE PERIOD	$1,583,938.40	$ 22,610.17	$ 646,215.86	$ 720,301.24	$220,818.86	$ 19,212.61
PROFIT AND LOSS CREDITS	27,001.44	.....	21,350.00	4,809 62	841.82	.....
GROSS SURPLUS FOR THE PERIOD	$1,610,939.84	$ 22,610.17	$ 667,565.86	$ 725,110 86	$221,660.68	$ 19,212 61
PROFIT AND LOSS CHARGES	110,096.51	.....	49,005.95	33,987 82	11,450.52	15,652.22
SURPLUS FOR THE PERIOD BEFORE DEDUCTING DIVIDENDS	$1,500,843.33	$ 22,610.17	$ 618,559 91	$ 691,123.04	$210,210.16	$ 3,560.39
DIVIDENDS DECLARED FROM SURPLUS FOR PERIOD	317,360.53	22,610.17	339,970.70	.....	.....	.....
SURPLUS FOR PERIOD	$1,183,482.80	.....	$ 278,589 21	$ 691,123.04	$210,210.16	$ 3,560.39
SURPLUS AT BEGINNING OF PERIOD	7,654,144.77	.....	2,304,930.79	4,904,980.62	94,219.16	350,014 20
GROSS SURPLUS	$8,837,627.57	.....	$2,583,520.00	$5,596,103.66	$304,429.32	$353,574.59
DIVIDENDS DECLARED FROM SURPLUS	219,294.24	.....	149,325 00	49,969 24	.....	20,000.00
SURPLUS AT END OF PERIOD	$8,618,333.33	.....	$2,434,195.00	$5,546,134.42	$304,429.32	$333,574.59

ST. JOSEPH LEAD COMPANY AND AFFILIATED COMPANIES.

Statement of Liabilities at April 30, 1914 (with Inter-Company Accounts Eliminated).

	Total.	St. Joseph Lead Company.	The Doe Run Lead Company.	Mississippi River & Bonne Terre Railway.	Bonne Terre Farming & Cattle Company.
First Mortgage, 6%, Sinking Fund, Gold Bonds, Due March 1, 1915 (Less Sinking Fund)	$1,289,344.36		$1,289,344.36		
First Mortgage, 5%, Sinking Fund, Gold Bonds, Due October 1, 1931 (Less Sinking Fund)	2,418,567.78			$2,418,567.78	
Five Per Cent., Equipment, Gold Notes	250,000.00			250,000 00	
Equipment Notes in Favor of The American Car & Foundry Company	33,500.35			33,500.35	
Six Per Cent., Gold Notes, Due January 1, 1918	2,240,000.00	$2,240,000.00			
Notes Payable	229,995.23	172,495.23	53,500.00	4,000.00	
Traffic and Car Service Balances Due to Other Companies	33,169.18			33,169.18	
Accounts and Wages Payable	174,117.17	103,964.28	48,953.13	19,187.85	$2,011.91
Unclaimed Dividends	81.40				81.40
Unclaimed Wages	410.25		410 25		
Accrued Accounts:					
Taxes	43,362.11	17,621.69	13,046 50	8,709.80	3,984.12
Interest	61,731.56	47,886.56	13,845 00		
Interest, Dividends, and Rents Payable	14,632.67			14,632.67	
Expenses	26.05	26.05			
TOTAL	$6,788,938.11	$2,581,993.81	$1,419,099.24	$2,781,767.63	$6,077.43

The Railway has a contingent liability of $250,000 on account of its guarantee of the bonds of the Saint Francois County Railroad Company.

THE DOE RUN LEAD COMPANY.

O. M. BILHARZ,
General Manager.

RIVERMINES, MO., May 16th, 1914.

MR. CLINTON H. CRANE, President,
NEW YORK CITY.

DEAR SIR:

In today's mail I am sending you Report on Operations for Fiscal Year 1913-14, including Mine Maps.

You will note that I have made a rather short report, but I trust this will cover all items that are of most interest.

Very truly yours,

O. M. BILHARZ.

ST. JOSEPH LEAD COMPANY.

Improvements in 1913-1914 at Bonne Terre.

ELECTRIC-GAS POWER STATION.

Re-built Gas Holder and painted same inside and outside.

To Switchboard we added one Tie Panel for Leadwood.

MILL POWER HOUSE.

Installed two 1,500 cubic feet air compressors, belt connected to 300 H.P. Motors with switchboards—(new equipment).

Installed one 350 cubic feet high pressure air compressor, chain connected to a 150 H.P. Motor—(new equipment).

Built new concrete transformer house and installed three 200 K.V.A. transformers which were on hand; and connected above air compressors by cables with said transformers.

Second Steam Driven Mill Pump electrified, *i. e.*, chain connected to a 150 H.P. Motor.

Two (2) Laidlaw-Dunn-Gordon low pressure air compressors taken out and returned to manufacturer in trade with new electrically driven compressors.

Two (2) old Norwalk straight line air compressors dismantled and sold as scrap.

One (1) Laidlaw-Dunn-Gordon high pressure steam driven 325 cubic feet air compressor taken out and transferred to Leadwood.

Two (2) old surface condensers dismantled and sold as scrap.

Three (3) boilers disconnected and transferred to Leadwood.

Shops and Yard.

Bought Electrically driven lathe from Doe Run Plant and set up in Machine Shop.

Electric motor set up for blacksmith shop.

No. 3 Blacksmith shop shut down and No. 1 Shop enlarged.

No. 3 Carpenter Shop shut down and combined with No. 1 Shop.

Lumber Shed built in No. 1 Yard.

Steam hoist from Gumbo transferred to No. 1 Yard to pull chat cars from chat tank.

Small Mundy friction hoist bought from Doe Run Lead Co., and set up on the chat track to pull cars out of the yard.

Steam hoist from Gumbo re-built in machine shop and sold to Herculaneum.

150 H. P. Mill Pump steam engine repaired and sold to Bonne Terre Flour Mill.

200 K. W. 6,600 Volt Generator—located No. 1 tower—taken out and sold.

No. 1 Mine.

Second Mine draining 425 gallon Turbine Pump installed.

In pocket of shaft 100 gallon electric pump installed—replaced air pump.

No. 2 Mine.

On account of continuous trouble with the 2,300 volt motors direct connected to the mine draining pump, the voltage of motors was changed to 220 volts. The transformers on top were also changed to 220 volts.

No. 3 Mine.

Defective air line running from Gas Producer Plant to No. 3 Shaft through railroad yard cut out and new 3" air line run up through shaft from underground—supplying man and supply hoist with air.

No. 5 Mine.

As the underground transmission line to the No. 5 incline hoist and pumps was exceedingly long, which caused such a voltage drop that the operation of the

incline hoist was very unsatisfactory, we installed on top 2—20 K. V. A. 6600/440 volt transformers (taken from No. 4 Shaft) dropped a cable through a churn drill hole and changed the motors to 440. The mines also called for a larger incline hoist, and as the main top hoist at No. 4 was not required longer we transferred same to the No. 5 incline underground.

Incline air pump replaced by 300 gallon electric pump.

No. 6 Mine.

A special sump was cut underground; a 300 gallon Turbine Pump was brought from No. 9 Shaft—Doe Run Lead Co., and installed to supply Bonne Terre with drinking water.

2;600 ft. of 6" pipe was laid to connect this pump with the Town water system.

No. 15 Mine.

Removed 1,000 cu. ft. air compressor belt connected to a 200 H. P. motor, and an electric man hoist from No. 7 Shaft, Bonne Terre, to No. 15 Mine and installed same ready for operation.

At Mr. Parson's residence—Drinking water supply.

Replaced air pumping system with a 5 H. P. electric Turbine Pump running off 2-3 K. V. A. 2300/220 volt transformers.

Bonne Terre Mill.

