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Ore Docks and Trains: The Great Northern Railway and the Mesabi Range

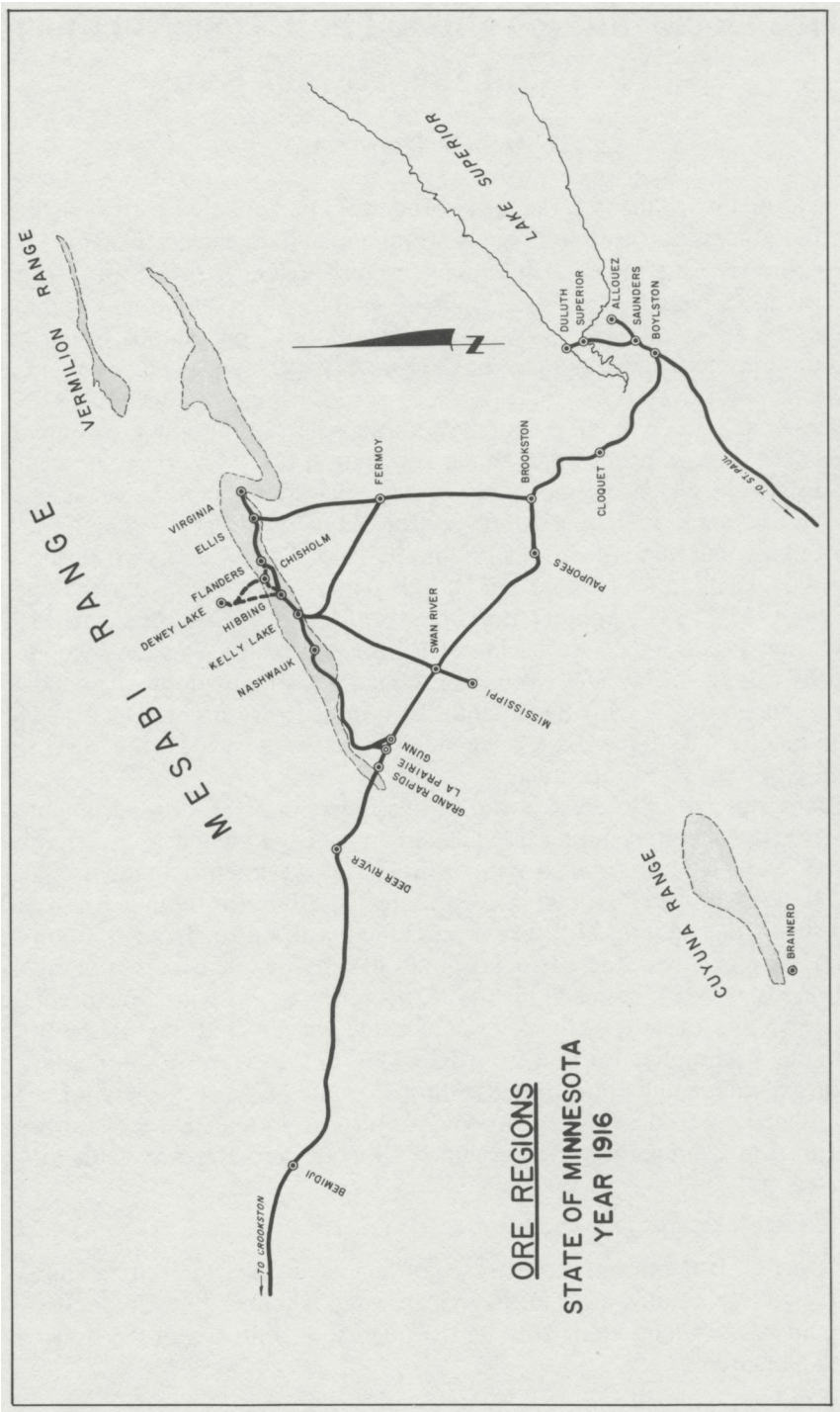
By Don L. Hofsommer

The history of the iron ranges in Minnesota is checkered with the names of individuals and corporations as prominent and diverse as the Rockefellers, the Merritt Brothers, Charlemagne Tower, Henry W. Oliver, Andrew Carnegie, United States Steel Company, and the short but brawny Duluth, Missabe & Iron Range Railway. Less well known but equally important in the long-term development of the ranges are James J. Hill, the Great Northern Railway (GN), and its successor, Burlington Northern (BN).

Interest in the mineral potential of northeastern Minnesota grew rapidly after the first iron ore mine began production on the Vermillion Range in 1884. The absence of adequate waterways to float ore to Lake Superior led to the creation of the Duluth & Iron Range Railroad for the purpose of linking that mine, near the present village of Tower, and Two Harbors, on the lake 27 miles northeast of Duluth. The first train of ore was shipped on July 31, 1884. Another important ore discovery was made in 1889 on what became the Great Mesabi Range and resulted in the inception of the Duluth, Missabe & Northern Railroad. This railroad initially handled ore cooperatively with the Duluth & Winnipeg Railroad (D&W). The Cuyuna Range, to the west, opened later and was served by the Soo Line and Northern Pacific Railway.¹

James J. Hill's interest in the Minnesota regions and in the potential for traffic that they represented dated from 1883, when S. P. Ely and other local leaders tried to entice him into investment; somewhat later H. K. Porter offered Hill an interest in the Duluth & Iron Range Railroad. At that time, though, Hill was preoccupied with railroad construction in the West and was forced to postpone his involvement in northeastern Minnesota. When he made his move, however, it was with typical vigor. In 1887, the Eastern Railway of Minnesota was created, and in the next season, it completed a line from Hinckley to Superior. Additional construction and acquisition forged a through route between the Twin Cities and the Head of the Lakes. Moreover, Hill also established the Northern Steamship Company, which connected the Eastern Railway with trunk

