

Marquette Ore Dock No. 6
Fifth to Lake Streets
Marquette
Marquette County
Michigan

HAER No. MI-45

HAER
MICH
52-MARQ
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
MID-ATLANTIC REGION, NATIONAL PARK SERVICE
DEPARTMENT OF THE INTERIOR
PHILADELPHIA, PENNSYLVANIA 19106

HISTORIC AMERICAN ENGINEERING RECORD

MARQUETTE ORE DOCK NO. 6

HAER No. MI-45

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MICH
52-MARQ,
1-

Location: From Fifth Street on the west to a position jutting into the Lower Harbor off Lake Street on the east between Main and Spring Streets in Marquette City, Marquette County, Michigan.

UTM 16.470120.5154000
Quad: Marquette, MI

Engineer: Merritt-Chapman & Whitney Corporation,
Duluth, Minnesota.

Date of
Construction: 1931-1932.

Present Owner: Wisconsin Central, Ltd.
One O'Hare Center
6250 North River Road, Suite 9000
Rosemont, Illinois 60018

Present Use: Vacant.

Significance: The Marquette Ore Dock complex is an excellent example of the final phase in the evolution of the iron ore pocket dock in American industry. It was near this site that the first pocket dock ever used in the iron ore trade was developed (1857) in Marquette. The dock and its approach are fine and intact examples of mid-20th century industrial technology. The dock is a model of construction efficiency having taken one year to complete this massive structure. Locally it is a monument to the important role played by Marquette and its ore docks to the development of the Great Lakes iron ore trade and the American steel industry.

Project
Information: This documentation was undertaken from June through August 1990 in accordance with agreements with Wisconsin Central, Ltd., the Interstate Commerce Commission, The National

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Park Service, and the Michigan State Bureau
of History.

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The former Duluth, South Shore & Atlantic (DSS&A) Ore Dock No. 6 is the physical legacy of nearly 140 years of history. Marquette was established in 1849 as a shipping point for iron ore which was extracted to the interior some dozen miles. The dock is located in Marquette, Michigan's Lower Harbor. The structure juts into the harbor off of Lake Street in the block between Main and Spring Streets. The approach to the dock, which is part of the overall complex, commences some five blocks or half a mile to the west at Fifth Street.

The industrial history of the central Upper Peninsula of Michigan begins in September 1844 when William Burt, deputy of the linear survey of the region discovered iron ore in the present city of Negaunee. This and other ore bodies were located some dozen miles from the shore of Lake Superior.

As a result of this discovery of iron ore, the Marquette Range was first developed because of the range's close proximity to transportation on Lake Superior. In 1845 a group of speculators from Jackson, Michigan headed by Philo M. Everett explored the area and opened the Jackson Mine at Negaunee. Within the year the first iron was mined from an open pit. A small iron forge was established at Carp River, a few miles to the east of the mine and early in 1846 iron blooms were made from the Jackson ore. Then in 1849 the Cleveland Mine near Ishpeming was developed and in 1850 about five tons of ore was shipped to New Castle, Pennsylvania. News of the high quality of the ore spread among iron men in Pennsylvania and Ohio. Approximately seventy tons of ore were shipped from the Jackson mine to Sharon, Pennsylvania in 1852. It was the first Lake Superior ore to be made into pig iron. This experiment emphasized the value of this ore and it was realized that better transportation facilities to and from Lake Superior were necessary. With the opening of the St. Mary's River Canal at Sault Ste. Marie in 1855 which finally by-passed the twenty-seven foot drop between Lakes Superior and Huron, improvement in transportation of ore had begun.

The development of the city of Marquette as the major point of embarkation began because of the excellent harbor which was improved over the years with the addition of a breakwater. In the summer of 1849 Peter White a future community and business leader and ten associates arrived to develop a new community. While awaiting Amos Harlow and his crew and equipment, they visited the mines in the interior. By 10 July 1849 the various parties met at the future site of Marquette and began to clear the land. Anticipating the arrival of a supply ship, the laborers under the direction of Sam Moody constructed the first dock at Marquette. It was a crude affair of piled logs, stone and sand located near the end of Baraga Street. Unfortunately during the night of the third day it was destroyed by a lake storm and nothing remained. After that time ships anchored a mile or two offshore and all

goods and passengers were taken ashore by lighter or if they could swim like animals or could be floated they were guided to shore. By the spring of 1850 there were a number of dwellings and shops concentrated at the foot of Baraga Street. The construction of a small dock allowed ships to land and ended the earlier inconvenience and inefficiency.

