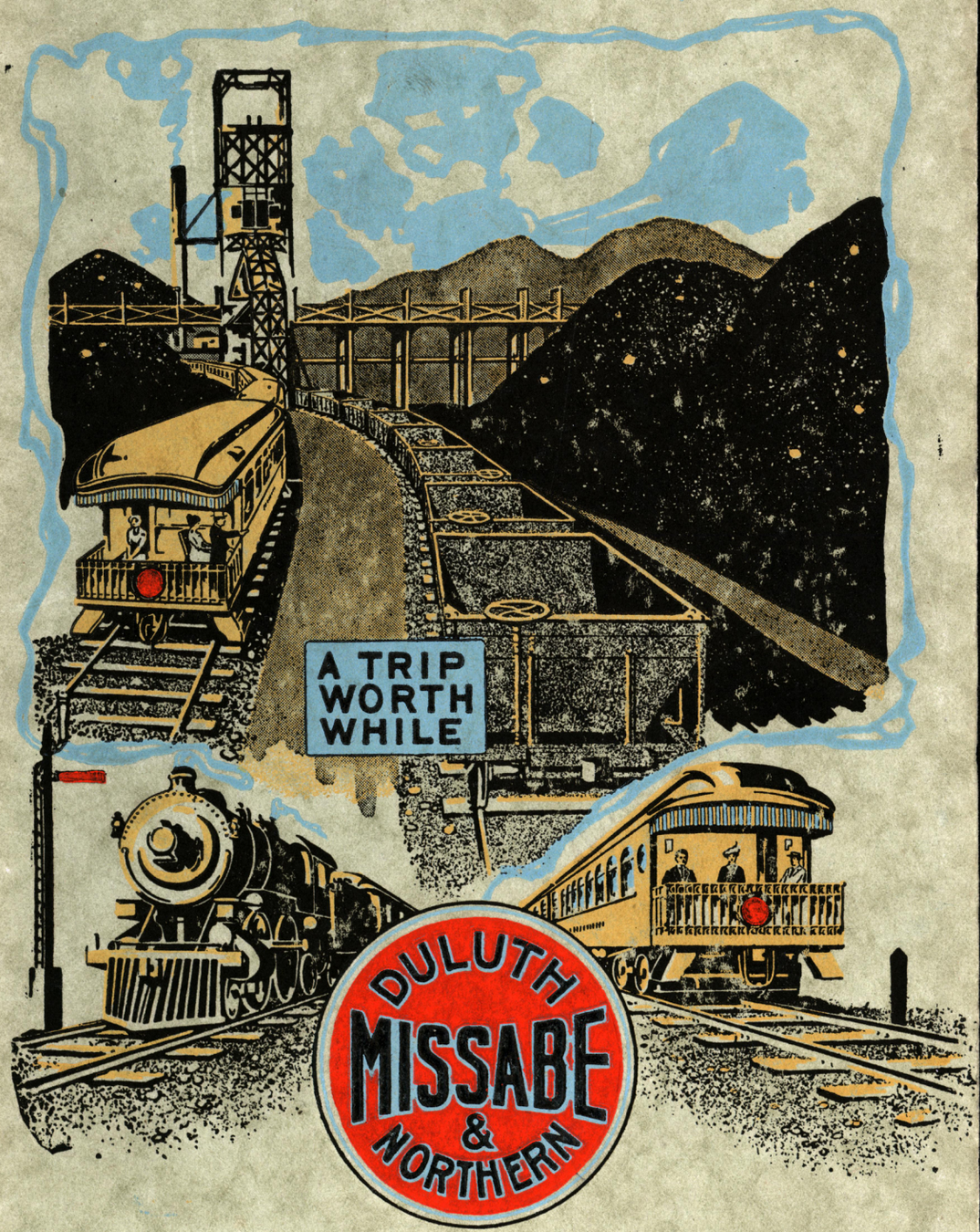

A TRIP
WORTH
WHILE
DULUTH
MISSABE
&
NORTHERN

The Duluth, Missabe & Northern Railway : : :Company: : :