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The principal iron ore regions in Minnesota, ca. 1916. (Author's collection)

railroads serving Buffalo, New York. In that way, Hill was well positioned to expand onto the iron range and into carriage of ore.²

Of particular interest to Hill was the Duluth & Winnipeg Railroad. By autumn of 1892, this company had completed 100 miles of line from Superior northward to the Mesabi Range, owned substantial properties near Superior on Allouez Bay, and had secured a contract to handle ore from mines located on the Duluth, Missabe & Northern Railway. The first shipment from the Mesabi Range was duly billed at Mountain Iron mine in October 1892. As the tiny 20-ton-capacity car rolled out of the mine yard, said a journalist on hand for the event, it "was sent on its way with a fusillade of gun shots, screeching of whistles from steam shovels and locomotives, and the shouts of the entire assembled population." This car arrived at the Head of the Lakes with nine others but was cut out of the train and placed on display in Duluth at Northern Pacific's depot. "Its arrival here marks the era in advancement that will be one of the most important in head of the lake history," wrote an enthused representative of the *Duluth News-Tribune*. On October 31 the reassembled train was taken to Superior and then to Duluth & Winnipeg's dock at Allouez, where the contents of the cars were dumped into pockets of the company's new dock and thence into the waiting hold of a whaleback barge.³

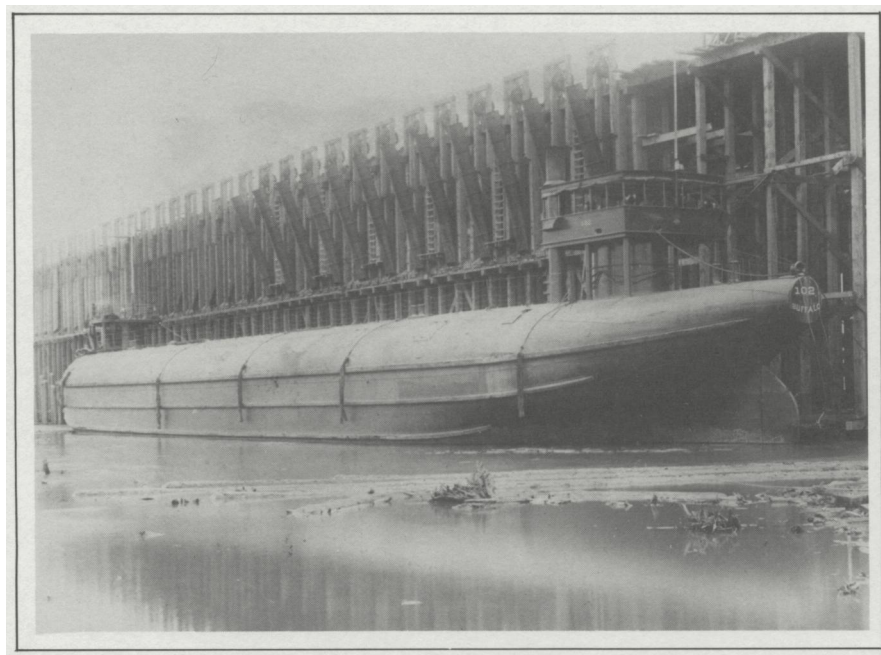
The Duluth & Winnipeg would clearly complement the Eastern Railway of Minnesota and would offer strategic opportunities for the Great Northern as well. Hill wanted the D&W. On the other hand, the local road was similarly attractive to the Canadian Pacific Railway. The Canadians viewed the D&W, once completed from the Lakehead to Winnipeg, as a means of linking Soo Line and Duluth, South Shore & Atlantic—in which roads the Canadian Pacific held stock control. Indeed, friends of the Canadian road succeeded in gaining control of the D&W by January 1893. Hill had been outmaneuvered.⁴

His setback proved temporary, however. New owners did not complete the D&W as they had planned, the panic of 1893 brought the road severe losses, and ore producers canceled their contract with D&W when rival Duluth, Missabe & Northern was extended to Duluth. Receivership for D&W was predictable; the local road emerged as the Duluth, Superior & Western Railway (DS&W). After complicated negotiations, Hill in 1898 arranged for the Eastern Railway to acquire DS&W and its subsidiaries, including 10,000 acres of land on the Mesabi Range.⁵

Another important acquisition followed in 1899 when owners of the Duluth, Mississippi River & Northern sold their logging railroad and 25,000 acres of land in St. Louis and Itasca Counties to Hill for slightly more than four million dollars. But Hill was not content; more investment followed. In 1912, he would report that 65,000 acres—about one-third of the Mesabi Range as then defined—were "held for GN shareholders."



The first train of ore is delivered to the docks at Allouez, Minnesota. (Author's collection)