At first the heavy iron ore was shipped over rough roads through a wilderness filled with mosquitoes and black flies. In 1856 a plank road was constructed from the mines to Marquette. Later it was converted into a tramway and in 1857 it was supplanted by the Iron Mountain Railroad, the first in Upper Michigan. Previous to the construction of the railroad only 52,000 tons of ore were shipped and smelted at local forges. The entire output in 1857 was only 21,000 tons. Increased production brought the tonnage to 31,035 tons in 1858 and by 1860 it exceeded 100,000 tons.

Over the years the concept of the ore dock and ore boats evolved and was technologically refined as the demand for ore increased. When the first 1,447 tons of iron ore were shipped from Marquette there was no loading dock. After cargo had been stored in the hold of small schooners and steamers, ore was chiefly loaded on the decks.

The first ore dock ever constructed was built in Marquette's Lower Harbor in 1855 for the Jackson Iron Company by Jabez Smith of Sharon, Pennsylvania. It was located along the north side of the harbor where the Ellwood Mattson Park is located today. A wooden trestle extended from the end of Washington Street to the end of the dock. It gradually declined in height to about eight feet above the dock where the ore was unloaded or four and a half feet about the water level. At this time the ore was brought from the interior mines in four wheeled wooden wagons drawn by mules. The ore was shoveled from the wagons to the dock and then loaded into wheelbarrows and put into the hold of the waiting ships. It took twenty to thirty men three to six days to load a cargo of 200 to 300 tons. At that time the largest ships had a 300 ton capacity.

In the same year the Cleveland Iron Mining Company built a dock at the foot of Baraga Avenue. In contrast to the Jackson dock, the wagons proceeded onto the level dock where the ore was unloaded into wheelbarrows and reloaded aboard the vessels.

The first two docks proved to be inefficient. It was impractical to leave railroad cars loaded and standing idle until the arrival of a ship. In 1857 the Lake Superior Iron Company constructed a combination ore and merchandise dock at the foot of Main Street. This dock was 25 feet in height and was the first to have storage pockets for the ore. There were 27 pockets on the

south side of the dock with a capacity of 2,000 tons. It is interesting to note that at first ship captains feared that ore falling from a height would damage or possibly sink a vessel. These objections were soon overcome. Then in 1858 the Cleveland dock was reconstructed with 29 pockets and a capacity of 2,300 tons. Storage capacity was increased by raising the pockets to 30 feet while the mouth of the pocket remained at the same height.

The last of the pre-1868 ore docks was constructed in 1864 by the Bay de Noquet and Marquette Railroad. It was a combination ore and merchandise dock located on the site of Marquette Ore Dock No. 6 between Spring and Main Streets. It extended 600 feet into the harbor, was 35 feet in height with a capacity of approximately 4,000 tons.

In June 1868 disaster struck the community. A fire broke out in the center of the town and quickly engulfed most of the buildings and destroyed all of the ore docks except the Cleveland dock. During the rest of the season all of the mining companies used this dock which operated 24 hours a day. Due to the great demand, ships had to anchor offshore for one to three weeks.

The Bay de Noquet and Marquette Railroad constructed a new dock in 1869 on the site of its old dock of which 200 feet were spared in the fire. This dock was larger than any of the older docks and shows the technological improvements. It was 1,300 feet in length, 38 feet high, 46 1/2 feet wide, and each of its 120 individual pockets held 55 tons for a total capacity of 6,600 tons of ore. This dock was in operation until 1894.

Over the years other ore docks were constructed, extended or improved in Marquette's Lower Harbor. In 1905 the Duluth, South Shore & Atlantic Railroad began constructing what became known as Dock No. 5. It was constructed on the site of the 1864 and 1869 docks. The wooden dock was 1,236 feet in length, 71 feet high, 53 feet 3 inches wide, and its 200 pockets had a storage capacity of 40,000 tons of ore. The first boat was loaded in August 1906 and the last one left in November 1931.