ISSUED BY

General Passenger Department

1915

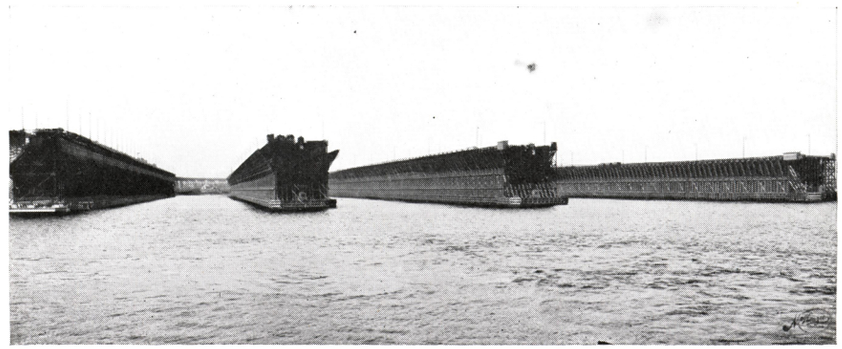
W. A. McGONAGLE,
President.

J. B. HANSON,
General Freight and Passenger Agent.

C. W. KIESWETTER,
General Agent.

A TRIP WORTH WHILE

SINCE the Missabe Range, 75 miles north of Duluth, embracing the towns of Virginia, Hibbing, Chisholm, Sharon, Mountain Iron, Eveleth and Biwabik, reached by the Duluth, Missabe & Northern Ry. first came into notice as an iron ore producing region, it has been visited by many thousands of people, including large number from foreign countries, to view these immense deposits and the stupendous workings, which has placed this Range easily in the lead of all



D. M. & N. ORE DOCKS FROM DULUTH BAY.

PEACEFUL BAY, TROUT LAKE.

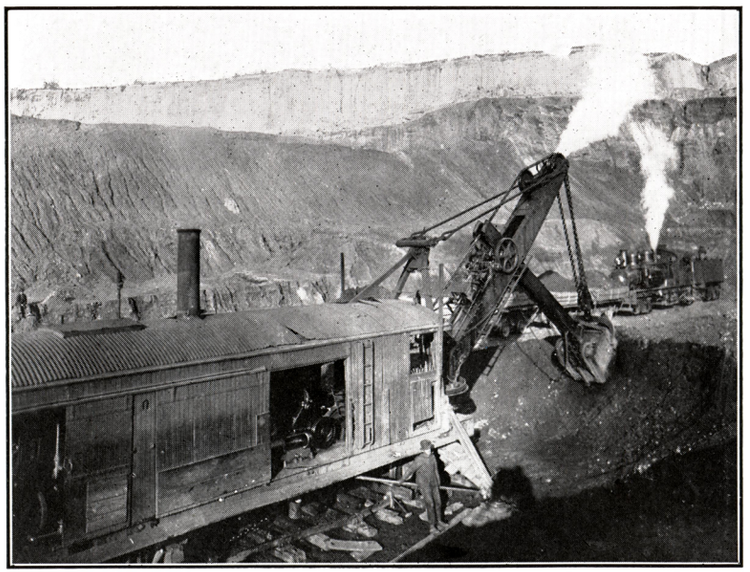
iron ore producing sections in the world, it having shipped to the furnaces at the various iron and steel manufacturing points since the year 1892, over 315 million gross tons of iron ore from 140 developed mines on this Range.

A trip to this section you will concede is "worth while" as one of instruction and interest. The initial handling of the raw material to be later manufactured into iron and steel articles can be seen at any of the towns and cities reached by this line; and by no means less attractive are the towns on this Range in improvements and modern appearances, exemplifying the policy and attitude of the mining companies operating in this section, by having the best possible living

conditions for the benefit of the people living in these towns and dependent upon the mining industry.