The work of remodeling the Bonne Terre Mill, which commenced in May, 1912, was practically completed in September of the past year with an expenditure for that period of $47,975.35.

Oil Flotation Process.

The installation of the oil flotation process for slimes was commenced in January, 1914, and partly in operation on April 13th.

The entire plant will be completed and in operation by May 15th, with a total expenditure to date of $9,402.75, and a total cost to complete of $16,100.00.

O. M. Bilharz,
General Superintendent.

ST. JOSEPH LEAD COMPANY.

Improvements in 1913-1914 at Leadwood Plant.

STEAM POWER PLANT.

The principal work done, without going into too much detail, is approximately as follows:

Excavation for turbine and condenser foundations.

Foundations for turbines and condensers.

Erection of turbines and condensers.

Piping from reciprocating engines to low pressure turbine.

Piping for steam, water, air and oil for turbines, condensers, dry vacuum pumps, condenser turbines, etc.

Concrete tunnel for condenser water suction and discharge pipes toward pond.

Concrete pit for condenser pump suctions.

Pipe line from No. 12 Shaft collar to suction pit for condensers.

Erection of switchboard, exciter, conduits and cables between turbines, switchboard, exciter, etc.

Building addition to Power House.

Three (3) boilers from Bonne Terre and one (1) boiler from Hunt Shaft removed and set up at the Hoffman Plant.

One (1) feed water heater from the Doe Run Plant at Doe Run installed.

One (1) compound boiler feed pump from Columbia Mill installed.

Erected piping between boilers, feed water heater and boiler feed pump.

Old 90-inch smoke stack rebuilt from a height of 20 feet to 146 feet and painted.

New smoke stack built 90 feet by 120 feet and painted.

New boiler breeching connecting new boilers and old breeching with both stacks put in.

Chain grate stokers for all the boilers partly finished, *i. e.*, six finished, two under construction and two still to be changed.

Ash handling system under construction.

Extension of boiler room building and overhead coal bin.

Extension of coal storage bin about 75 feet and retaining wall built all around.

Extension of railroad trestle.

Built 3,760 feet of High Tension Power Line, *i. e.*, a double line from Power House, Leadwood, to junction of the power line from Bonne Terre to Mitchell.

Installed 3 150 K.V.A. 6,600/440 Volt transformers (transferred from No. 15 Shaft)—for A.C. Power addition at Leadwood.

Transferred 325 cubic feet High Pressure Air Compressor Steam Driven—from Bonne Terre to Hoffman Power House.

Foundations and Piping for High Pressure Air Compressor.

No. 14 Mine.

Increased rope speed of hoist to 1,000 feet per minute by installing 2 85 H.P. hoist motors with controller switchboard.

Installed 3 30 K.V.A. Transformers.

Big River Pump Station.

Built new smoke stack.

Leadwood Mill.

An expenditure of $20,886.53 was incurred during the past year for various improvements in the Mill.

Four (4) additional sets of 30"x14" rolls for recrushing jig middlings were installed, also dewatering wheels for each at a cost of $10,287.47.

Other miscellaneous improvements consisting of Settling Tanks, Concentrating Tables and alterations for power connections, making up the balance.

Oil Flotation Process.

Work was commenced on foundations in January, 1914, and proceeded steadily with few interruptions through the Winter. A part of the settling plant was in operation about March 21st, and to date has been nearly completed with an expenditure of $18,019.44.

The total estimated cost to complete the entire installation will amount to $22,000.00.

O. M. Billiarz,
General Superintendent.

DOE RUN LEAD COMPANY

Improvements in 1913-1914.

SHAFT No. 1.

Remodeled Electric Hoist: Replaced two sets of spur gears by one set of Herringbone gears, increased the rope speed from 660 ft. per minute to 1,060 ft. per minute. Replaced 82 H.P. hoist motor with drum control by a 150 H.P. hoist motor with master control.

Erected new pump station in Sump Stope—2 electric pumps, one 600 gallons per minute and one 450 gallons per minute.

One 125 gallon pump installed in Stope No. 1.

All motors changed from 220 volt to 440 volt.

The Underground lighting system was changed to 110 volts on account of the danger of higher voltage.

A 6" high pressure air line was extended from No. 4 to No. 1 shaft and an additional loading station installed.

SHAFTS Nos. 2 & 3.

Enlarged air compressor building.

Moved L.D.G. 1,000 cu. ft. air compressor from No. 3 to No. 2 Shaft and electrified same.

Remodeled transformer room and installed 3 150 K.V.A. transformers to take care of our large underground pumps and fire pumps on surface.

Put electric cable down No. 2 shaft.

Erected one 700 gallon electric mine drainage pump and equipped same with hydraulic thrust bearing (pump taken from stock).

Erected one 400 gallon electric mine drainage pump (from stock).

Erected one 100 gallon electric triplex drinking water pump.

Put up Underground Switchboard.

In Lowering No. 3 Shaft we put one 150 gallon pump on the lower level.

SHAFT No. 4.

With the increase of the Electric Load, the 6600 volt transmission line between the Power Plant at Rivermines and No. 4 Shaft became too light; for this reason we put up a heavier line. This heavier line was taken down at Doe Run, as No. 12 Shaft never would be supplied any more with current from Mill No. 1.

Boiler plant shut down and boilers connected up as air receivers.

New Electric Hoist with herringbone single reduction gears was installed with 150 H.P. motor—1,060 feet rope speed.

No. 4 hoist tower raised about 9 feet.

700 gallon electric turbine pump was transferred to Rivermines fire system.

200 gallon electric pump installed for general water supply.

200 gallon and 700 gallon electric turbine mine drainage pumps equipped with hydraulic thrust bearings.

1,000 gallon electric pump set up on south end incline.

Set up small underground light transformers to reduce lighting voltage to 110 volts.

Built machine shop underground, transferred some machines from Doe Run Machine Shop—driven by electric motor.

Built new hoist tower for No. 5 Shaft—wooden structure.

SHAFT No. 6.

Underground pump house remodeled and pumps equipped with Hydraulic thrust bearings.

SHAFT No. 8.

Remodeled electric hoist; replaced two sets of spur gears by one set of herringbone gears; increased rope speed to 1,060 feet per minute; replaced 100 H.P. motor with drum control by a 150 H.P. hoist motor with master control.

As we had two sets of transformers, one 220 volts and the other 440 volts, we sold the 220 volt transformers to St. Joe and changed all of our motors to 440 volts.

1,500 cubic feet air compressor brought from No. 12 Shaft and connected up to new 300 H.P. motor. The old 200 H.P. motor was set up with the 1,000 cubic feet machine at No. 2 Shaft, which compressor was changed from steam to electric drive.

Water service and fire pump—Cameron air driven—replaced by a 100 gallon electric pump, *i. e.*, cut parallel, and the air pump used only in emergency.

Erection of 3 H.P. electric motor for driving blacksmith shop.

Put second 150,000 c.m. cable down the shaft.

Remodeled pump house underground, cut larger pump, put in new suction header, new switchboard and equipped pumps with hydraulic thrust bearings.

Changed underground lighting voltage to 110 volts.

SHAFT No. 9.

All steam machinery removed—old building torn down and new building erected, as the old one was almost ready to fall in.

Old electric hoist bought originally for No. 4 Shaft set up and remodeled. The 100 H.P. motor replaced by 150 H.P. motor and rope speed increased from 750 feet per minute to 1,060 feet per minute.

420 cubic feet air compressor brought from No. 11 Shaft and set up for prospecting and development purposes.

All boilers connected up as air receivers, side walls removed and boilers painted.

Put up 3 H.P. electric motor driving machine shop and blacksmith shop.

Installed new 350 gallon electric turbine pump—set up for general water and fire service.

Added one 200 K.V.A. Transformer.

Put second 150,000 C.M. cable down shaft.