The dock under consideration known as Ore Dock No. 6, is a direct descendant of the many ore docks which have stood in Marquette's Lower Harbor. DSS&A officials knew that the life of Ore Dock No. 5 constructed in 1905-06 was twenty-five years. As a result in 1926 the DSS&A Railroad began to develop plans for a new dock. At first there was talk of constructing a wooden dock but this idea was changed as a steel and concrete dock would be more practical, as evidenced by such a dock built at Presque Isle in 1896. Between 1926 and 1930 data were assembled, preliminary surveys made, and diamond drill tests made of the harbor bottom.

In 1930 the Chief Engineer of Duluth, South Shore and Atlantic reported that the timber ore dock could not be

maintained in a safe operating condition beyond the 1931 shipping season and that a new dock would have to be constructed as planned. The old dock was proving very expensive to maintain and operate. The average repairs costs between 1916 and 1930 amounted to \$14,000 annually. On account of the fire hazard, insurance costs were high, and watchmen had to be employed. Furthermore, from an operational standpoint the dock was obsolete. Due to its insufficient height from the water, the larger boats could not be loaded to their maximum capacity; considerable ore was spilled into the slips; and serious delays were encountered by all of the boats. Since quick dispatch was imperative during the shipping season the company was subjected to numerous complaints.

As early as March 1929 there was talk that construction would begin immediately, but final plans were not completed until the fall of 1930. Furthermore there were some technical problems to be dealt with by the railroad. At the end of the year the railroad received permission from the Marquette City Commission that it could proceed with construction.

At this time the South Shore Railway Company was without funds to build a new dock and without a dock it would lose its iron ore business which represented 25% to 40% of its total tonnage and 11% to 20% of its earnings. Obviously this would have a disastrous affect on the Company's earning capacity and on its bond-holders. The financial problems were fully explained to officials of the Canadian Pacific Railway Company. In order to protect the future earnings of the Company, Canadian Pacific advanced South Shore \$350,000 toward the cost of the new dock and made certain additional guaranties. A corporation known as the South Shore Dock Company, with a capital of \$10,000 (subsequently reduced to \$1,000), all owned by the South Shore Railway Company was then organized. The articles of association were filed at the Marquette County Court House on 11 March 1931.

The proposed site for the new dock was on a piece of property on which the Marquette, Houghton & Ontonagon mortgage dated 1 April 1885 was a first lien and was also subject to the liens of the DSS&A mortgages of 15 April 1887 and 17 July 1890. This property was deeded to the South Shore Dock Company after releases had been obtained from the Marquette, Houghton & Ontonagon and South Shore Railway Company mortgages, giving the Dock Company unencumbered title to the site. It constructed the dock at a cost of approximately \$1,350,000 and leased it to the Marquette, Houghton & Ontonagon Railroad Company for a period of 14 1/2 years at a rental of \$4,166.67 per month up to and including 30 November 1931 and \$8,350 per month from 1 December 1931 to 30 November 1945 in order to provide for interest charges and serial retirement of bonds. This lease was later assigned to the South Shore Railway Company.

To provide funds for this dock in excess of the money

advanced by the Canadian Pacific, the South Shore Dock Company executed a first mortgage and issued \$1,000,000 worth of bonds which were sold at 97, maturing serially to 1 December 1945 and pledged the dock and the lease as security. The payment of the lease rentals were guaranteed by the Canadian Pacific Railway which enabled the Dock Company to realize nearly par on its bonds.

The South Shore Dock Company later sold its property, subject to the Dock Company First Mortgage to the Marquette, Houghton & Ontonagon Railroad Company. This company immediately sold the same to the South Shore Railway Company subject to the Dock Company First Mortgage, the Marquette, Houghton & Ontonagon mortgage of 1 April 1885 and a supplement dated 31 October 1931.

The construction process began with the awarding of contracts. The first one was awarded in March 1931 when the Lake Shore Engine Works of Marquette was contracted to construct 150 hoists for raising and lowering the dock chutes. The second contract was let out on 1 April, to the Merritt-Chapman & Whitney Corporation of Duluth. This company was the successor to Whitney Bros. which specialized in the building of docks, bridges, heavy construction work of all kinds as well as river and harbor improvements. They would bring their experience to this project. The fabricated steel for the dock including the large steel ore chutes would be furnished by McClintick, Marshall Corporation of Chicago. Jernstad Electric of Ishpeming would install the electrical work and the Woden-Allen Company of Chicago was given the contract for furnishing all of the reinforced steel for the dock and its approach.