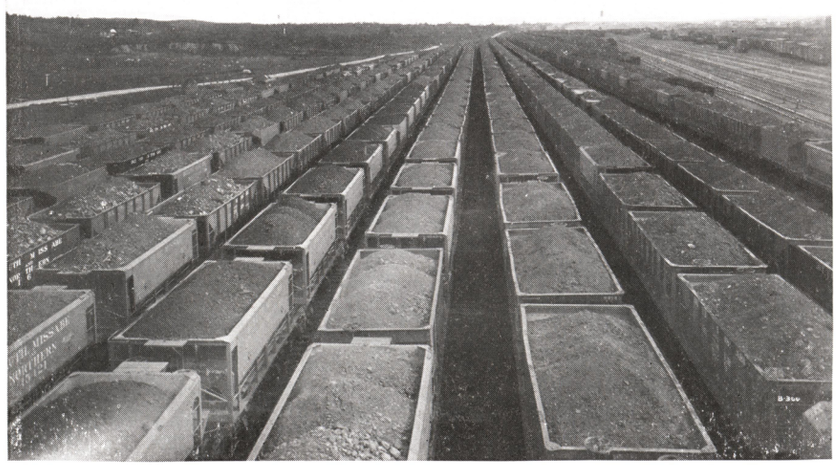
What more interesting trip could be made and knowledge acquired of this very interesting country and its principal industries, than a visit to the mines: especially when one realizes that this ore enters into the manufacture of innumerable articles handled daily in the home, on the farm, in the factory, furnishing means and facilities of transportation and employment to millions of workers, and see the conditions under which this work is performed.

Most of this ore is mined in open pits by steam shovels, the ore being located at various depths from the surface, and if not too deep the economical system of open pit mining

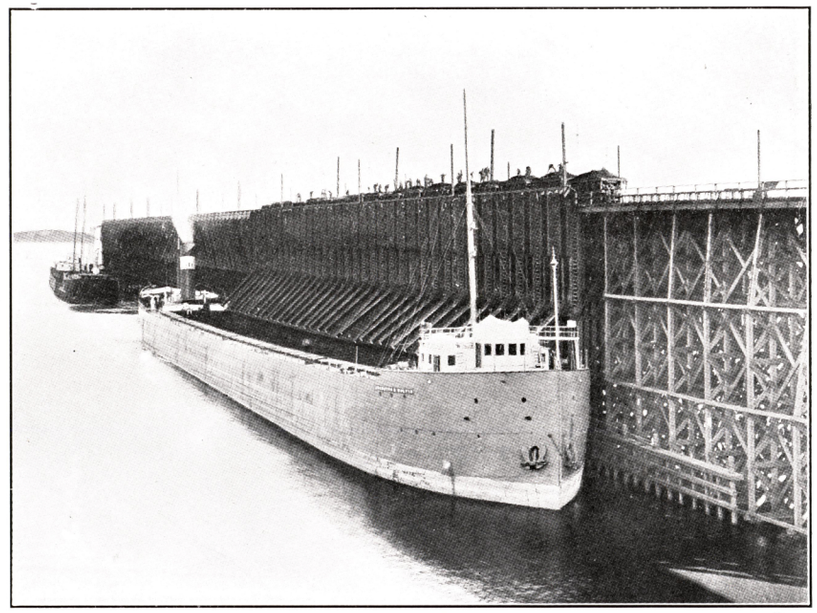


STEAM SHOVEL IN PIT STRIPPING OVERBURDEN FROM ORE BODY.

is followed by stripping the gravel from the top of the ore and then taking the merchantable ore and loading it direct into steel ore cars by use of steam shovels. Where the depth of the ore from the surface is too great to be mined by the open pit system, the underground system is used. This is accomplished by first sinking a shaft to the ore, then following in drifts, and hoisting the ore to the surface to be dumped in stock piles for shipment later or dumped direct into cars for immediate shipment. The ore is shipped in 50 ton capacity cars to the mammoth ore docks at Duluth, which have a storage capacity of over 250,000 gross tons, for loading into vessels for Chicago and lower lake ports,



IRON ORE YARD, PROCTOR, MINN.



TYPE OF ORE CARRIER.

a large number of these boats having a carrying capacity of over 12,000 gross tons.

At present some Missabe Range ore is used at Duluth by the Zenith Furnace Co. in the manufacture of pig iron, but in the latter part of this year (1915) the consumption of this ore will be increased by the "blowing in" of the Minnesota Steel Co. furnaces located at New Duluth, occupying 1500 acres with a two mile water frontage and connected by the Spirit Lake Transfer and Interstate Transfer Railways with all railroads reaching Duluth.

This plant will consist of two blast furnaces, 500 tons daily capacity each, ten open hearth furnaces, each 75 tons capac-

CLUB HOUSE, TROUT LAKE.

ity, four 4 hole soaking pits, one 40 in. reversing blooming mill, one 28 in. finishing mill, one 16 in. contiouous roughing train with

3 Stand 12 in. finishing
2 Stand 10 in. finishing } Motor driven
2 Stand 8 in. finishing

and ninety by-product coke stoves.