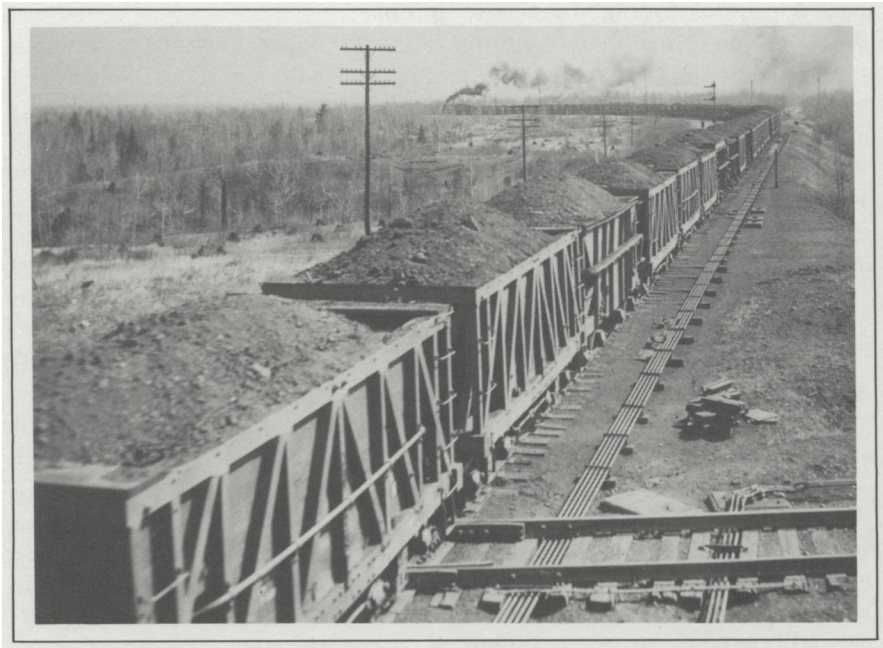


Whaleback No. 102 received the "red dust" from the Mesabi Range and delivered it to Cleveland, Ohio. (Author's collection)

Hill explained what that meant: "The Great Northern never owned them. . . . But it was a transaction that came to me in dealing for the company . . . and I turned those lands over to be held for the benefit of the shareholders of the . . . railway." It was necessary, Hill noted, to keep these iron ore properties separate from the railroad since the company's charter did not authorize mining.⁶

To these properties were added others. All were eventually entrusted to Great Northern Iron Ore Properties, which eventually concluded a contract with United States Steel to satisfy the latter's need for a continuous and adequate supply of ore. Profits were good. GN shareholders held certificates of Iron Ore Properties, which they were free to sell, and they received regular payments on them. Nevertheless, all of this excited the energies of progressive reformers who were suspicious of Hill's motives and at the same time feared the power of U.S. Steel. That company, frightened by the prevailing political mood, soon canceled its lease. Demand remained high, nevertheless, because World War I was in the offing.⁷

Throughout his tenure Hill ordered increased capacity and, typical of his philosophy, improvements in rail properties designed to enhance efficiency. The Fosston line, for example, not only represented a new and



The demand for Mesabi ore skyrocketed during World War I. (Author's collection)

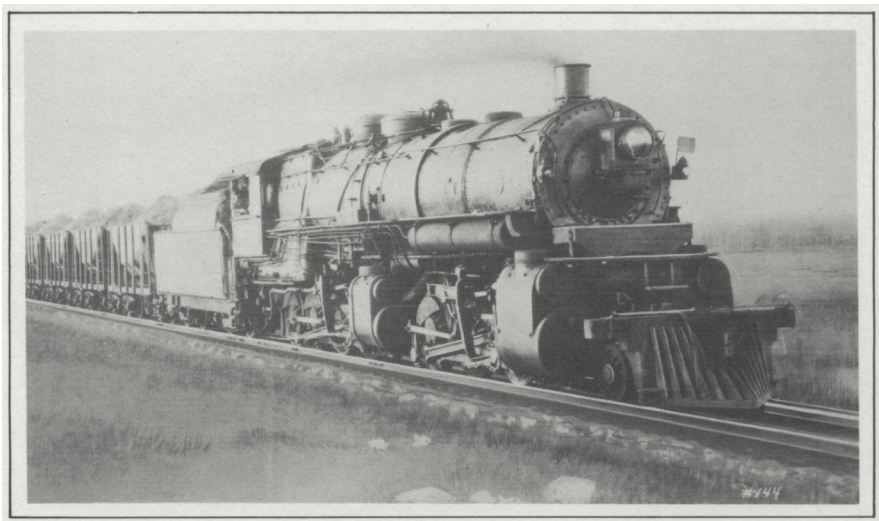
direct connection between the Head of the Lakes and GN's route to Puget Sound, but with improvements on its eastern end, allowed greater carrying capacity for iron ore traffic with lower operating expense. The Fosston line was completed in 1898. Fingers were added as mining increased: Ellis to Brookston, 47 miles, in 1901; Kelly Lake to Nashwauk, 10.5 miles, in 1902; Kelly Lake to Flanders, 9.7 miles, in 1903; Kelly Lake to Fermoy, 23.4 miles, in 1907; and Nashwauk to Gunn, 22 miles, in 1909. Double track, longer and more numerous passing tracks, and heavier and deeper ballast all pointed to Hill's devotion to efficiency of operation.⁸

It was much the same in terms of transloading facilities at Allouez. One dock came with the acquisition of Duluth, Superior & Western properties in 1898, two other docks were added early in the new century, and another in 1911. These four boasted a whopping aggregate capacity of 378,630 tons.⁹

Not surprisingly, Hill also concerned himself with increasing the capacity of ore cars as well as motive power to pull them. In 1898, Eastern Railway had ordered Mogul (2-6-0) and Prairie (2-6-2) locomotives for ore service on the range, but these were replaced in 1910 by 2-6-8-0 Mallet locomotives capable of lugging much heavier trains to and from the docks. Indeed, the 20-ton-capacity cars of 1898 had given way to those of 39 long tons (2,240 pounds) in 1906; ore trains averaged 1,306 long tons that year. By 1914, however, cars averaged 42.2 long tons of load, and trains averaged 7,859 long tons.¹⁰

The entire ore-handling operation called for skill in planning and execution. It also called for heavy expenditures in plant and labor. Whether it served a large shipper or a small one, the railroad was obliged to transport empty cars to loading spots, pick them up when ready, and move them to the classification yard at Allouez, where they were weighed and sorted. It sounded easy. In reality, though, the loaded cars had to be stored until a sufficient tonnage of specific grades was assembled for a consignee, and until a sufficient tonnage was assembled to meet orders for a particular vessel. Only then were cars shoved out on the docks to be unloaded into pockets according to strict blending instructions.