The labor force on the project was primarily from the Marquette area. Since this was 1931 in the heart of the Great Depression, prior to 1D April the Marquette Chamber of Commerce had requested the DSS&A officials to pressure Merritt-Chapman & Whitney to hire Marquette laborers. By mid-May rumors began to circulate in the community that out-of-town workmen had been employed on the site. A quick investigation showed that Merritt-Chapman, & Whitney had brought in their own engineers and men familiar with pile driving. The latter laborers were brought in because pile driving was dangerous for unskilled laborers and it would have taken three months to train a Marquette work force. At the time 75% of the workers on the site were from Marquette and it was pointed out that more laborers would be needed to construct the land approach. By 7 July the dock construction crew had reached its maximum size although a few more men might be added in the fall if unfavorable weather should slow up the operations which were running a little behind schedule. There were approximately 325 men working in two shifts. Given the nature of concrete work, these crews were employed 24 hours a day

while the rest worked two ten hour shifts. The percentage of Marquette workers remained the same. At the height of construction for a period of a month there were 340 men working on the site but by 9 September the figure had returned to approximately 250-275 men which was the average figure. Toward the end of the construction season in late October there were 290 on the payroll. As the dock neared completion in early November the demand for a large labor force and working in two shifts was ended. Since the start of construction there were both day and night shifts and this was reduced to the day shift. By February 1932 as completion of the dock approached the work force was down to 155 men.

Serious injuries on the work site were infrequent. However on 30 September, Floyd Balwanski fell 20 feet from the dock to the bottom of a pocket. He was taken to St. Luke's Hospital in Marquette with two right fractured ribs, a fractured wrist, torn ligaments and facial lacerations. It took him several months of recuperating before he returned to work. In mid-December the first fatal accident was reported since contractors began dismantling the old ore dock. Edward Magnuson of Twin Harbors, Minnesota fell from the dock into the water but struck a piece of floating timber. He died several days later from internal injuries.

The fact that dock construction work provided jobs for several hundred Marquette residents did not go unnoticed by them. In late January 1932 they contributed a percentage of their wages amounting to \$308 to the Family Welfare Agency of Marquette.

Work on the dock was blessed with excellent weather. There were a number of hot spells which drove temperatures into the 100s but they soon passed and Marquette's cool summer weather prevailed. Between April and September only half a day had been lost to the weather. This mild weather continued through December and allowed work to progress ahead of schedule.

The shipping season closed on 16 November with the loading and departure of the George R. Fink with Buffalo as its destination. Prior to the actual razing of the timber dock the chutes and hoists had been removed and taken to the DSS&A west yards where they were stored for future disposition. Between 60-70 men were employed razing the old dock which began on 1 December. Work progressed rapidly. The electrical work was dismantled and then attention was directed toward dismantling the steel trestle over Front Street. The DSS&A salvaged the larger timbers which were sold. The scrap wood, small timber and planing was shipped to the Schneider sawmill in north Marquette. The work of dismantling the old dock was all but completed in early February 1932 and by the end of the month the refuse material and

old timbers were removed from the site.

At the site of the new dock some last winterization was taking place in early December. The huge traveling crane which straddled the dock was used as a mount for booms. The latter were utilized to swing pockets, chutes, hoists, and other metal work into place. The crane was dismantled and stored for the winter. One tug and the barges, Four Spot and The Limit were wintered in Marquette. DSS&A cars were loaded with other pieces of equipment and shipped to Duluth.

Merritt-Chapman & Whitney reported in early February 1932 that the construction project was two months ahead of schedule and 1 March was to be the completion date. On the dock electrical equipment and machinery had to be installed along with general finished work such as cleaning and painting.