Cut larger underground pump house, transferred one 700 gallon turbine pump from No. 4 to No. 9 Shaft and made new suction and discharge headers. Changed underground lighting to 110 volts.

ELECTRIC GAS POWER STATION.

To Switchboard we added one Leadwood Tie Panel and one Feeder Panel for No. 15 Shaft.

As gas engine exciter was discarded, we bought a second hand 75 K.W. General Electric motor driven exciter, besides we installed a home-made 50 K.W. National Electric Exciter.

Put in ventilating fans in the gas engine building.

Gas Holder was rebuilt and painted inside and outside.

Three blowers were electrified with 30 H.P. motors.

One 40 H.P. Erie City locomotive type boiler installed to furnish steam for the water gas runs.

FIRE AND WATER SYSTEM.

An 8" water main laid through whole length of No. 2 Yard with side branches and new hydrants.

Additional Fire Hose.

Pump House remodeled—700 gallon fire pump transferred from No. 4 Shaft to No. 2 Shaft.

RIVERMINES SHOPS.

Materials shipped from Doe Run, such as steam punch, two lathes, one bolt machine, two grinders and two blowers—all complete with transmission and line shafting, etc., and erected in Rivermines Machine Shop.

New Addition—one power hack saw.

As we do at our shops all the mine cages, cars, etc., with air tools, and as there is no air available off shift, except running the 1,000 ft. air compressor—we bought a 100 cu. ft. electric air compressor especially for the shops.

MILL No. 3.

The addition to No. 3 Mill consisting of two (2) Sections, on which work was commenced in June, 1912, was completed in September, 1913; and these two sections have been in continuous operation since.

A total of $179,509.09 has been expended on this work to date, and an increased capacity of 1,200 tons of ore per day obtained. Further improvements toward increasing the efficiency and capacity of these two sections are contemplated by means of an additional Hancock Jig and longer sizing screens; which will probably bring the total expenditure to approximately $190,000.00.

OIL FLOTATION PROCESS.

The installation of the oil flotation process for slimes was commenced in January, 1914, and partly in operation about March 1st. Work is still proceeding on the remaining settling tanks, which will be completed by May 15th. The total expenditure up to March 14th, incl., is $10,155.06, with an estimated total to complete same of $14,166.00.

FURTHER IMPROVEMENTS.

A new 6" pipe line was laid between No. 2 and No. 4 Shafts with cross-connection on each terminal so that air can be pumped from No. 2 to No. 4 or vice versa; also water can be pumped from No. 4 to No. 2, or in case of fire at No. 4 we may help with the fire pump erected at No. 2, and at the same time we have a connection with Mill No. 3 Line, so that the Mill Pond forms a reserve in case of fire at No. 2 or No. 4 Plants.

Also a new 4" Line was laid from No. 4 Shaft to No. 1 Shaft for fire protection.

A new 6" Line was laid from No. 2 Shaft to No. 3 Shaft. This line serves for running the hoist at No. 3 for an hour or two daily with Air to get the rock out of the new drift for underground development work.

A great deal of work has been done at Doe Run in dismantling the power plant, shops and mill, in loading scrap iron, and in transferring machinery, shafting, lumber, etc., to Rivermines.

RÉSUMÉ.

Shut down of the individual steam plants at the mines.

No. 2 Steam Plant will be shut down completely as soon as the steam plant at Leadwood is in proper running condition.

Complete electrification of all machinery.

The Secondary Voltage up to the present was 220 volts and 440 volts. All the 220 volt motors were changed to 440 volts so that we now have a uniform 6600/440 Volt System.

Improvements in the Fire System in connecting No. 2 Shaft with No. 4 Shaft and No. 1 Shaft and the addition of new hydrants.

O. M. Biliharz,
General Manager.

CONDENSED REPORT ON OPERATIONS BY ST. JOSEPH LEAD COMPANY

During Fiscal Year Ending May 1st, 1914.

The Mining Operations of the St. Joseph Lead Co., during the Fiscal Year 1913-1914 resulted in a Production of a Total of 964,984 Tons of Ore.

The two Mills produced from this Ore 114,971,751 Lbs. of Dry Concentrates containing 75,823,944 lbs. equal to 37,911.97 Tons of Metallic Lead.

Of this Total Production the Bonne Terre District furnished 43.4%=16,521 Tons of Metallic Lead.

The Leadwood District furnished 56.6%=21,391 Tons of Metallic Lead.

Operations in the Bonne Terre District.

The three sheets of General Map accompanying this report shows the location and extent of the Areas mined during the Fiscal Year.

Operations were concentrated in Mine No. 1, by closing No. 4 on June 28th, 1913. No. 7 on October 16th, 1913, No. 2 on December 28th, 1913, while No. 8 & No. 15 Shafts (Crawley) was not operated at all. This concentration enabled the same output to be maintained with a considerable reduction in operating and maintenance cost.

Of the total ore mined and milled, a large proportion came from areas previously worked, viz:—

3.642 acres of previously mined ground
produced 56.24 per cent. or 267,225 Tons of Ore
3.084 acres of new virgin ground
produced 43.76 per cent. or 207,908 Tons of Ore

so that a total of 6.726 acres of ground mined furnished a total of 475,133 Tons of Mill Ore.

Previously worked ground furnished.....73,648 Tons per Acre
Virgin Ground furnished.....67,415 Tons per Acre
Giving an Average of.....70,641 Tons produced per acre

The Mill crushed all ore mined, or a total of 475,133 Tons, and produced therefrom 33,041,587 lbs. of Metallic Lead, so that a yield of 69.53 lbs. of metallic lead was obtained per ton of ore milled, equal to a recovery of 3½ per cent. of metallic lead.

The Average amount of Metallic Lead produced from one (1) acre of ground worked was 2,456.26 Tons.

The Average Cost of Mining was	86.50¢	per ton
The Average Cost of Milling was	35.38¢	" "
Railroad Service & Freight was	6.18¢	" "
Giving a Total Cost per Ton of Ore of	$1.28	

Comparing the year's results with those of the previous year, we find that the yield per ton was raised from 57.1 Lbs. to 69.53 Lbs. and that the Cost per ton of ore Mined and Milled was reduced approximately 20 cents. By far, the largest reduction was made in Cost of Mining.

Diamond Drill Prospecting was carried on during most part of the year; and 112 holes, aggregating 40,793 feet, were drilled. One-third of the holes proved workable ground. The drilling was carried on mostly in the immediate vicinity of the Mine Workings to aid in the Development of the same, and considerable ore was discovered. Close drilling of some of the oldest mine workings still being carried on, is not alone proving an extension of the ore into virgin ground; but considerable ore above and below the old workings, which was either overlooked or considered of too low a grade to be worked, is being discovered.

Development of the various ore bodies has been pushed vigorously during the year, and consisted of 1,473 feet of Drifts and 375 feet of Raises, so that the mine is today in excellent condition to furnish a steady tonnage to the Mill of good average grade of ore.

While the several minor improvements in the Bonne Terre Mill are still to be made, its construction has practically been completed, so that it can now safely handle 1,800 tons per day.

The installation of the Oil Flotation Process has added considerably to the efficiency of the Mill, and a material reduction in Slime Losses "heretofore unavoidable" has been accomplished. An addition to the Flotation Plant may, however, be advisable in order to take care of the entire amount of Slimes made in the Mill. Some experiments will have to be carried on, however, before an estimate of the addition to the Flotation Plant can be made.

Improvements made in Power Plant and Mine Equipment are mentioned in separate report.

Operations in the Leadwood District.

One General Map attached to this report shows the acres worked during the Fiscal Year.