Many were the variables that the company had to contend with. Unloading the cars was difficult, requiring stout men adept in the use of poles and hammers necessary to encourage stubborn ore from the car. Cold weather magnified the problem; steaming was required to thaw the ore, additional switching increased the cost of handling, and all the handling was fraught with danger to life and limb. Moreover, lake vessels were frequently in short supply, were tardy in arrival, or arrived in great numbers with each master demanding immediate loading for his vessel. A late spring or the early onset of winter always disrupted order. Nevertheless, Hill was clearly proud of operations on the Mesabi. "I will undertake to say that never in the whole world has the same amount of track moved the same tonnage, or approached it," he boasted.¹¹



These curious-looking but perfectly effective 2-6-8-0s increased trainloads on the Great Northern. (Author's collection)

In 1906, the Eastern Railway moved about 6 million long tons of ore from the range, or about 25 percent of the total shipped that season. In 1912, the Great Northern (as successor to Eastern) handled nearly 14 million tons, or more than a third of all ore shipments from the prodigious holdings of the Mesabi. In 1916, the year James J. Hill died, GN served forty-one mines, which originated 11,093,753 long tons of ore delivered to the docks at Allouez, where no fewer than 1,259 vessels called during that year alone. Hill would have smiled in approval.¹²

Another aspect of the Mesabi business that would have pleased Hill was the growing efficiency of train operation. Even after improvement to the line and the introduction of powerful articulated locomotives, the cost of providing transportation remained high. To improve the situation, senior management called on Charles O. Jenks, an operating officer with a passion for reducing train miles and locomotive miles while raising morale and increasing productivity. In 1913, trains of empty cars for Kelly Lake (near Hibbing) averaged 12 hours en route; trains of ore took an average of 12 hours and 46 minutes to reach Allouez. During the next season, however, Jenks drove down the elapsed time to 10 hours and 48 minutes and 10 hours and 40 minutes, respectively. Later, Frank J. Gavin, who would eventually serve as president of GN, instituted what he labeled the "B&SH policy"—breakfast and supper at home—which was designed to get round-trips within the service requirements (maximum of 16 hours). Crews understandably preferred to have their layovers at home and worked to that end; so did the company, since getting trains over the road reduced its operating ratio. Reducing locomotive and train miles, of course, re-



Locomotive No. 222 was in charge of 150 loads heading from Kelly Lake (near Hibbing) to Allouez on June 23, 1923. (Author's collection)

flected Hill's devotion to efficiency in producing ton miles—a devotion that had become institutionalized as the cornerstone of GN's corporate culture. Nowhere was that more evident than on the Mesabi Range.¹³

During the first two decades of the century Great Northern's customers were many and ranged from those shipping only a few cars to those offering huge quantities. Major shippers included Mahoning Ore and Steel Company; Jones & Laughlin Steel Corporation; Pickands, Mather & Company; Tod Stambaugh Company; and M. A. Hanna Company. This diversity predictably proved to be an asset and a liability since the needs of shippers' customers varied greatly, depending on the grades of ore and the volumes required. As a consequence, more and more cars were held for mixing and blending, and GN sometimes had to swap tonnage with Duluth, Missabe & Northern to satisfy disparate mixing needs.¹⁴

The country's involvement in World War I produced mixed results for GN—at least in terms of its Mesabi business. Tonnage moving to the Allouez docks averaged 11,603,180 in 1917–18, up marginally from 1916 but far short of the 13,060,811 tons shipped in 1913. Part of the decrease was explained by policies of the U.S. Railroad Administration, which, during the period of federal control, diverted tonnage to rival Duluth, Missabe & Northern. On the other hand, rates on iron ore rose from 55¢ per gross ton in 1915–16 to 63.5¢ in 1917 and \$1 in 1918. These tariffs included charges for the line haul and for unloading, dockage, and storage.¹⁵

Except for a sharp slump in 1921–22, times were good on Minnesota's iron ranges during the 1920s. This was reflected, for the most part, by the experience of GN. Traffic averaged 14.2 million tons annually for the years 1923 through 1929. The average revenue tonnage per ore train nearly tripled (to 13,354 tons in 1929), but the average time per round-trip of roughly 220 miles fell to 12 hours and 4 minutes. Other records fell, too. In 1927, the largest ore cargo shipped to date from the Head of the Lakes in one vessel (14,532 tons) left the Allouez docks aboard the steamer *Donnaconna*. To improve efficiency, GN acquired larger ore cars with larger dump doors and provided dock workers with pneumatic tools to speed the unloading process. Between 1918 and 1928 the company also renewed docks 1, 2, and 3. These improvements were necessary to accommodate traditional customers and new ones such as Butler Brothers and the Wisconsin Steel Company, a subsidiary of International Harvester.¹⁶

Net revenues during the 1920s suffered, though, when the Interstate Commerce Commission ordered rate reductions to ninety-one cents, and GN's managers worried that its major competitors, Duluth, Missabe & Northern and Duluth & Iron Range, would request even further reductions. In fact, "independent producers" such as Jones & Laughlin constantly pressed U.S. Steel to lower rates charged by its two "ore roads." Furthermore, the nation's premier steel manufacturer was no doubt concerned with possible political repercussions if it did not appear cooperative. The other railroads serving the iron ore industry of Minnesota, Wisconsin, and Michigan were in agreement against reducing tariffs, however, because of flat earnings from general traffic. Indeed, at least three major railroads—Chicago & North Western, Northern Pacific, and Great Northern—sought to solve this problem by independently seeking to acquire U.S. Steel's ore roads, but to no avail.¹⁷