At this site the company have built 175 modern houses for employes.

At Sharon and Mountain Iron drying plants have been installed to reduce the quantity of moisture contained in certain grades of ore, which is accomplished by dumping the ore into large steel cylinders revolving over a fire bed.

At Coleraine, Minn., which is located in the Western

Missabe district, some of the ore is mixed with sand which in its natural state is not merchantable. To eliminate the sand a concentrating plant operated by electricity is located on the shore of Trout Lake, which washes this sand from the ore bringing it up to a high grade. This plant has a daily capacity of 20,000 tons of ore.

Needless to say that this enormous industry has caused the locating of these towns on the Range and, being almost entirely dependent on the mining industry for their existence and welfare, accounts in a large measure for the excellent living conditions and active interest taken by the com-

TROUT LAKE, COLERAINE, MINN.

panies in the welfare of employes. This is particularly true in the different sections of the town where employees live in homes provided by the mining companies, which are built and maintained with a view to comfort and sanitation. Club houses are also provided and equipped for the benefit of employees and governed by them, ample facilities being provided for recreation and sports and also advancement in studies pertaining to the mining industry.

The lumber industry is also an important factor in contributing to the prosperity of some of the Missabe Range towns, more particularly to the central portion, by reason of the large manufacturing plants located at Virginia having

SWAN LAKE, PENGILLY, MINN.

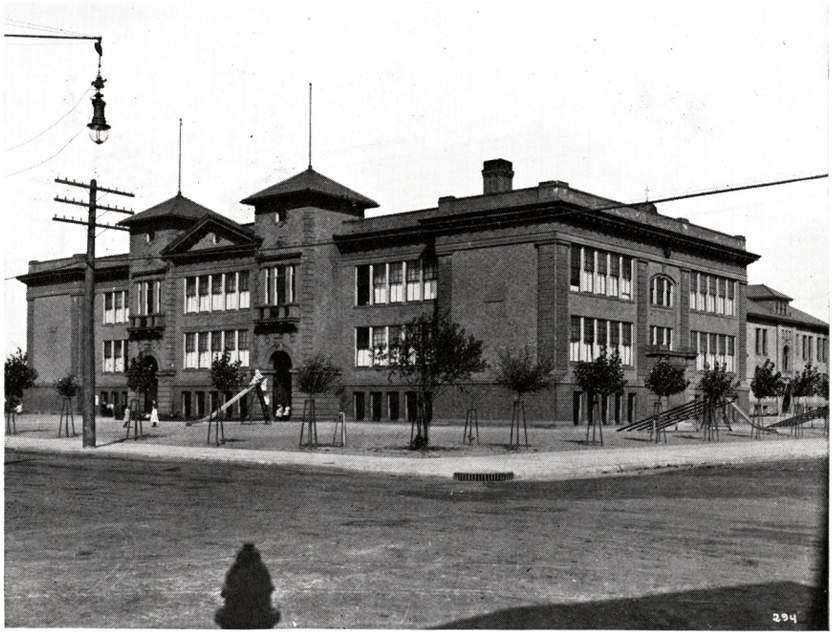
THE DULUTH, MISSABE AND NORTHERN RAILWAY COMPANY

PUBLIC LIBRARY, CHISHOLM, MINN.

the largest white pine saw mill in the country. The area north of Virginia extending to the Canadian border line, over 90 miles, furnishes the raw material for the mills.

Several years ago an electric car line was built across the Range from east to west connecting various towns which has added considerable convenience to the residents of the Range and greatly benefited retail dealers on account of quicker and easier communication between towns and locations short distances apart.

The effect of large mining and lumbering operations has placed these towns on a very substantial basis and the



SCHOOL BUILDING, HIBBING, MINN.

progress of the people is demonstrated by the excellent stores containing high class stocks of goods, large comfortable hotels, handsome churches, modern buildings and especially the schools, which are not excelled anywhere.

Minnesota being known as having the largest number of lakes within its border of any state in the Union, the Missabe territory is bountifully endowed in this respect which furnishes no small part of the pleasure to the people living there. Small streams also well stocked with fish are located here, providing sport to all who wish to avail themselves of this opportunity.