A total of 489,850 tons of Ore were mined and hoisted from three (3) shafts, of which—

No. 11 Shaft furnished.....121,485 tons ore.
No. 12 Shaft furnished.....226,237 " "
No. 14 Shaft furnished.....142,129 " "

Comparing area of ground which produced this ore, is as follows:

No. 11 Mine—2.751 acres—giving 44,160 Tons per Acre
No. 12 Mine—3.563 " " 63,496 " " "
No. 14 Mine—2.422 " " 58,682 " " "

Total area mined for the year was 8.736 acres, yielding an average total of 56,072 Tons per acre.

From a total of 489.745 tons of ore milled. 42,782,357 Lbs. of Metallic Lead was produced, so that one ton of ore yielded 87.3 Lbs of Metallic Lead, equal to a recovery of 4.87 per cent. Pb. per ton of ore. The average amount of Metallic Lead produced from one acre mined was 2448.6 Tons of Metallic Lead.

The Cost of Mining was as follows:

Mine No. 11.....87.65 ¢ per ton
Mine No. 12.....75.65 ¢ " "
Mine No. 14.....73.50 ¢ " "

Average for all 3 Mines.....78 cents per ton
Average Cost of Ore (including freight to Mill) was..82.45 ¢ " "
Average cost of Milling was.....29.92 ¢ " "
Giving a Total Cost of Mining and Milling of.....$1.1237 " "

Comparing the cost of Mining and Milling with that of the previous Year we have a reduction of 6.15 cents per ton in Mining Cost and 1.4 cents per ton in Milling Cost, or a total reduction in cost of 7.55 cents per ton.

Comparing Cost of Mining and Milling of 1914 with Cost of Mining and Milling of Year 1912 (which was a total of $1.05 per ton) we show an increase of 7.37 cents per ton of ore.

The yield of metallic lead per ton of ore was 87.3 Lbs. as against 83.4 Lbs. of the previous year.

Diamond Drill Prospecting was conducted during most part of the year in the vicinity of the mine workings in order to aid in the development work. 91 Holes—approximating 37,709 feet were drilled, which covered a total area of 80.2 acres, developing an area of 11.4 acres of mineral bearing ground containing an estimated tonnage of 447,800 tons of pay ore.

DEVELOPMENT.

The General even character of the Ore Deposits, as mined during the Fiscal Year, did not require much drift development work, and only 373 feet of drift was driven.

During the coming year more work of this nature, however, will be required, especially on account of the uneven mineralization of the territory situated to the North and North-West of No. 14 Shaft.

MILLING OPERATIONS.

While the capacity of the Mill was not increased and no changes were made in the milling system, it was necessary to install four (4) more middling crushing rolls, in order to reduce the Lead Losses in the coarser tailings, caused by the exceedingly fine dissemination of the mineral in some of the Mill Ore. By finer grinding a larger amount of Jig Middlings by means of the four (4) larger middling rolls, we were able to reduce these losses to a fair average.

The heretofore unavoidable losses in the fine slimes have been materially decreased by the installation of the Flotation Plant, and when this is in complete running order, the Recovery of the Mill will be equal to any Plant in the District.

Improvements made in Power Plant and Mine Mechanical Department are mentioned in special report.

Very truly yours,

O. M. BILHARZ.

RIVERMINES, Mo., May 16th, 1914.

ST. JOSEPH LEAD COMPANY.

Herculaneum, Mo., April 16th, 1914.

WM. ALLEN SMITH,
Manager at Herculaneum.

MR. CLINTON H. CRANE, President,
St. Joseph Lead Company,
New York City..

DEAR SIR:

I hand you herewith synopsis showing the amount and kind of construction work done at this plant during the fiscal year of 1913. The amount spent for this work being $156,555.00.

I also give you the larger maintenance items, the total amount spent for which is $16,838.00. I think it proper to bring out the fact that we have charged a large amount of what is in fact construction to our operating expenses. These items, while properly maintenance, have in each case been installed in a thorough and permanent manner and were necessitated in order to prevent continued delays and breakdowns and in practically each case the greatly improved design has resulted in marked economy.

Very truly yours,

WM. ALLEN SMITH.

ST. JOSEPH LEAD COMPANY

REPORT COVERING CONSTRUCTION AT HERCULANEUM PLANT FOR FISCAL YEAR, 1913

HERCULANEUM, Mo., April 16th, 1914.

CONDENSED SUMMARY OF CONSTRUCTION AND MAINTENANCE AT HERCULANEUM FOR FISCAL YEAR, 1913.

CONSTRUCTION.

1—BLAST FURNACES. Three blast furnaces enlarged and rebuilt.

2—CHARGE PIT. Charge pit remodeled.

3—FOREHEARTH CRANE. New crane installed.

4—COKE TRACK. Track installed for direct handling of coke.

5—MATTE HANDLING SYSTEM. Plans fully developed for granulating current output of matte.

6—BAG HOUSE. Bag House completed and now handling blast furnace and refinery gases.

7—FUME COLLECTOR. Apparatus installed to handle fume by vacuum system.

8—SINTERING PLANT. Completely rebuilt and two machines added. All steel construction.

9—SAMPLE ROOM. A building built and equipped for sampling purposes.

10—MATTE CRUSHER. An additional breaker installed and bins enlarged.

11—WEDGE ROASTER. Capacity increased.

12—FIRE LINE. A new fire protection line installed. Affords adequate protection to all parts of the plant.

13—TOOL HOUSE. A small tool house built for the Yard Department.

MAINTENANCE.

1—HOLTHOFF ROASTER. Oil burners installed.

2—POWER HOUSE. Fourth blower installed and building repaired.

3—CHARGE HOIST. A second hoist installed.

4—Furnace Jackets. New jackets of improved design put in to replace old ones.

5—Matte Pots. A new equipment of matte pots installed.

6—Laboratory Still. An electric still installed.

7—Thaw House. Furnace rebuilt.

8—Lead Wells and Turn Tables. Three blast furnaces equipped with open lead wells and turn tables.

9—Refinery Kettles. Cast steel kettles installed in place of cast iron ones.

10—Five Pot Converter Plant. Dismantled.

11—Machine Shop. Additional equipment.

12—Store Room Extension. Store room extended.

13—Lunch Room. Building converted for this purpose.

14—Tracks and Trestles. Largely rebuilt.

15—Concrete Partitions and Floors. A large amount of flooring put in.

16—Rock Quarry. Track extended and quarry shaped up.

17—Hot Water Pond. A second pond provided.

18—Plant Reservoir. By-pass installed.

19—Charge Car. A new charge car put in.

20—Sintering Machine Burners. Substantial burners installed.

21—Paint. Entire plant gone over thoroughly.

HERCULANEUM, Mo., April 16th, 1914.

SUMMARY OF CONSTRUCTION AT HERCULANEUM FOR FISCAL YEAR, 1913.

1—BLAST FURNACES.

Three blast furnaces have been enlarged and rebuilt from top to bottom, making a furnace 16 feet long by 3½ feet wide at the tuyeres, which are the largest lead blast furnaces in this country. All three of these furnaces have been running the greater part of the year and have developed exceptional capacity, equal to three hundred tons of charge per day each, and a lead production of one hundred tons per day maximum. The average performance being two hundred sixty-five tons of charge and eighty-five tons lead production. The plant is now equipped so that it can handle the present concentrate production of the mills on two and one-half furnaces as against five in previous years. The smelting costs have been materially reduced thereby. Outside of the larger improvements, many smaller details have been developed such as tap jackets, lead wells, lead spouts, matte pots, etc. Total amount charged to construction for the proposition, $5,186.00.

2—CHARGE PIT.

The charging pit where the blast furnace charges are made has been entirely remodeled to now use two dumping slots, one for fuel and flux and one for ore. The same crew of eighteen men now put up eighty-five charges a shift, against previous maximum of fifty and the labor to do this is considerably less than before. This change was imperative, in order to handle the larger tonnages. The amount charged to construction for the proposition was $3,711.00, which includes paving back of blast furnaces, installing cast steel turn tables, cross overs, etc., and was all done in a very substantial and permanent way.