The year 1929 proved to be a banner season for GN in the movement of ore: 17.4 million tons passed through pockets of the company's docks. But it was not to last. Good times disappeared, sad to say, when the Great Depression hit the nation's basic industries with a vengeance. Shipments from Allouez zigzagged throughout the 1930s, averaging only 9.5 million tons annually. In 1932, the docks handled a mere 692,651 tons, but five years later they moved 20,271,959 tons. In fact, in June 1937, GN loaded an average of 2,005 cars and eleven vessels daily. Nevertheless, billings plummeted in 1938.¹⁸

Hard times forced several major railroads—including a number of those in the ore-carrying trade—into bankruptcy. GN survived, but the decade gave its managers a very bumpy ride. Senior officers complained bitterly of expenses in maintaining four docks at Allouez and flatly refused to authorize improvements on the range. That did not mean, however, that the company lost its aggressive instincts. Indeed, it spent money to determine if another massive range lay undetected between the Mesabi and Cuyuna fields, and it attracted important new customers.¹⁹

Although there was no weeping at GN or on the Iron Range when the Great Depression passed, neither was there rejoicing that World War II was required to bring about renewed economic vigor. Ore business was good in 1940 and boomed during the war years of 1941 through 1945 when GN handled an annual average of 24.9 million tons; billings in 1942 led, with 28.7 million tons. Indeed, in that season no fewer than 2,824 vessels loaded at Allouez, 21 of them in one day alone. The docks themselves were fortunately in adequate repair, and in 1941 the company built a steam plant that could thaw eighty-eight cars at one time. The sprawling yard at Allouez was similarly well established and in good condition.²⁰

Train operations during the war years were much as they had been previously, benefiting greatly through investment to plant made during the years before. In fact GN's well-engineered route to the Head of the Lakes was the envy of competitors. Trains of 180 or more empties were dispatched from Allouez via Swan River to Kelly Lake—GN's hub on the range—against a ruling grade of 1.0 percent. Loads returned via Brookston against a minor 0.3 percent grade or via Gunn with a slightly steeper 0.4 percent grade. Road power usually took the form of giant N-3 Mallets of 2-8-8-0 wheel arrangement.²¹



The ore docks bustled with activity during World War II. (Author's collection)



The Great Northern's 2-8-8-0s (N-3) like No. 2018 shown here supplanted 2-6-8-0s in the ore-carrying trade. (Author's collection)

The mere volume of business caused periodic difficulties accentuated by the growing need to mix and blend several grades of ore to meet furnace demands. In 1944, for example, one grade consigned to Inland Steel Company involved ore from fifty mines operated by nine companies. Problems of this nature put a brake on GN's ability to move ore through the docks and caused consternation among maritime interests under the same wartime pressures as were the railroads. Also, a large tonnage of ore received by GN from mines located on Duluth, Missabe & Iron Range (formed in 1937 through merger of U.S. Steel's Duluth & Iron Range and Duluth, Missabe & Northern) and Northern Pacific frequently delayed delivery to the lakers.²²

Loadings fell in 1946, owing to a miner's strike and delays in retooling American industry from a wartime to a peacetime economy, but then shot upward in a mirror image of the postwar boom. Demand for steel seemed insatiable. As in the past, GN was in a position to profit. The company opened numerous additional mines along its tracks during and after the war, constructed new beneficiating plants to process lower-grade ores, and established a minerals department with competent staff personnel. Increased investment in plant followed. During the years following the war, car shakers and additional steaming facilities were installed at Allouez, new and larger cars were added to the fleet, two-way radios were provided on locomotives and cabooses, teletype communications was established between Allouez and the range, electronic weighing and



The need to mix and blend several grades of ore to meet furnace demand required massive but precise switching. (Author's collection)

recording devices were installed, and more efficient diesel locomotives would replace steam as motive power by the mid-1950s. (With diesels a crew could make an Allouez-Kelly Lake turn in under 9 hours—handling 190 empties upbound and 190 loads in return.) These advances, GN's managers quickly noted, were matched by water carriers. In 1951, for instance, the steamer *Sykes* took on 19,888 tons at Allouez. Indeed, water carriers complained that GN's docks, only 200 feet apart, impaired the maneuverability of the large, new vessels, and eventually dock number 3 was removed to improve the situation. John M. Budd, GN's president, summed it up: "The drama of the ore movement has always been impressive to me; the movement is in no way a simple one when considered in all of its facets."²³

