

Ishpeming, Michigan
February 23, 1939

Mr. E. B. Greene, President,
1460 Union Commerce Bld.
Cleveland, Ohio

Dear Sir:-

I beg to submit the report of the operations of the Mining Department for the year 1938.

The inventories, maps, statements relative to the 1938 report will go forward under separate cover.

The colored portions of the maps show the work for the year. The reports of the different mines of the Company were made by the Superintendents in charge, and the reports of the Engineering, Mechanical, Electrical, Geological Safety and Welfare Departments by the Heads of these departments.

The depression started in the fall of 1937 and during 1938 the mines of the Company worked on a gradually reduced basis until the fall, when the operating schedule at all of the mines was slowly increased. It is unnecessary to recount these details as they are shown for each mine by the superintendents.

There was no new construction carried on during the year. At each property necessary maintenance work was done and all of the surface plants are in first class condition.

The wooden pipe line between the Hoist Dam and the McClure Plant has slowly deteriorated. This condition was so bad it was necessary to take some prompt action. In previous years, Mr. McClure has been very successful in putting a 6" layer of reinforced concrete around the wooden pipe line at the Carp Plant. This same general principle was used on the McClure Plant line and there is every reason to assume when the work is completed it can be considered as a permanent installation. The details are given in the report of the Mechanical Department.

Mr. Conibear gives the details relative to our safety record for 1938. It is customary, and as far as I know the usual procedure, to base these records on the days worked. Naturally if your working time is only half of normal time, your severity rate is bound to double. For the past three years, as a special incentive we have offered cash awards to employees. Each year the plan was modified. On the start the awards were given in the form of large prizes once a year. In 1937 this was reduced to quarterly awards and in 1938 the awards were given every month. The novelty has worn off and the employees have reached the point where they look on these awards as a matter of course. Those who are unlucky in the drawing complain bitterly about it. After a thorough discussion, with the Superintendents and Captains, it was decided effective December 31st, 1938, that this form of award would be abandoned. In order to try to improve the record for 1939 we are putting into force more rigid inspection and much stricter discipline. We are endeavoring to make the shift bosses assume full responsibility for the enforcement of rules, regulations and standards. It has developed that in the past this type of boss is liable not to assume responsibility himself but pass it on to their Captain. This, of course, is absolutely wrong. Capt. H. F. Rogers went into the Safety Department on December 1st and will spend his time with the Shift Bosses.

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Safety bonuses for shift bosses are still in effect and we propose to penalize them for failure to enforce rules. We are hopeful good results will be obtained.

The drilling program on Section 2,47-27 has continued. Ore has been found in six drill holes. We are most enthusiastic about the possibilities of a large tonnage in the crotch between the footwall and main fault. Since completion of diamond drill hole #40, it has been determined that the dip of the fault to the south is about 60° instead of 80° as originally assumed. If this dip continues to where the fault intersects the footwall, it should very greatly increase the tonnage. This will be determined by drill holes which should be completed in the spring of 1939.

The physical underground condition of all of the mines is in first class shape, even though we have a few things which are giving us trouble and adding to the expense. In the Athens, crushing is exceedingly severe but we hope in time this unusual pressure will be relieved. In the Maas, water conditions are bad. This can only be relieved by developing deep wells from the surface. No. 1 well was most disappointing as very fine sand in the well obstructed the flow of water and rapidly cut out the pump. On the start the capacity was only about 100 gallons per minute. Recently for some unknown reason, probably the removal out of fine sand, the volume has increased to 300 gallons per minute. We are very hopeful that the well which is now being sunk at test hole #11, or well No. 2, will be a large one. The Layne Northwest Company state the formation is favorable and we are hopeful that the well will be of large capacity. From actual tests, by putting salt into test wells, we know that the surface water is flowing directly into the mine.

We have been able, at the Cliffs Shaft Mine, to continue the policy which we have followed in this property for many years, namely, not to mine more ore in any one year than could be put in sight. I am glad to report that the estimate shows that there is more ore in the mine at the end of 1938 than there was at the beginning of the year. In a hard ore mine, the monthly progress in ore headings is very slow. I am glad to report that development on the extreme west end of the 10th Level, over 4,000' west of "B" shaft, is still very favorable. Great possibilities for the extension of the life of the Cliffs Shaft exists to the west and also the extension to the east of this ore body which was found in 1938.

During the year a few men who have been connected with the Company for many years and have given most faithful and efficient service, have resigned. They were W. H. Moulton, Secretary of the Pension Department, James Moloney, Chief of Police, and Dr. V. H. Vandeventer, Chief of Staff of the Ishpeming Hospital. Mr. Moulton's duties were assumed by Mr. Walter F. Gries, he being given the title of Superintendent of the Welfare Department. No one has been appointed to Mr. Moloney's position and the watchmen at the various properties will be looked after by the Superintendents. At the end of the year, no one had been appointed in Dr. Vandeventer's place. Dr. Crane, however, is acting Chief of Staff.

During the year a movement was on foot for the installation of a sewage disposal plant costing anywhere from \$130,000 to \$150,000 for the City of Ishpeming. This project was difficult to sidetrack as the Health Department of the State of Michigan and the Conservation Department were back of it. After much

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work, we were able to convince the State and local authorities that such an expenditure of money was unnecessary. The Company pays 45% of the taxes in Ishpeming.

The people of the City of Negaunee for many years have wanted to use Teal Lake, which is their water supply, for recreational purposes. Ten or twelve years ago they spent over \$100,000 on an infiltration gallery which was unsuccessful. This could have been made a successful project but it was a political football and the money expended was thrown away, as no subsequent work was done. Encouraged by WPA authorities, the City started a movement to put in a filtration plant. At the lowest estimate this plant would have cost \$250,000 and in addition a very heavy charge yearly for operation. The project had the endorsement of every organization in the City to say nothing of the various churches. Those back of the project finally dropped it when I explained what we were trying to do with surface drainage by deep wells at the Maas Mine. The Company pays something over 80% of the taxes in Negaunee.

Respectfully submitted,



Manager

SRE:DP