The dock was fully completed and ready for operation on 15 May 1932. The total cost to the companies involved was as follows:

Paid constructors.....	\$558,716.72
Material purchased.....	501,597.02
Freight charges on material.....	108,617.56
Rental of equipment.....	3.00
Land and improvements.....	32,863.48
Discount on bonds.....	30,000.00
Michigan mortgage tax.....	5,000.00
Engineering and other expenses.....	<u>86,616.82</u>
	\$1,320,414.60

The South Shore Dock Company expended the following monies:

From its own funds.....	\$350,000.00
From funds received from trustees on certificates Nos. 1 to 9, inclusive.....	\$593,184.48

The Duluth, South Shore and Atlantic Railway Company has expended:

From funds received from trustees on certificates Nos. 10 to 20, inclusive.....	\$374,635.12
From its own funds subject to reimbursement by trustees.....	<u>2,595.00</u>
	\$1,320,414.60

In the early part of June the U.S. Army Corps of Engineers announced that it would dredge the harbor to 24 feet for more efficient shipping. This was done in the latter part of June. Although the dock was completed the Depression economy

slowed its use. Most of the mines on the Range were closed since November 1931 because of the lack of steel orders. However the Ford Motor Company's Blueberry Mine in Ishpeming was open but operating at half capacity. It had accumulated a stockpile of 10,000 tons of iron ore which could be shipped from the new dock. DSS&A officials anxiously awaited the first shipment.

The new dock was put into service on 3 June 1932 when 30 cars arrived from the Blueberry mine and dumped the ore into the dock. On 6 June the Henry Ford II tied to the north side of the dock at 1:20 p.m. 10,103 tons of ore were loaded into the Henry Ford II by 4:08 p.m. and vessel left for the Ford Motor Company in Detroit. On 19 June the Henry Ford II returned and loaded 3,000 tons of Imperial Mine ore and 7,000 tons of Blueberry Mine ore. The actual loading time was 2 hours and 58 minutes. The loss of time was due to sticky ore from the Imperial Mine and a shortage of help.

Over the next 39 years the following tonnage was shipped from Ore Dock No. 6:

1932-	122,314	1946-	340,299	1960-	600,713
1933-	442,496	1947-	524,055	1961-	499,792
1934-	636,353	1948-	437,839	1962-	597,648
1935-	617,826	1949-	462,729	1963-	681,079
1936-	941,473	1950-	619,469	1964-	844,697
1937-	867,367	1951-	578,876	1965-	1,068,355
1938-	178,539	1952-	398,110	1966-	1,158,617
1939-	639,622	1953-	471,108	1967-	875,307
1940-	642,837	1954-	309,779	1968-	1,018,068
1941-	860,674	1955-	474,309	1969-	1,108,316
1942-	684,603	1956-	492,023	1970-	590,972
1943-	601,735	1957-	361-362	1971-	258,039
1944-	308,306	1958-	491,371		
1945-	516,436	1959-	628,577		

The greatest tonnage year for either Ore Dock No. 5 or No. 6 was in 1911 when 1,383,206 tons of iron ore were shipped.

When the dock was completed its dimensions were not exceeded by any dock in the Lake Superior region. It was composed of the following materials:

Dock:			
Structural steel.....	1,740	tons	
Concrete.....	28,650	cubic yards	
Reinforcing steel.....	1,370	tons	
CI snubbing posts.....	11.5	tons	
Hardware and iron.....	30	tons	
Piling timbers (each 25 feet above lake bottom)...	7,600		

Underwater timber cribs 560,300 FBM

Approach:

Structural steel.....	945.5 tons
Concrete.....	1,360 cubic yards
Reinforcing steel.....	9.35 tons
Hardware and iron.....	34 tons
Pilings.....	19,580 FBM
Timber.....	840,000 FBM

The length of the facility which includes the approach and the dock is 3,546 feet. The dock itself measures 969 feet from the beginning of concrete construction to the fender at the east end.

During its first year in service the dock handled a mere 122,314 tons. Planned in the prosperous 1920s it had potential for increased use in the future. Throughout its history the Ore Dock was maintained and improvements made but there were no major renovations which completely altered the nature nor utilization of the structure.

During World War II it operated efficiently although not at full capacity. Even in Marquette there was concern for espionage and on 8 July 1943, Walter Measure from the Continuous Security Branch of the Sixth Army inspected the facility. In a report issued on 20 July it was recommended that the railroad: 1) provide riot guns or sawed-off shotguns for its guards, 2) properly train the guards in the use of these firearms; and 3) increase the number of fire extinguishers throughout the timber deck area. Also during the war two wooden semaphores were placed at the end of the dock to signal approaching boats which side of the dock was available for loading. The dock entry lights were useful at night but during the day captains could not see them because of the glare. The semaphores were installed in May 1944.