3—FOREHEARTH CRANE.

An efficient crane was installed to handle forehearths and slag pots, with a total cost of $71.56.

4—COKE TRACK.

The track to the east of the Bag House and up to the Refinery has been raised and a coke scale installed, also the ground paved so that coke can be taken

direct from the cars to the charge pit. This change was imperative in order to do without the night switch engine and furnishes the coke in a better condition for the Blast Furnaces and eliminates a large amount of fines now made by the extreme drop at the old bins. Total cost $1,074.17.

5—Matte Handling System.

The contract for the crane way and crane has been let at a final price of $7,645.00 and the contract for the matte collector has been let at a cost of $3,860.00. This item will not be completed in this fiscal year. It is estimated that the total cost will be about $17,500.00.

6—Bag House.

The Bag House, as far as handling the blast furnace and Refinery gases has been completed and went into continuous operation April 1st, 1914. This installation included the construction of a flue system, installation of fan and the building of the Bag House proper. The Bag House is noteworthy, being equipped with a mechanical shaking device, which permits of continuous operation without shutting down. We are thereby able to operate with one less chamber than would have been required under the old system of hand shaking. It is planned to handle the dust by vacuum collectors. While no returns have yet been possible as to lead savings it is evident that an unexpectedly large amount of fume is being caught. This fume assayed 74.4% lead. $98,433.00 have beeen spent on it this year. This is exclusive of the steel flue from the blast furnaces to the stack which was completed the previous year and cost about $40,000.00.

7—Flue Dust Collector.

A cyclone dust collector has been installed to handle the flue dust from the steel flue. The dust being delivered into a conical bin and taken through a pug mill and wet and delivered to the main mixer belt. Cost $1,400.00.

8—Sintering Plant.

The Sintering Plant, which was destroyed by fire June 14th, 1913, has been completely rebuilt. This includes a new steel building, two new sintering machines, complete with fan and motor and a new fan and motor for No. 1 and 2 Machines. Also the installation of a new mixing system and the whole arrangement generally simplified. $41,851.00 has been expended to date on this item and it is expected that the completed installation will come within the amount of insurance received by the company for the old building, etc., which was $53,000.00.

9—Sample Room.

A new, independent, brick building has been erected for the sampling department and thoroughly equipped with modern and accurate devices for systematic sampling of materials, the department, being placed under a foreman who has nothing else to do. Total cost $735.00.

10—Matte Crusher.

The old Matte Crusher has been completely overhauled and a second crusher installed. Also the bin system enlarged and made more economical as to the handling of material. The capacity has been raised about fifty tons a day and this Crusher can now take care of our current output. Total cost $833.00.

11—Wedge Roaster.

The two lower hearths of the Wedge Roaster were converted into fire hearths in order to raise the capacity of the furnace and lower the sulphur. This expense, together with the amount of fire damage was $1,150.00.

12—Fire Protection Line.

A new fire line was laid north and south through the plant and provision made for hose houses, carts, etc. The plant now has ample fire protection. Cost $2,010.00.

13—Tool House.

An adequate tool house has been built for the use of the yard department. Total Cost $34.00.

Total construction expense $156,555.00.

HERCULANEUM, Mo., April 16th, 1914.

MAINTENANCE.

The following large items have been installed and charged directly to operating costs. These are mentioned because they are largely in the nature of construction.

1—HOLTHOFF ROASTER.

The furnace has been changed over to oil burning. Total cost $250.00.

2—POWER HOUSE.

A large blower was moved from the ten pot plant and installed in the power house for which the building was enlarged. The roof was thoroughly overhauled and rebuilt. Cost $1,200.00.

3—CHARGE HOIST.

An additional charge hoist has been installed in order to give us an opportunity to rebuild the old one and prevent delays. Cost $1,000.00.

4—FURNACE JACKETS.

About half the steel jackets on the blast furnaces have been replaced with new ones of improved design. Cost $3,000.00.

5—MATTE POTS.

New matte pots have been put in use of approved design. Cost $2,000.00.

6—LABORATORY STILL.

A new electric distilling apparatus has been installed in the laboratory. Cost $80.00.

7—THAW HOUSE.

The Thaw House furnace has been rebuilt. Cost $100.00.

8—Lead Wells and Turn Tables.

Open lead wells with direct spouts to the turn tables have been installed at the Blast Furnaces. This greatly cheapens lead handling and makes it possible to take care of the large tonnage now being made. Cost $500.00.

9—Refinery Kettles.

The last cast steel kettle has been installed in the Refinery to take the place of the cast iron ones. Cost $375.00.

10—Five Pot Converter Plant.

The Five Pot Converter plant has been wrecked and dismantled to make room for the power house extensions. Cost $150.00.

11—Machine Shop.

A shaper ($375), key seating machine ($40) and an electric drill ($85) have been added to the Machine shop equipment. Total cost $500.00.

12—Store Room Extension.

The store room has been enlarged and extended. Cost $50.00.

13—Lunch Room.

One of the buildings at the gate has been converted into an all day and night lunch room. Cost $400.00.

14—Tracks and Trestles.

No. 2 trestle has been entirely rebuilt with new frame bents. Cost $1,202.00. No. 3 trestle has had about one-half the bents renewed Cost $1,071.00. Repairs to tracks $385.00. Total cost $2,658.00.

15—Concrete Partitions and Floors.

A large amount of concrete flooring has been installed and several concrete bins partitioned. All bins have been numbered with permanent enameled signs. Cost $2,000.00.

16—Rock Quarry.

A large amount of stripping and shaping has been done and the railroad track extended. Cost $275.00.

17—Hot Water Pond.

A new six inch circulating line has been installed and the old one taken up and cleaned so that we now have two independent mains to our circulating tank. A second pond has been built doubling the cooling and storage capacity. Cost $800.00.

18—Plant Reservoir.

A by-pass has been installed around our plant reservoir so that same can be cleaned. Cost $200.00.

19—New Charge Car.

A new charging car has been installed at the blast furnaces of most efficient design and substantial construction. Cost $900.00.

20—New Sintering Machine Burners.

New burners have been installed at the Sintering Machines made of cast iron. Cost $200.00.

21—Paint.

A large amount of painting has been done. Practically the entire plant has been gone over. Cost $200.00.

Total Maintenance expense, $16,838.00.

MISSISSIPPI RIVER & BONNE TERRE RAILWAY

OPERATING DEPARTMENT

BONNE TERRE, MO.

F. J. THOMURE,
General Manager.

MAY 15TH, 1914.

MR. CLINTON H. CRANE, President,
61 Broadway, New York, N. Y.

DEAR SIR:

In compliance with your letter of March 20th, I beg to submit herewith report covering the work of the Railway during Fiscal Year ending April 30th, 1914.

The Auditor expects to mail to you this afternoon complete reports for Fiscal Year ending April 30th, 1914, showing gross earnings of $678,781.09 as compared with $776,615.89 for year ending April 30th, 1913, a total decrease of $97,834.80. Operating income $238,689.16 as against $235,152.07 for year ending April 30th, 1913, an increase of $3,537.09 over last year. Net income from operation $220,822.06, the disposition of this net income given you in separate report.

The Operating expenses for Fiscal Year ending April 30th, 1914, was $419,795.37 as against $522,549.02 for Fiscal Year ending April 30th, 1913, a total decrease of $102,753.65; the Operating ratio .6185% against .6728%, decease of .0543%. During the year the wages of train and enginemen have been increased, as per statement attached marked No. 1, and in Mechanical Department as per statement marked No. 2 attached, which had a tendency to increase cost of operation at rate of $501.12 per month. For comparison with Kendrick recommendation see statement attached marked No. 3.