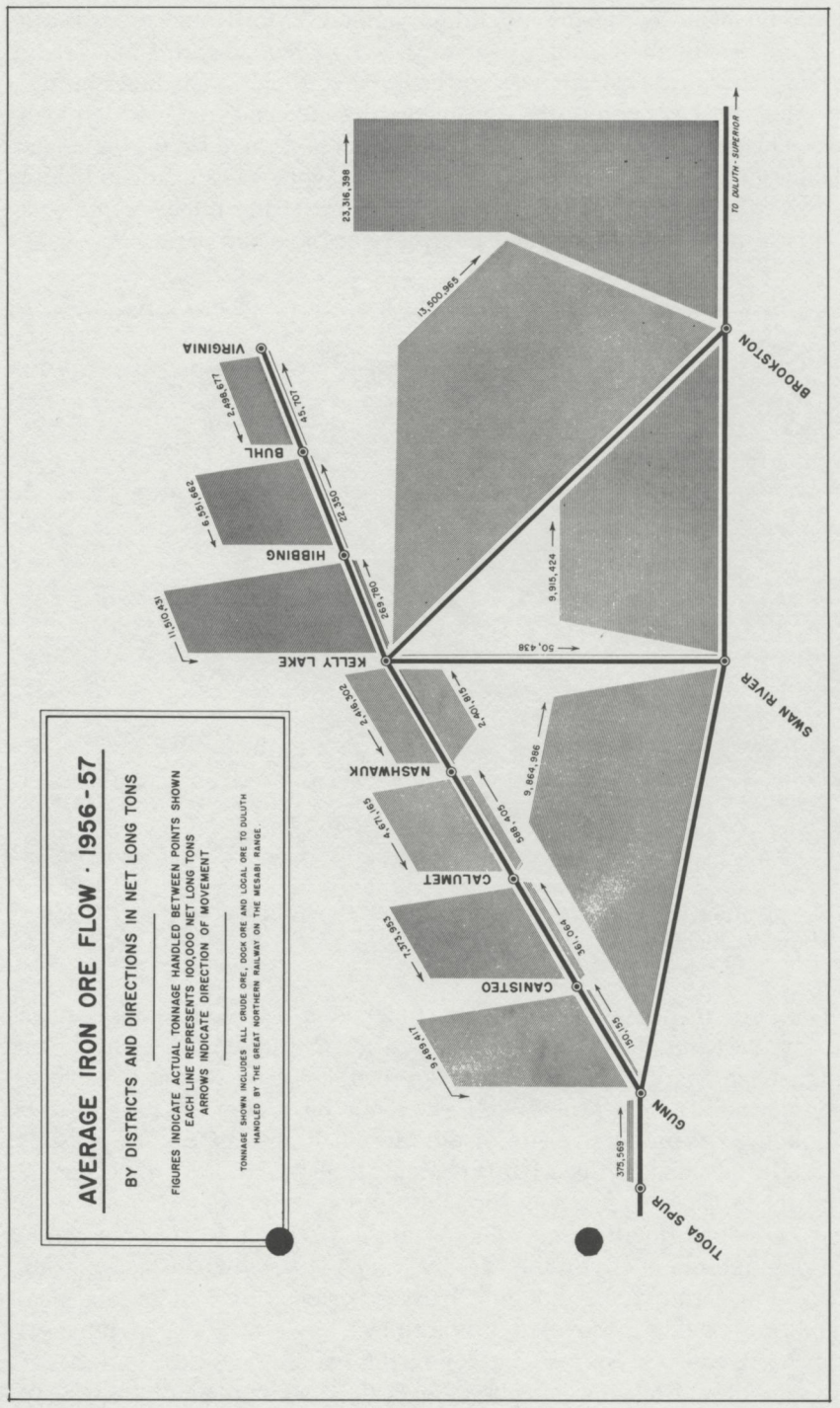
One facet that Budd found unpalatable, however, was the matter of rates on ore. These remained stable at 92¢ from 1938 to 1946, when they were raised very modestly to 95.5¢. Additional requests for rate increases were fought by shippers, who wished to keep their costs down, and by the state of Minnesota, which wanted to maintain the competitive position of the state's iron ranges. Great Northern and, indeed, all other ore carriers save U.S. Steel's Duluth, Missabe & Iron Range (which was so dependent

on ore business—a business that had yielded DM&IR enormous profits since 1939) found it hard to secure a sympathetic hearing on general increases because DM&IR was so flush. Nevertheless, advances brought ore rates to \$1.05 before the end of the decade, and to \$1.40 ten years later. This represented a mere 167 percent increase *since 1916*—an incredible bargain for customers when compared with vessel and unloading charges; the vast increase in the value of ore at the mine; or the Lake Erie base price, insurance, and interest over the same period.²⁴



Diesel locomotives gave the Great Northern flexibility as well as efficiency.
(Author's collection)

The issue of rates, GN managers understood, had to be considered in the broadest possible way, especially after World War II. On the one hand, managers wished to maximize profits for GN; on the other hand, they were obliged to protect GN's revenue base over the long term by prolonging the productive life of the Mesabi Range as long as possible. After all, GN handled nearly 30 percent of all "lake ore," and revenues from its carriage were unquestionably important to the company's fortunes. Great Northern's Frank Gavin said in 1947 that he "did not believe that the high grade ore on the Mesabi Range will be exhausted in a short time." Furthermore, he thought, "past experience has shown that additional ore is being discovered all the time." Seven years later, however, John M. Budd, Gavin's successor in the executive suite, took a very different view. Budd was concerned over the development of ore reserves



(Author's collection)

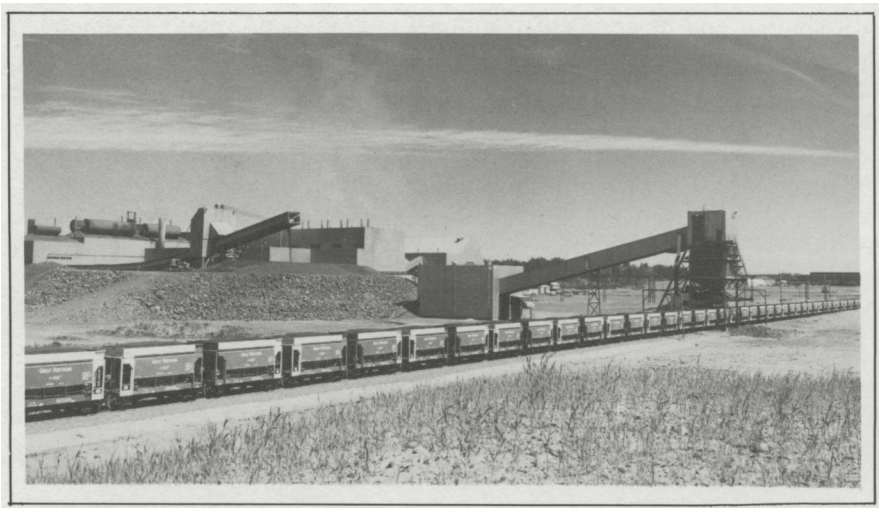
in Labrador and its competitive impact in conjunction with a completed St. Lawrence Seaway project. Budd was frankly worried over GN's future on the Mesabi Range. He wondered: Should the company look into the possibility of creating a new traffic base in taconite?²⁵

