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Ishpeming, Michigan  
March 26, 1945



Mr. E. B. Greene, President  
Cleveland, Ohio

Dear Sir:-

The following report is a brief summary of the Mining Department operations for the year 1944. Detailed reports of the Heads of Departments, and Mine Superintendents for the Michigan Mines, Mesaba District, the Safety Department, Engineering and Geological Departments, Welfare Department and Cliffs Power & Light Company, are sent to the Cleveland office under separate cover for assembling and binding. Other yearly data and maps have already been forwarded or will be sent as soon as they have been completed.

There were several changes in the administrative staff. Mr. G. R. Jackson retired as General Superintendent on May 1st. W. W. Graff died on October 2nd. James S. Westwater was made Assistant Superintendent of the Princeton Mine with general oversight over the Gwinn District, upon Mr. Jackson's retirement. On May 1st H. O. Moulton was made Superintendent of the Tilden property in addition to his duties as Superintendent of the Maas Mine. Curtis R. Sundeen was promoted from the Engineering Department to Assistant Superintendent of the Athens Mine on September 1st. The appointment of Grover J. Holt as Chief Engineer, and Carl Brewer as Recorder, were announced by Mr. E. B. Greene late in 1944, to be effective as of January 1st 1945. J. W. Whiting retired as Chief Shipping Clerk on December 31st, to be replaced by Alex Ham.

There were several changes on the Ishpeming Hospital staff, Dr. J. D. Sarven resigned on February 15th, and Dr. H. J. Treshler joined the staff on June 1st. Dr. W. A. Corcoran elected to take up private practice on August 1st. There were 37 changes in the hospital personnel in 1944 out of a total force of 45. Georgia Holmes, Superintendent, resigned on September 25th and was replaced by Margaret B. Berg.

Because of inductions and enlistments in the armed forces, coupled with the loss of men to the more glamorous jobs on surface in war plants and shipyards, the working schedule had to be reduced at all of our soft ore properties and open pits. On July 1st, the Athens, Cambria-Jackson, Lloyd, Maas, Negaunee, Princeton, Spies Virgil and Tilden Mines went on a forty hour per week schedule, eliminating the mining of ore on the Saturday day shift. The Cliffs Shaft and the Mather Mines remained on a 48 hour per week basis with the Mather reducing to forty hours on August 1st. The Canisteo, Holman and Hill Trumbull reduced from six days to five days operation on September 1st.

Production continued to decline, the Michigan mines hoisting 3,556,824 tons of ore in 1944 compared with 3,953,526 tons in 1943. The Holman, Hill Trumbull and Canisteo produced 2,400,481 tons last year which is 141,452 tons less than the 1943 output. At most properties the decrease

E. B. GREENE

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was due to loss of manpower but in the case of the Negaunee Mine and the Spies Virgil in particular, loss of product was also caused by exhaustion and decreased ore areas available for mining.

Efficiency tended to lower, particularly in the summer and fall. Absenteeism increased. As mentioned last year, many of our miners have advanced in age to the point where they are slowing up. Replacements, when they could be secured, were largely 4-F, former service men, and older men who normally would not be employed by our industry. Another group seeking employment were those trying to get into an essential industry merely to avoid the draft. That kind of labor in particular is never efficient because those men are not interested in learning the art of mining.

In order to secure greater recovery from the crude ores on the Mesaba, and in particular to lower the silica content in the finer ores, constant experimenting was carried on at concentrators and the Hill Trumbull heavy density cone plant. We have committed ourselves to discarding the Akins classifiers at the Hill Trumbull cone plant and Stearns-Roger media concentrators will be installed. An experimental media machine gave an improved product last season. The Canisteo flow sheet will be split in 1945 by running half of the mill with Akins classifiers and the other half with Stearns-Roger concentrators. At the Holman an experimental hydro-separator captured enough commercial ore in 1944 from the tailings to warrant a larger installation in 1945, which will consist of three units, hydro-separator, hydrotator, and Dooroco sizer.

One of the most forward steps taken on the Mesaba Range was the erection and equipping of the test laboratory at the Holman property. The primary purpose of this plant is to pre-test the samples from the structure drill holes so that the electric shovels can be shifted more intelligently to load out and grade the crude that will enable the concentrator to produce the largest recovery of standard ore. We have been under the handicap of not knowing whether the ore is wash or jig until a considerable tonnage would be sent to the concentrator and the beneficiated product would run too high in silica. Three or four hours might elapse before the trouble could be corrected.