In addition to above reports we offer the following information covering operation of the Road:

FIRST.—Exhibit 1, showing the freight tonnage and revenue for eleven months of this year, indicating a decrease in tons of 274,442 and decrease in revenue of $77,294.90 with explanatory notes. The statistical data for the month of April will not be available for a week or ten days.

SECOND.—Exhibit 2, Passenger Traffic, for eleven months of this year, indicating net increase of passengers carried 12,005 with a decreased revenue $12,044.71, with explanatory notes.

THIRD.—Exhibit 3, Equipment, showing list of equipment as of April 30th, 1914; Exhibit 3-A, review of repairs made on locomotives, passenger and freight train cars. Safety appliances were applied to locomotives and freight train cars during the present year at expense of $16,358.30. All of this expense is carried in the Operating Expenses in Maintenance of Equipment account.

During the year equipment destroyed and retired amounting to $4,336.76, as shown in detail in Auditor's report.

FOURTH.—Exhibit 4, Maintenance of Way, showing track mileage as of April 30th, 1914, and review of principal items of renewals during the year, with explanatory notes. Additions and betterments $8,294.48 as shown in detail in Auditor's report.

For changes on equipment trust obligations and other financial items, see Auditor's special report being mailed you tonight.

Yours truly,

F. J. THOMURE.

TRANSPORTATION DEPARTMENT.

TABLE SHOWING INCREASE IN WAGE SCALE.

Effective October 1st, 1913, the following increases in wages were granted Train and Enginemen:

	Old Rate Per Hour.	New Rate Per Hour.	Per Cent. of Increase.
Freight Conductors	38c	40c	5.3
Freight Brakemen, Shaft and Mill Work	30c	32c	6.6
Freight Brakemen, Extra, Regular and Work Train	27c	27½c	1.8
Freight Brakemen, Local Freight	27c	32c	18.5
Yard Foremen, Days	36c	37c	2.8
Yard Foremen, Nights	38c	39c	2.6
Yard Helpers, Days	33c	34c	3.0
Yard Helpers, Nights	35c	36c	2.8
Engineers, Large Engines	49c	51c	4.0
Engineers, Small Engines	46c	48c	4.3
Firemen, Large Engines	33c	34c	3.0
Firemen, Small Engines	31c	32c	3.2
Yard Engineers	39c	40c	2.5
Yard Firemen	24c	25c	4.1

This resulted in an increase in the wages for this class of men of approximately $257.00 per month or $3,084.00 per year to the regular crews with normal business.

MECHANICAL DEPARTMENT.

TABLE SHOWING INCREASE IN WAGE SCALE WHICH TOOK EFFECT OCTOBER 1ST, 1913.

Occupation.	Number Employed.	Old Rate.	Present Rate.	Increase per Day.
HERCULANEUM:				
Carpenter	2	.25 per hour.	.27 per hour.	.40
Carpenter	2	.24 " "	.27 " "	.60
Truckman	4	.19 " "	.20½ " "	.60
BONNE TERRE:				
Machinist 1st class	6	.39 " "	.41½ " "	1.50
Machinist 2nd class	1	.35 " "	.37½ " "	.25
Machinist 3rd class	1	.30 " "	.32½ " "	.25
Machinist 4th class	1	.25 " "	.27½ " "	.25
Air Brake Repairer	2	.24 " "	.26 " "	.40
Blacksmith	1	.40 " "	.43½ " "	.35
Blacksmith	2	.27½ " "	.30 " "	.50
Blacksmith Helper	3	.22½ " "	.24 " "	.45
Boilermaker	2	.39 " "	.41½ " "	.50
Boilermaker	2	.30 " "	.32½ " "	.50
Cabinet Maker	1	.36 " "	.37 " "	.10
Coach Carpenter	3	.31 " "	.33½ " "	.75
Freight Carpenter	5	.22½ " "	.23½ " "	.50
Truckman	4	.20 " "	.20½ " "	.20
Truckman	3	.19 " "	.20½ " "	.45
Freight Painter	1	.25 " "	.27 " "	.20
Freight Painter	1	.22 " "	.25 " "	.30
LEADWOOD:				
Freight Carpenter	1	.24 " "	.26 " "	.20
RIVER MINES:				
Inspector	1	.25 " "	.26 " "	.10
Carpenter	1	.22½ " "	.23½ " "	.10
Total Increase per Day				$9.45
Total Increase per Annum (310) Working Days				$2,929.50

This is based on force employed October 1st, 1913.

Exhibit "1"

STATEMENT.

Showing Tonnage and Revenue for Eleven Months of Last Fiscal Year May, 1913, to March, 1914, Inclusive, as Compared With Similar Period 1912-1913.

Month.	Tons.				Revenue.			
	1912-1913.	1912-1913.	Inc.	Dec.	1913-1914.	1912-1913.	Inc.	Dec.
May	174,097	180,479	.....	6,382	$50,031.67	$43,660.40	$6,371.27	.....
June	156,829	191,224	.....	34,395	43,718.56	45,636.07	.....	$1,917.51
July	141,038	219,133	.....	78,095	40,917.24	54,442.02	.....	13,524.78
August	95,697	214,377	.....	118,680	30,799.27	54,839.78	.....	24,040.51
September	122,228	191,837	.....	69,609	37,875.87	55,751.60	.....	17,875.73
October	175,012	213,121	.....	38,109	51,634.56	61,733.18	.....	10,098.62
November	191,042	190,132	910	.....	51,128.97	55,593.75	.....	4,464.78
December	167,379	175,670	.....	8,291	46,105.98	55,600.82	.....	9,494.84
January	168,977	135,552	33,425	.....	44,582.78	45,815.69	.....	1,232.91
February	142,299	124,893	17,406	.....	38,036.92	42,095.77	.....	4,058 85
March	169,058	141,680	27,378	.....	49,322.44	46,280.08	3,042.36	.....
Totals	1,703,656	1,978,098	79,119	353,561	$484,154.26	$561,449.16	$9,413.63	$86,708.53
Net	.....	.....	.....	274,442	.....	.....	.....	$77,294.90

NOTES.

Decreases in tonnage and revenue are explained as follows:

The entire loss can be accounted for (*a*) in the three items of soft coal, chat and pig lead, and (*b*) the labor troubles in August, 1913, resulting in serious loss of business in August and September.

DETAIL.

COAL.—Although the tonnage increased 16,994 tons, there was a decrease in revenue of $36,155.47 due to decrease in rate of 20 cents per ton. On basis of old rate there would have been an increase of about $52,495.00 over what was actually earned, or a net increase of $16,339.53. The reduction in coal rate of 20c. per ton was brought about:

FIRST.—By proposed establishment of electric generating station in the Southern Illinois coal fields and distribution of current throughout the Lead Belt District, and

SECOND.—Because of the existence of a rate of 25c. per ton lower via the Illinois Southern Ry. to the Flat River District, of which the Federal Lead Co. were getting the advantage, causing dissatisfaction on the part of other Lead Companies.

CHAT.—Decrease in chat movement due to small demand for railroad ballast last year, was 291,360 tons, $42,370.35. However, as there is little net revenue in this commodity we may consider that Operating Expense was decreased by about the same amount.

PIG LEAD.—Decrease 5,649 tons, $4,512.27.

STRIKE LOSS.—The decrease in August and September amounted to 188,229 tons, $41,916.24. Had normal conditions prevailed during these two months this decrease should not have been more than $15,000.00.

SUMMARY.

We must, therefore, conclude that if the decrease in the three items of coal, chat and pig lead was $99,377.62, while the total net decrease in all traffic was only $77.294.90, the business aside from those commodities was as a whole satisfactory.