Major improvements were made at the end of the 1947 season. The wooden fenders on the dock were rebuilt and pile drivers redrove the cluster piles. By mid-October the pilings for the protective fenders at the outer end of the ore dock had been redriven, but they had not been spaced nor the timber blocks installed. The cluster piles to the south near Ripley's Rock had been redriven and tied with cable. On the south side of the dock all of the pilings in the wood fender had been redriven but not cut off. The schedule called for work to be completed by the end of the month.

As the years passed due to the harsh weather conditions, repairs and improvements were constantly made on the dock. Early in 1953 it was observed that the overhead wiring on the upper deck had to be replaced. This work was completed by 1957. Poor lighting at the end of the dock caused a flood light and two

lights twelve feet above the fender to be installed in 1961. The electric hoist motors went through gradual maintenance and repair at the rate of two motors per year between 1956 and the early 1960s.

The last major repair program dated back to 1954, however during the early 1960s there were a number of seasons of heavy repairs made on the dock. During the winters of 1965-1966 and 1966-1967 general dock work was carried out along with the construction of approach posts, bridge piling and crib construction. Costly steel work on the chute liners and ore pocket doors and linings was also completed and the wooden decking and walkways were repaired. Finally the untreated dock timbers were replaced with rot resistant treated timbers.

Besides the maintenance to the structure there were concerns for the depth of the slips for ships. Silt build-up caused the company to take periodic and detailed soundings of the north and south slips. Although the depth might be adequate, off-shore winds lowered the water level to a dangerous minimum and thus dredging had to be done. In 1954 some 22,300 cubic yards were removed from both sides of the dock. Again in 1965 21,500 cubic yards were removed from the north side only. Ripley's Rock along the south side limited ships to a depth of 25 feet.

Over the years the Ore Dock had been owned by a number of railroads. On 11 March 1931 the South Shore Dock Company was incorporated to manage the facility for the DSS&A Railroad. This company was finally dissolved on 13 September 1943. The DSS&A was bought by the Soo Line in 1961 and the dock had new owners who continued to operate it as in the past. Finally Wisconsin Central Ltd. purchased the Ore Dock and other Soo Line properties in Marquette in October 1987.

Although time and the elements did not treat Ore Dock No. 6 well, the structure remained an important Marquette landmark. In 1967 it was the subject of a popular painting. Robert Thom of Birmingham, Michigan was commissioned by Michigan Bell Telephone to produce a painting of the structure which was unveiled in Marquette during Michigan Week (late May) in Marquette. This painting was part of a series dealing with Michigan history which are available through the Michigan Bureau of History in Lansing.

The life of the ore dock was based on the ore production of the once numerous small, independent mines on the Marquette Range. The Cleveland Cliffs Iron Company (CCI) which was the major producer on the Range had its own ore dock at Presque Isle in north Marquette. By 1970 the Ore Dock No. 6 was receiving most of its ore from the Tracy Mine in Negaunee which was owned by the Jones & Laughlin Steel Corp. This underground mine, which shipped its first ore on 10 September 1955, supplied iron ore to Jones &

Laughlin steel mills in Cleveland, Pittsburgh and elsewhere. In 1962 the mine reached its peak of production employing over 350 men. In early 1971 Robert Prittenen announced to a stunned and silent Negaunee city council meeting, attended by miners, that the mine would be closed. He cited the fact that the ore was unsalable on the market due to the fact that it was between 11-13% iron while pelletized ore was 63-66% iron. Construction of a pellet plant was not possible because the mine was only one-tenth the size of CCI's Mather Mine in Negaunee.

As a result of this development the 1971 shipping season at the dock was short. Fifty ships followed the first one which was loaded on 4 May. The last ore car left the Tracy Mine on 9 July and on 28 July the J. Hutchinson was the last vessel to load from the dock. Throughout the season only 258,039 tons of ore had been shipped from the Lower Harbor dock. Between 1932 and 1971, 23,951,090 tons of ore were shipped from the Ore Dock which averaged 598,777.25 tons per year. In contrast the season at the Lake Superior & Ishpeming dock at Presque Isle, which handled CCI ore, ran from 13 April to 8 December 1971 and 201 ships were loaded with 3,157,474 tons of ore. As a result the Soo Line made the decision to terminate service at the dock on 31 December 1971.