In retrospect, it is hard to understand why GN—with the long shadow of James J. Hill and his progressive views shading its corporate culture—was so slow in responding to the depletion of high-grade ore. As early as 1944, E. W. Davis of the University of Minnesota had complained that the iron ore mining companies were doing little to develop plans for the utilization of low-grade ores. He urged several railroads, including GN, to promote research with taconites. GN's Vernon P. Turnburke agreed that there was a problem; Mesabi's high-grade ores might be exhausted within fifteen years, he predicted. Meanwhile, mining concerns finally took up the matter and by 1950 proved that it was economically feasible to crush taconite, separate the waste, and concentrate the remainder into pellets containing 64–68 percent iron and suitable for the needs of the steel industry. Oliver Mining, Reserve Mining, and Erie Mining soon announced plans for pellet production—but none of their plants would be located on GN. This was partly because most magnetic ore (for which processing technology had been adopted) was located away from GN lines while much of the nonmagnetic ore (for which no adequate technology had been developed) lay in the company's service area.²⁶

To meet that problem GN in 1956 determined to sponsor an innovative two-part research project with the universities of Minnesota and North Dakota in an effort to find an economical means of processing nonmagnetic taconite into usable concentrates. This venture yielded a mixed outcome. The results showed that nonmagnetic taconite responded to a roasting-magnetic method, that the concentrate obtained could be upgraded to meet the needs of the furnaces, and that North Dakota lignite was a satisfactory fuel for the roasting process. Unfortunately, though, the study did not establish the economic practicability of the method, and consequently no mining company embraced commercial utilization of the roasting-magnetic process for nonmagnetic ores.²⁷

In any event, partly as the result of GN's geological research, magnetic ore was discovered in the western reaches of the Mesabi Range, and after Minnesota voters approved a constitutional amendment in 1964 that guaranteed taconite processors a nondiscriminatory tax for twenty-five years, the location of beneficiating plants along GN lines was assured. Construction of two installations, that of National Steel at Keewatin and that of Butler Taconite at Nashwauk, was followed almost immediately by production.²⁸

A new and important chapter in GN's seven-decade association with Minnesota's iron mining industry began in March 27, 1967, when a unit-train carrying 13,000 tons of marble-size taconite pellets left the \$56



The Butler plant at Nashwauk, Minnesota, sent its first train of taconite pellets early in 1967. (Author's collection)

million Butler plant at Nashwauk bound for Allouez. Then, on April 14, the Hanna Company's *Joseph H. Thompson* nudged up to the dock to take on the first load of Mesabi pellets. The usual loading procedure was considerably modified, however. In fact, to handle the pellets, GN was obliged to create a huge stockpiling complex near the docks. It was equipped with an expensive traveling stacker, bucket wheel reclaimer, and sophisticated conveyer system capable of charging the pockets on dock number 1 at the rate of 3,000 tons per hour. Rail operations also changed. Trains could now make the trip from Lake Superior to the Mesabi Range and back in approximately 13 hours—including loading time—and pellets could move year-round instead of seasonally. In August 1967, National Steel's Keewatin plant went on line, and by year's end GN moved 2,074,360 tons of pellets from the range.²⁹

Another major alteration for GN had nothing to do with traffic in iron ore but rather with its very existence as a corporate entity. James J. Hill had long dreamed of merging the railroad companies that he controlled or had interest in, and he had unsuccessfully attempted a merger early in the century. His successors tried again during the 1920s, but they, too, had failed. Success came, however, on March 3, 1970, when Great Northern, Northern Pacific, and others were merged to form Burlington Northern Incorporated.

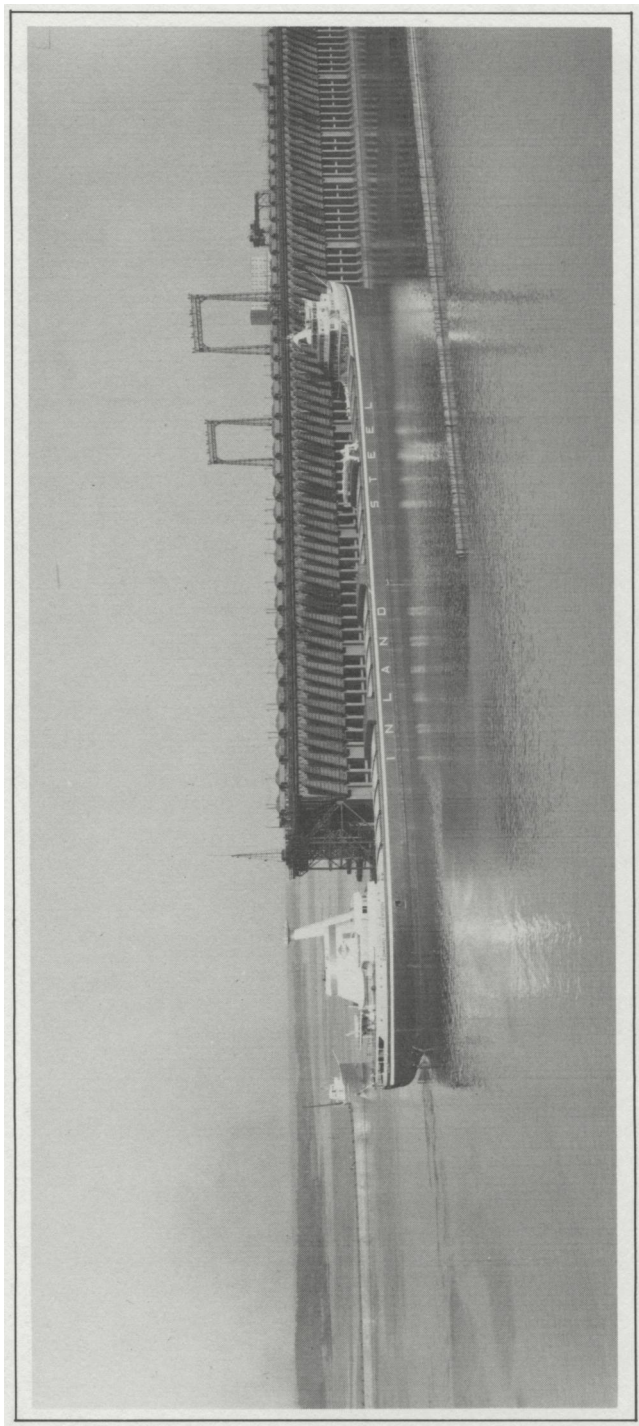
Although operational procedures under the BN flag remained much as they had been, important changes occurred in the natural evolution of business. Ore production on the Cuyuna Range, served by Northern Pacific, gradually subsided, and NP's dock was retired. New and more