Attention, however, is directed to the movement of lead bearing rock, as follows:

1913-14.....	820,113 tons	$88,860.01
1912-13.....	808,322 "	81,267.39
Increase.....	11,791 "	$7,592.62

Of this, however, 84,636 tons, $14,867.19, was new business (that of the St. Francois Lead Co.'s Shaft), so that the movement of ore from the St. Joseph and Doe Run Shafts decreased by 72,845 tons, $7,274.57, during the eleven months' period.

This shaft is also responsible for 4,000 tons of the increase in coal tonnage and for some portion of the concentrates movement which increased 2,850 tons, $1,789.02, during the period

Exhibit "2"

COMPARISON OF PASSENGER TRAFFIC.

Period May 1 1913, to March 31, 1914, *vs.* Same Period 1912-13.

Month.	Passengers Carried.				Revenue.			
	1913-1914.	1912-1913.	Inc.	Dec.	1913-1914.	1912-1913.	Inc.	Dec.
May.....	25,129	23,228	1,901	.....	$8,553.32	$8,102.56	$450.76	
June.....	24,850	22,931	1,919	.....	8,234.64	7,796.93	437.71	
July.....	31,186	29,027	2,159	.....	7,878.89	9,493.58	.....	$1,614.69
August ...	29,835	26,744	3,091	.....	8,538.10	9,370.40	.....	832.30
September..	26,981	31,807	.....	4,826	6,957.91	9,972.28	.....	3,014.37
October ...	27,057	25,158	1,899	.....	7,332.55	8,981.28	.....	1,648.73
November..	26,974	26,821	153	.....	6,987.45	8,386.33	.....	1,398.88
December..	28,777	28,592	185	.....	7,468.82	8,925.74	.....	1,456.92
January....	25,628	23,003	2,625	.....	6,404.00	7,112.33	.....	708.33
February...	22,431	21,952	479	.....	5,421.92	6,668.50	.....	1,246.58
March. ...	27,091	24,671	2,420	.....	6,409.64	7,422.02	.....	1,012.38
Total....	295.939	283,934	16,831	4,826	$80,187.24	$92,231.95	$888.47	$12,933.18
Net.. ...			12,005					$12,044.71

Decrease accounted for by reduction in fare of one cent per mile on all business after July 1, 1913. With an increase of 12,000 passengers we would have shown an increase of about $4,000.00 instead of a decrease of $12,000.00, had the rate of three cents per mile prevailed during the entire period.

Owing to strike conditions the usual excursion trains were not run on Labor Day, September 1, 1913, which accounts for the decrease in passengers carried during that month.

The business of the through trains on the Main Line decreased by 26,255 passengers during the eleven months, while the business of the local trains between Bonne Terre and Elvins increased by 44,202 passengers for eleven months in 1913-14, as against five months in 1912-13: in other words most of the travel on the local trains was at the expense of the through trains.

The balance of the increase on the local trains in travel that formerly moved between stations in the Lead Belt by vehicle, or walked between stations close together.

Exhibit "3"

EQUIPMENT.

	On Hand April 30, 1914.	Retired.	Changed. From	Changed. To	Built.	Bought.	On Hand April 30, 1914.
LOCOMOTIVES:							
Passenger	4						4
Freight	14						14
Switching	4						4
Total	22						22
PASSENGER TRAIN CARS:							
Coaches	8						8
Combination	2		1				1
Bag. Exp. & Mail	2			1			3
Official	2						2
Total	14		1	1			14
FREIGHT TRAIN CARS:							
Box	105						105
Flat	24						24
Steel Dump	1						1
Steel Hopper	100						100
A Dumps	575						575
A D Steel Underframe	197						197
D B Dumps	130						130
Mineral	40						40
Cabooses	10						10
Total	1182						1182

LOCOMOTIVES:

Of the locomotives, five are temporarily retired from service, two of them in good condition.

Of the engines in service, 12 are in good condition, four in fair condition, and one undergoing repairs.

During the year, five locomotives received light repairs, and six received heavy repairs. Three have had new tires applied and ten have had tires turned. In seven, flues were pieced and reset and in two part of flues were pieced and reset. Four have had new flue sheets applied. One has had new trucks. Three have had new pistons and five were repainted and varnished.

PASSENGER TRAIN CARS:

Two coaches received heavy repairs and three received light repairs during the year.

Combination Car 8 was changed to a baggage, mail and express car and as such put into service during May, 1913.

FREIGHT TRAIN CARS:

Heavy repairs were made on:

Box	9
"A" Dumps	56
A D Steel Underframe	1
D B Dumps	4
Mineral	1
Total	71

Light repairs were made on:

Box	26
Flat	8
Steel Hopper	272
"A" Dumps	1332
A D Steel Underframe	262
D B Dumps	117
Mineral	15
Total	2032

Wheels were applied as follows:

60,000 Capacity Cars	80	Pairs
80,000 " "	224	"
100,000 " "	44	"
Total	348	Pairs

SAFETY APPLIANCES.

To conform with recent legislative enactments, the following expenditures have been made:

LOCOMOTIVES:

Safety appliances applied on	2 engines	
Safety appliances altered on	11 engines	$88.12
Heaters applied on	26 engines	192.00
Storm Curtains applied on	22 engines	137.50
New Cab Seats applied on	22 engines	88.00
Total		$505.62

FREIGHT TRAIN CARS:

Miner Draft Gear were applied on	295 cars	$15,106.84
Safety appliances applied on	126 cars	1,251.46
Total		$16,358.30

Exhibit "4"

MAINTENANCE OF WAY AND STRUCTURES.

TRACK MILEAGE.

	Owned by M. R. & B. T.	Private Track.	Total Miles.
Main Line	46.46	.....	46.46
Main Line Sidings and Spurs	32.56	1.53	34.09
Hoffman Branch	7.00	.	7.00
Hoffman Branch Sidings and Spurs	4.00	0.64	4.64
Crawley Branch	3.00	....	3.00
Crawley Branch Sidings and Spurs	3.73	0.31	4.04
Gumbo Branch	3.15	.....	3.15
Gumbo Branch Sidings and Spurs.	0 24	1.25	1.49
Mitchell Branch	1.48	....	1.48
Mitchell Branch Sidings and Spurs	0.30	0.05	0.35
Turpin Branch	3 00	.....	3.00
Turpin Branch Sidings and Spurs.	0 13	.....	0.13
Totals	105.05	3.78	108.83

MATERIAL USED.

	Rails, Tons.		Pairs Ang. Bars.		Track Bolts, Kegs.		Tie Plates.		Frogs.		Swth. Stds.	Switch Points.		B. M. Bridge Timber.
	75-lb.	56-lb.	75-lb.	56-lb.	⅞-in.	¾-in.	Inter	Joint.	75-lb.	56-lb.		75-lb.	56-lb.	
New Rail	1¾		160	66	56	30	11,940	1,408	15	8	7	20	2	174.314
S. H. Rail	269¼	211¼												

	M. L. & Sdgs.	Hoffman Branch.	Gumbo-Mitchell.	Crawley.
Switch tie sets	13	3	4	2
Cross Ties	—13,704	3,112	2,997	1,722
Bridge Ties	None	None	None	None
Fencing Woven Wire Rods	None	No Fencing on Branch Lines.		
Barbed Wire Spools.	43	"	" " "	"
Posts	4	"	" " "	"

On main line, beginning about one-half mile north of Doe Run Junction and running south, excepting railroad crossing, sharp curves, and wye at Doe Run, the 75-lb. rail has been replaced with 56-lb. rail, about 2.02 miles of track.

On the Gumbo-Mitchell Branch 1.46 miles of 56-lb. rail have been replaced with 75-lb. rail, and 0.46 miles of curves have been replaced with 75-lb. rail. The 75-lb. rail used being that from main line and Doe Run yards.