After the Ore Dock was closed in 1971 there were a number of attempts at reopening it, dismantling the structure, fighting legal action to have it removed and developed for reuse. With the development of ore pellets, whereby low grade iron ore was crushed, the waste removed, and a new enriched pellet created, the iron industry on the Marquette Range had a new life. One of the major projects on the Range was the development of the Tilden Mine. Early in 1974 officials with the Soo Line and Cleveland Cliffs Iron Company discussed the possibility of reopening the Ore Dock. At the time the Tilden Mine was expected to commence production on 1 July 1974 at the rate of 4 million tons per year. It was anticipated that this production would rise to 8 million tons in 1978 and by 1982 this figure would rise to 12 million tons. It was hoped that within 8-10 years the mine would be producing 20-22 million tons of pellets. The Lake Superior & Ishpeming Railroad dock in north Marquette and the Escanaba facilities could not handle this tremendous increase in production, so Soo Line officials were asked to consider reopening the Ore Dock. A complete inspection was conducted in July 1972 and the dock and its approach were found to be in fairly good condition. There was some wear on the concrete in the pockets which would require future maintenance. The major work required on the dock would be the replacement of damaged and rotted planking on the deck proper, the straightening of chute angles, the installation of splash shields at the chutes, some welding on the chutes, and the replacement of some timber fenders. All of the electric motors which were last operated in

the spring of 1973 appeared to be in good condition as well. Soundings along both sides of the dock were taken 28 December 1973 and it was found that dredging would have to be done in order to efficiently utilize the facility.

At the time a cost repair estimate was made by the Soo Line. The repairs to the dock and its approaches would be \$38,000, while dredging would cost an additional \$65,000 and \$6,000 would have to be spent on the installation of splash shields on the pockets. Besides the regular maintenance it was anticipated that if the dock shipped 1.5 million ton of ore per year it would have to be extensively rehabilitated in 2004. Unfortunately nothing followed these reports.

In 1981 there was some renewed interest in utilizing the dock and its approaches. A complete inspection of the dock showed that it would have to be rehabilitated if it were to be reopened. The report showed that the deck proper was in poor condition and most of the ties would have to be replaced. The shakers and doors were beyond repair and would have to be replaced and 93 front covers and 81 rear covers on the chutes were missing. The sanitary facilities drained directly into the lake and they would have to be connected to the city sewer system. The hoists would have to be repaired along with the stairs, and the ore scale which had been destroyed by fire. The approach needed many replacements and it was recommended that the rails and switches be replaced with heavier gauge rails to more efficiently handle heavier loads. The Soo Line estimated proposed expenses according to the following schedule:

Dock and approach.....	\$625,000
Dock electrical equipment and motors....	\$ 19,000
Dredging (contract work)....	\$ 70,000

In the course of the correspondence a review of the historical development of the structure was brought forth. Although the original cost of the structure was \$1,297,900 in 1981 money, it would have cost \$13,789,927 to replace the dock. Over the years the structure and its marine approaches had been improved according to the following schedule:

Electrical work (1933-1944).....	\$ 323
Fenders (1947).....	\$19,322
Dredging (1954).....	\$ 9,935
Dredging one slip (1965).....	\$30,084
Approach improvement (1958).....	\$21,320
Approach improvement (1959).....	\$29,124

The status of the dock remained undecided. On 8 March 1985 Krech & Ojard Consulting Engineers based in Duluth, Minnesota

released a report, "Removal Estimate of the Soo Line Ore Dock in Marquette MI" which had been ordered by the Michigan Department of Transportation. The demolition was to: 1) remove the dock superstructure to elevation 610.35 or roughly 9 feet above Mean Low Water; 2) remove the dock foundation; and 3) remove the approach trestle to the dock. This had to be done because a land title search found that the submerged land on which the ore dock was constructed was owned by the State of Michigan. Michigan's Great Lakes Submerged Lands Act (1945) requires that all structures which were constructed in State waters have to be removed when the use of the facility was terminated. At the time the cost estimate for demolition was:

- * removal of the timber portion of the approach, the dock superstructure to elevation 610.35 and the outer timber tail trestle..... \$3,039,454
- * removal of the dock foundation below elevation 610.35..... \$1,419,833
- * removal of the steel portion of the dock approach together with the timber decking and concrete piers \$ 70,635

with the total net cost \$4,529,922.