The Minerals Separation North American Corporation continued to experiment with the tailings at the Canisteo washing plant. These are being produced at no cost to us.

To indicate how the volume of employment has decreased, the following data is taken from statistical information furnished the U. S. Department of Labor:

Volume of Employment January 1, 1943	
Minnesota operations.....	575
Michigan operations.....	2846
Volume of Employment July 1st, 1943	
Minnesota operations.....	682
Michigan operations.....	3152*

\*Cambria Jackson included - excluded from January 1st figures.

Volume of Employment January 1, 1944	
Minnesota operations.....	542
Michigan operations.....	2986
Volume of Employment July 1, 1944	
Minnesota operations.....	603
Michigan operations.....	2819
Volume of Employment January 1, 1945	
Minnesota operations.....	451
Michigan operations.....	2443

The Mining Department now has 964 in the armed services, 743 from the Michigan mines and 221 from Minnesota. 73 returned veterans are currently employed by the Company.

The total ore reserves in the Michigan mines increased as a result of development and diamond drilling. Mines like the Negaunee and Virgil did not develop enough new ore to off-set the 1944 production but all of the others showed an increase, as is evident from the following figures:

Reserve tonnages as reported to the Michigan State Tax Commission

	<u>Dec. 31, 1943</u>	<u>Dec. 31, 1944</u>	<u>Increase</u>
Standard Ores	19,827,872	19,958,471	130,599
High Sulphur Ores	<u>3,757,859</u>	<u>5,399,467</u>	<u>1,641,608</u>
Total	23,585,731	25,357,938	1,772,207

Year end figures for the Mesaba Range Mines

Holman	10,455,599	9,584,503	- 871,096
Hill Trumbull	3,828,370	3,041,220	- 787,150
Canisteo	<u>6,088,360</u>	<u>6,195,550</u>	<u>+ 107,190</u>
Total	20,372,329	18,821,273	- 1,551,056

The Mesaba Range figures are those reported to the Minnesota State Tax Commission.

The Mining Department severity and frequency accident record for the past year was better than for 1943. The fatality rate in 1944 was 0.84 and in 1943 the figure was 1.11. The number of man shifts worked and the number of tons of ore mined per fatality for 1943 and 1944 were as follows:

	<u>Number of man days worked per fatality</u>	<u>Number of tons of ore mined per fatality</u>
1943	269,351	1,624,315
1944	331,090	1,995,787
Average for 14 years 1931 to 1944 inclusive	281,551	1,729,317

The accident frequency and severity rates for 1943 and 1944 for all compensable accidents follow:

	<u>Frequency</u> <u>Rate</u>	<u>Severity</u> <u>Rate</u>
1943 - C.C.I.Co.	20.30	3.986
1944 - C.C.I.Co.	15.61	3.242
1943 National ratings - all mining	45.56	8.23
1943 National ratings - metal mining	23.85	6.17
1943 National ratings - open cut mining	17.85	4.57


Considerable progress was made to eliminate the dust hazard in the Company's operations. The open pit mines, concentrators and shops were surveyed for dust exposure and the Saranac controls established for the Mesaba operations. Improved mine ventilating fans were installed at several properties and extra personnel employed to keep close control over dust hazards. All methods for eliminating dust are simple but require constant watching and supervision. The adoption of definite limits of dust particles per cubic foot, as for instance 10,000,000 in ore and not more than 5,000,000 in rock, is desirable. Our average for all of the mines the past year was only slightly above those limits but our objective in 1945 will be to get below the suggested totals.

The fire patrol inspections proved very worth while when they discovered an incipient fire in the Cambria Jackson Mine which was put out with no loss in production. The monetary loss from this fire was negligible.

Many grievances and differences of opinion between the men and our administrative staff were settled during the year. Not a single grievance got to stage 4, requiring an arbitrator or conciliator, which I believe reflects credit on both the company and the union. Every grievance was cleared through Francis Bell and John Gannon. The number of grievances formally presented over the signatures of the committees of the various locals totalled 17. 14 were settled in favor of the Company and 3 in favor of the union.

As in 1943, during the past year all of the administrative staff spent a great deal of time dealing with labor matters, grievances, wage adjustments, government regulations, rationing, priorities, deferments, etc. It is our combined great regret that more attention could not have been given to problems in connection with mining methods, mechanical and geological matters, water drainage, sampling and analysis so as to improve efficiency and lower costs.

Yours very truly



Manager

CJS:DP