The Great Northern's famous herald would pass when Burlington Northern was born on March 3, 1970. (Author's collection)

powerful diesel locomotives replaced older ones. While the haulage of high-grade ore declined, tonnage in taconite pellets rose. A spectacular new dock, number 5, was built, and huge new lake vessels—"thousand-footers"—came calling.³⁰

Other changes, well beyond the ability of the new company to control, were of far greater long-term significance. Total ore production on the Mesabi rose to nearly 70 percent of all production in the United States by 1974, but domestic output was essentially flat between 1967 and 1976. While domestic mine production stagnated, however, world production of ore more than doubled in the twenty years before 1978. Several factors

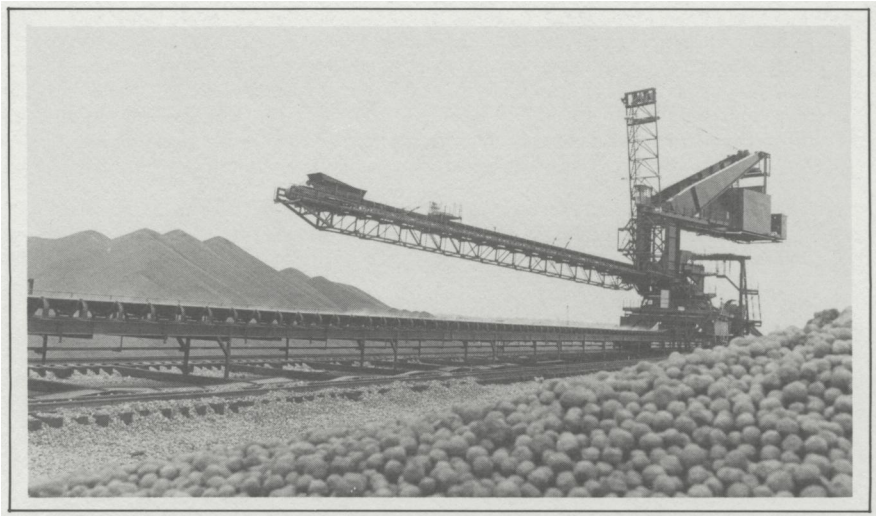


“Thousand-footers” came calling at Allouez. (Author’s collection)

were involved. One was the very growth in the use of taconite, which raised the average grade of ore; consequently, fewer tons were required to produce a given quantity of iron or steel. Additionally, American capital went overseas as investment in iron ore development, and new producing countries placed ore and even finished steel of superior quality on the market at rates that could not be met by domestic firms. Finally, economic factors at home—severe inflation in the late 1970s followed by severe recession in the early 1980s—combined with a general movement in the economy away from smokestack industries to further reduce demand for Mesabi ore and taconite. Thus fewer trains rumbled into Allouez and fewer lakers called at the docks.³¹

The future of the fabled Mesabi Range is difficult to predict. Open-pit potential of crude taconite ores of various treatable types likely exceeds 100 billion tons, the mining companies have large investments in leases and processing works, and BN and other area railroads have impressive if underutilized plants to affect delivery to huge lakers. All that is required is in place; demand is the critical variable. That demand has ebbed and flowed. In 1994, more than 9 million tons of pellets were moved by BN. Total production of pellets by Minnesota plants was over 42 million tons. And surprisingly, a modest amount of conventional, or “red,” ore moved to the Lake Superior docks.³²

If the future is hard to predict, the record of the past stands boldly in relief. Albro Martin, in his study of James J. Hill, concluded that “no



Burlington Northern's stockpiling machine at the Allouez taconite pellet handling facility was alternately busy and drowsy during the 1970s and 1980s. This reflected the varying demand in the domestic steel industry. Business boomed, however, in 1994. (Author's collection)

phase of Hill's long career seems more fortuitous" for GN's shareholders "than his involvement in the iron ore deposits of the great Mesabi Range." Contemporaries on the range saw Hill's presence somewhat differently but still very positively. For example, Hill's acquisition of the Duluth & Winnipeg and his subsequent expansion of GN to serve the iron ore industry was, in the view of Edward J. Longyear, "one of the most dramatic happenings ever to occur on the Mesabi." Moreover, says Martin of Hill, "probably no other business decision ever gave him so much pure satisfaction." Indeed, nearly a century of transportation service on the Mesabi Range by Burlington Northern and its predecessors clearly corroborates the views of Martin and Longyear.³³

Notes

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