Sidings and Spurs taken up, Doe Run	1.32 Miles
Sidings taken up, Shaft No. 12	0.26 "
Sidings taken up, Divide	0.17 "
Spurs taken up, Gumbo	0.88 "
	2.62 Miles
Sidings and Spurs built and extended:	
Ore Track, Doe Run Lead Co., Mill No. 3	0 24 Miles
Hoffman Branch Junction Siding and Crossover	0.36 "
Team Track No. 4, Bonne Terre	0.02 "
	2.62 Miles

Ore Track trestle, Doe Run Lead Co., Mill No. 3 extended	228 feet
Eaton Branch trestle, Hoffman Branch, practically built new	166 "
Trestle No. 13, Creosoted Piles, Caps, and Braces, built new	70 "
Trestle No. 14, Creosoted Piles, Caps, and Braces, built new	42 "

Bridges 22 and 52 were painted during the year.

Concrete box culvert built, replacing trestle No. 42.

Concrete barrel culvert built, replacing broken pipe M. P. 18.2.

Water tank 16 x 24, 50,000 gallons capacity, built at Plattin, replacing an old one.

New tank 14 x 20 built at Leadwood, capacity 28,000 gallons.

No new buildings have been erected.

No extensive alterations to buildings have been made.

No serious floods, slides, or washouts, have taken place, causing unusual maintenance expenditures.

STATEMENT SHOWING COMPARISONS WITH KENDRICK REPORT.

	Proposed Saving per Annum by Mr. Kendrick.	Saving as Shown by our Reports Fiscal Year Ending April 30, 1914.
Maintenance of Way	$12,000.00	$20,230.08
MAINTENANCE OF EQUIPMENT:		
Locomotive Equipment	10,500.00	9,495.75
Passenger Equipment	3,450.00	3,859.88
Freight Equipment	6,800.00	6,112.48
Other Items	.....	1,818.89
Fuel	16,553.00	16,350.69
Water Supply	2,114.00	820.26
Traffic Expense	.....	1,859.69
Pass. Train Service	24,500.00	.....
Train Miles North Bonne Terre	6,870.00	38,103.64
Engine Service South Bonne Terre	10,000.00	.....
Officers and Offices	18,540.00	20,460.59
Total	$111,327.00	$119,111.95

NOTE.—Item of $16,358.30 covering cost of applying miner draft rigging and safety appliances, as required by Rules of Master Car Builders in order to use our cars in Interchange Service, for the Fiscal Year, is deducted from our figures, showing saving or decrease for the year of $6,112.48. In this connection when making application of miner draft rigging it frequently occurred when getting into equipment, defective sills, etc., were found, making it necessary to do additional repair work which ordinarily would not have been necessary, hence cost of freight car repairs was materially increased on this account.

NOTE.—Item of $6,870.00 covering Train Miles North of Bonne Terre as figured by Mr. Kendrick is based on use of Mallet engines, which we do not have in our service, hence this item should be deducted in making comparison.

BONNE TERRE FARMING & CATTLE COMPANY

BONNE TERRE, MO., May 4, 1914.

ROBERT SELLORS,
Secretary and Treasurer.

MR. CLINTON H. CRANE, President.

DEAR SIR:

In submitting the General Balance Sheet of this Company for the fiscal year ending April 30th, 1914, attention may be drawn to the following points of interest, viz.:

The work of the Company is of a miscellaneous character, covering the care of nearly 15,000 acres of land; the repair and renting and the collection of rents of several hundred houses; the making and transferring of leases; the general care of the streets in the several towns belonging to the Company; and the care of the farms and the stock thereon.

This Company has also charge of the Water and Electric Lighting at both Bonne Terre and Herculaneum, these two services being subject to the control of the Public Service Commission of the State of Missouri. The Electric Current is sold at 5c per k. w. hour for power, and 10c per k. w. hour for lighting. Water is sold by meter, the minimum charge per annum being $5.00, which is figured at the rate of 25c per thousand gallons.

The Company has in existence today at Bonne Terre, Herculaneum and Flat River 908 leases.

Your Company also owns at.....Bonne Terre 23 houses,
Herculaneum 191 "
Leadwood 169 "
Flat River 1 house

making a total of 384 houses. The gross income from all these rentals amounted to $46,591.67. These houses are all kept in good repair and are gradually being improved. We are getting better rent for them than we have for some years, and the investments in this direction yield a steady return. The sum of $3,263.86 has been reserved for depreciation on the dwellings at Bonne Terre, Herculaneum and Leadwood during the year, in addition to $5,903.64, which was spent for repairs. A year ago Mr. McCarthy of Farmington, Mo., went over the buildings belonging to the Company and placed his own valuation upon them, and this valuation is still carried on our books. A year ago Judge Swink of Farmington

likewise went over every acre of land and placed an agricultural valuation on each piece, and this amount we carry on our books, as per schedule.

It is interesting to note that in spite of having so many leases in existence, and having to make numerous transfers, there has never been a law suit in connection with any of them during the history of the Company.

Your Company has spent on general repairs at Bonne Terre, Herculaneum, Leadwood, and St. Louis during the fiscal year ending April 30, 1914, $6,875.88. It has also spent on streets and improvements thereon $3,288.47, part of this being necessitated by the sanitary authorities in Jefferson County insisting on a length of sewer being put in to improve the health of the community at Herculaneum.

The authorities also insisted on a number of minor matters being executed, all of which suggestions have been complied with.

The Farm Department owns the following:

1	Polled Hereford	Bull—Registered,
1	"	" "
8	"	Cows "
7	"	Calves—Subject to Registration,
1	"	Bull Calf,
81	Common	Cows,
47	"	Calves.

We have, within the last 18 months, gone into the cattle business again and hope to raise a fine Hereford herd within a few years, from which it is reasonable, from present and prospective prices, to expect large returns.

We have, for the past few years, been taking special pains in testing our seed corn, and we have this year taken advantage of the County Farm Adviser's presence in our midst, to try an improved rotation of crops, and are endeavoring to let all our efforts in this direction be based on modern and intelligent practise. Our farm crops were largely a failure owing to weather conditions in the early part of last summer, but, in spite of this misfortune, we show a profit in this department of $3,765.28 on the year's work.

The Store at Bonne Terre has been discontinued, but the Herculaneum, Leadwood and Rivermines Stores are in good running order. The Bonne Terre Store was closed out by means of a large sale and a ten days' auction sale immediately afterwards. This store has been in existence for 34½ years, and during this period its aggregate profits amounted to $212,591, and the loss in closing out this Store has been charged against the surplus. The net profit on the general store business for the year is $3,042.22.

The Company is well able to meet its current liabilities, and in addition to its checking account has a time deposit of $10,000 after paying two dividends of 2% each or $20,000 in all during the year.

Our total earnings for the year as per Balance Sheet are $19,250.75, this being nearly 4% on the capital stock of $500,000.

The accounts are being audited by Haskins & Sells, Accountants, and their report will be sent to the President of the Company later.

Respectfully submitted,

ROBERT SELLORS,
Secretary.

BONNE TERRE HOSPITAL ASSOCIATION.

BONNE TERRE, Mo., April 18, 1914.

Mr. CLINTON H. CRANE, President,
5 Nassau Street, New York.

DEAR SIR:

You will be interested in learning that we held the annual Hospital meeting on Wednesday last. I enclose you complete statement as furnished by the Treasurer to each member, showing that the deficit on the year's work was $8,479.37.

One very instructive feature is, that during the year there has been

150 Private Patients,
27 St. Joseph Lead Co. Patients,
4 Doe Run Lead Co. Patients,
3 M. R. & B. T. Ry. Patients.
1 Desloge Lead Co. Patient.

185 Total Patients.

The average number of patients per day has been six.

The Directors passed a resolution to the effect, that, in their judgment, it was advisable to discontinue the Nurses Training School at the earliest possible date.

I am sending you this information because I thought you would be pleased to have it before making out your annual report.

Yours very truly,

ROBERT SELLORS,
Secretary.

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