The two principal lakes are located on the Alborn branch

of this line. Swan Lake at Pengilly, 75 miles from Duluth is an ideal camping spot, and Trout Lake at Coleraine, with its 60 miles of shore line surrounded by woods, having excellent bathing beaches and dotted with small islands. An excellent hotel for the accommodation of tourists is located at Coleraine, a short distance from the lake, and row boats, canoes and motor boats are always available at the spacious club house at reasonable rates, making the pleasure and recreation in this warm and even tempered climate available to all.

What better trip than this can be taken, which so easily

COURT HOUSE, VIRGINIA, MINN.

and inexpensively gives one the instructions in the first steps of our principal industry and with the privilege and facilities of an outing excursion in this very interesting section of northern Minnesota.

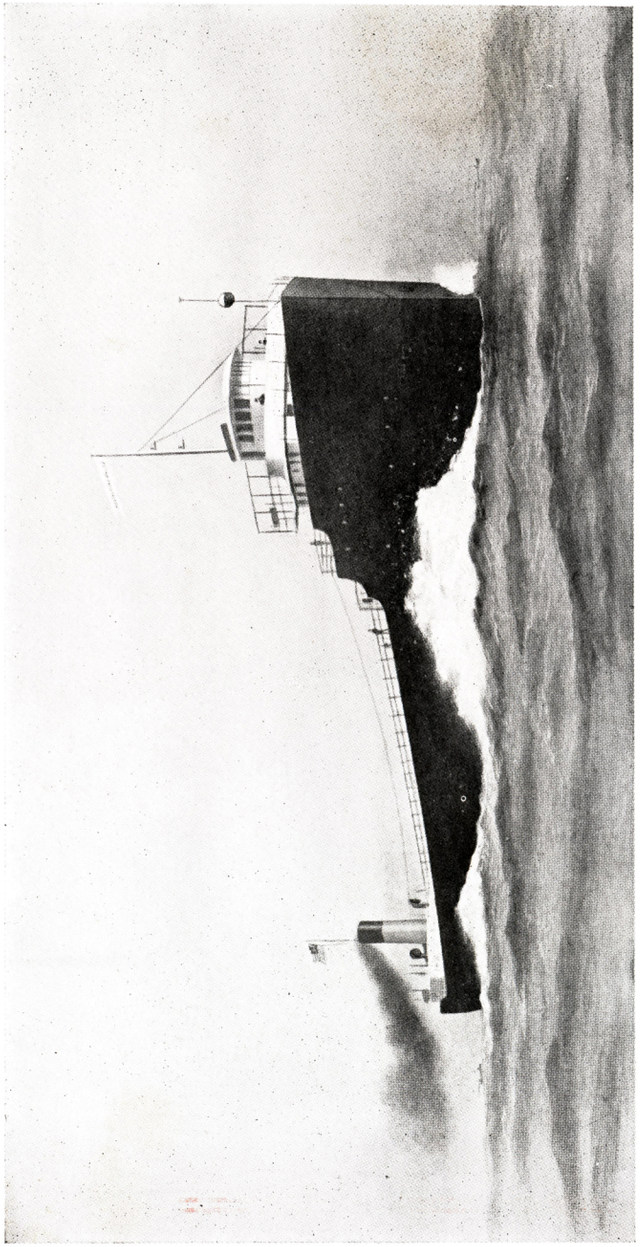
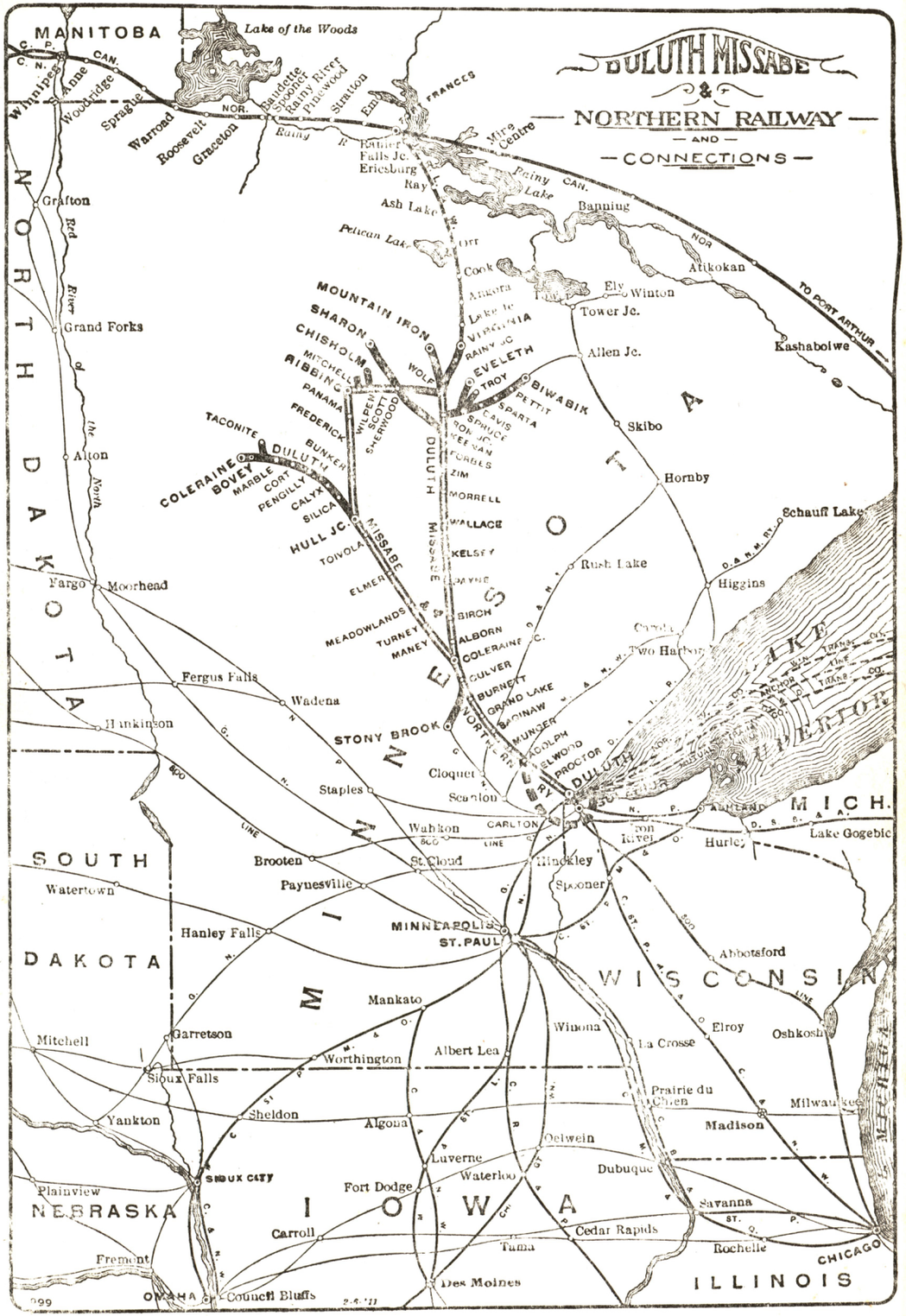
To reach this great iron ore producing region adequate passenger train service from Duluth to the most important Missabe Range towns (Virginia, Chisholm, Hibbing, Eveleth and Biwabik) is provided by the "Missabe Line," having three trains daily from Duluth, and for short trips to the Range service is so arranged that the mines can be seen and the return trip made to Duluth on the same day. To other

CONCRETE PASSENGER STATION, D. M. & N. RY.

RESIDENCE STREET, VIRGINIA, MINN.

points, Coleraine, Bovey and Marble, passenger train service consists of two trains daily. Steel passenger cars and elegant spacious observation cafe cars on each train, furnishing meals on a la carte plan, on "smooth as velvet" roadbed provided with double track on heavy steel rails (100 pounds to the yard) rock ballasted and steel ties on portions of the line, running thru a country which is proof of the industry and progress of the class of people in northern Minnesota by the evidence of the changes from a thickly wooded territory to one of small truck farms, stock raising and small manufacturing plants. The general air of prosperity certainly makes the traveler appreciate this country and to judge by the expressions of the thousands who have made this trip, it is considered "worth-while."

THE DULUTH, MISSABE AND NORTHERN RAILWAY COMPANY



BOUND FOR DULUTH FOR CARGO OF IRON ORE. 600 FEET LONG. CAPACITY TWELVE THOUSAND GROSS TONS