Mr. M. M. Duncan, Vice Pres. & Gen. Mgr.,
Ishpeming, Michigan.

Dear Sir:

I beg to submit the following report of the work done in the
Gwinn District for the year ending December 31st, 1918.

The various subjects have been taken up under the following
heads:

GENERAL REMARKS
AUSTIN MINE
STEPHENSON MINE
PRINCETON MINE
GWINK MINE
JOPLING MINE
FRANCIS MINE
MACKINAW AND GARDNER MINES
GENERAL SURFACE
ANALYSIS OF COST SHEETS.
ANALYSIS OF NEW CONSTRUCTION.
GENERAL REMARKS.

The product of the several producing mines for the year was as follows:

<table>
<thead>
<tr>
<th>Mine</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gwinn Mine</td>
<td>156,634</td>
</tr>
<tr>
<td>Princeton Mine</td>
<td>148,265</td>
</tr>
<tr>
<td>Francis Mine</td>
<td>41,635</td>
</tr>
<tr>
<td>Mackinaw Mine</td>
<td>2,312</td>
</tr>
<tr>
<td>Gardner Mine</td>
<td>42</td>
</tr>
</tbody>
</table>

Total Product for the Year 347,688 tons
"  "  " 1917 469,158 "
"  "  " 1918 121,470 "

The Gwinn and Princeton Mines supplied 87% of the ore mined in the Gwinn District in 1918. The product from the Francis Mine was small, as this mine did not go on an operating basis until May 1st, 1918, and during the balance of the year it was being developed for ore production. Development work was continued at both the Mackinaw and Gardner Mines and a small product obtained from development work. Development work was also continued throughout the year at the Jopling Mine but no ore has as yet been encountered. Pumping was continued the greater part of the year at the Stephenson and Austin Mines, the water being lowered approximately 36 feet after pumping was started.

There has been a shortage of labor throughout the year, which has greatly curtailed development work at some of the mines. There has always been sufficient labor for both underground and surface work at the Princeton Mine owing to the fact that there was no work at either the Austin or Stephenson Mines. The shortage has affected the development of the Francis and Mackinaw-Gardner Mines more than any of the other properties. At the first of the year there were 714 men employed in the district and at the close of the year there were 618.

The building operations of the Company during 1918 were confined to erection of 10 double houses and three cottages at the Gardner-Mackinaw Location, which work is now about 35% completed. Two houses were built the last of the year in Gwinn on Elm Street on lots which had been sold.

On Sept. 5th there were 438 men registered for the selective
draft in Forsyth Township. It is interesting to note that of these, 247 were citizens, 76 had first papers and 115 were non-declarant aliens. There were 363 registered in 1917, making the total for the two registrations 801 for Forsyth Township. Over 95% of the registrants were employed by The Cleveland-Cliffs Iron Company. Up to Jan. 1st, 1918, a total of 41 men had volunteered and been drafted into the Army and Navy. In 1918, 41 additional men entered the Army and Navy and colleges for special instructions, making a total of 82 men who left this district to take part in the war.

The past year has been a unsatisfactory one from the standpoint of cost of ore produced. There were three wage increases and the cost of many supplies has continued to advance; this coupled with the labor shortage and the unusual conditions existing at the producing mines resulted in high operating costs.

There were a few cases of Influenza early in October, but, as the schools were closed, as also all other public gatherings, it was soon under control. The latter part of November one of the employees of the Gwinn Mine went to his home in another part of the county, where the disease had swept through practically all families. He returned and spent Sunday at his boarding house, where there were a number of children, and went to work at the Gwinn Mine on Monday, by which time he was sick. The children contracted the disease, went to school infecting other children, and also a number of men contracted the disease at the Gwinn Mine. In a few days it had reached epidemic proportions and it was necessary to open an emergency hospital. The crest of the epidemic was reached about the 8th of December; during the balance of the month it gradually subsided. There was a total of approximately 500 cases, with 21 deaths. It seriously effected the output of the Gwinn Mine, where the number of men employed underground dropped from 125 to an average of not over 75. It also effected the Francis and Princeton Mines, but to a lesser degree.

GENERAL REMARKS.