The question of vandalism, trespass, liability and fire has been raised and dealt with since the construction of the structure. During World War II there was concern with sabotage and the dock was guarded as a precaution. The question of using the dock to unload petroleum products and gasoline was raised by the International Oil Company in May 1950. The company wanted to run a pipeline along the dock to its storage tanks in the vicinity. DSS&A officials citing a high fire danger to an extremely important facility declined the offer even though it meant the loss of tanker car traffic on the line.

The decade of the 1980s saw the residents of Marquette reevaluate the use of the lake shore area around the ore dock. The old Spear coal dock was purchased by the city of Marquette and gradually turned into an attractive city park and the site of major celebrations and events. In 1986 the Marquette Area Chamber of Commerce had an Ore Dock Committee chaired by Frank Stabile which formulated ideas of integrating the dock into the general development of the area as it would relate to tourism. The Committee's work culminated in the Gove Plan which was issued in July 1986 and called for the dock being used for: 1) commercial and public purposes: shops, museum, and observation deck or 2) the structure being removed leaving a dock 8-10 feet above water level for pedestrian and vehicle traffic.

Then in November 1986 the dispute over the dock between the state of Michigan and the Soo Line took a new twist. Attorney General Frank Kelley brought suit in Ingham County in order to halt any sale of the dock unless the potential buyer was financially able to remove the structure. The suit not only involved the Ore Dock but pilings which remained above water level throughout the Lower Harbor. The state was primarily concerned with the problem of liability, and clear title to the bottomlands under the dock either had to be transferred to the railroad or gained through a long-term lease.

However before more than a number of depositions could be taken a new owner came on the scene. On 11 October 1987 the Soo Line sold Marquette lake front property and the ore dock to Wisconsin Central Ltd. The law suit was temporarily suspended. In the meantime Wisconsin Central began the process of selling excess property. The railroad entered into discussions with the city manager of Marquette, David Svanda. The city wanted to have the approach removed to enhance the downtown area. However when it came to alterations or the sale of the ore dock the Interstate Commerce Commission entered the picture in April 1989. The Commission stated that the removal of the approach would have an "adverse" effect on the structure's historic value. The Michigan Bureau of History agreed with this action. The ICC wanted a report conducted which would study the impact of the sale or alternations of the ore dock and how this would affect the integrity of the structure.

At the present time the Ore Dock remains an dominant feature of Marquette's Lower Harbor. It is a symbol of the important role played by the iron ore industry in the central Upper Peninsula and specifically in Marquette. Furthermore the Ore Dock is an example of efficient construction being started in April 1931 and completed a year later at the low point of the Great Depression.

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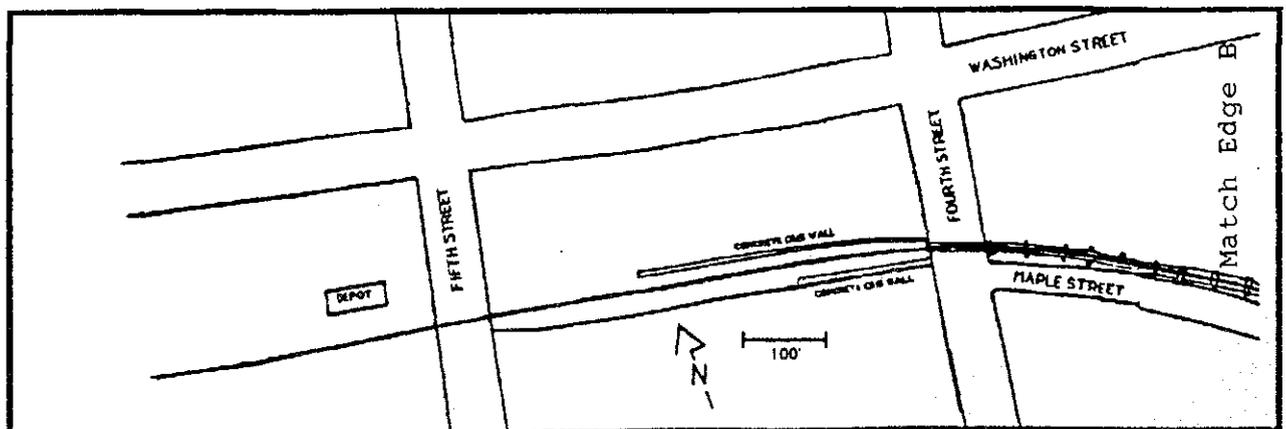
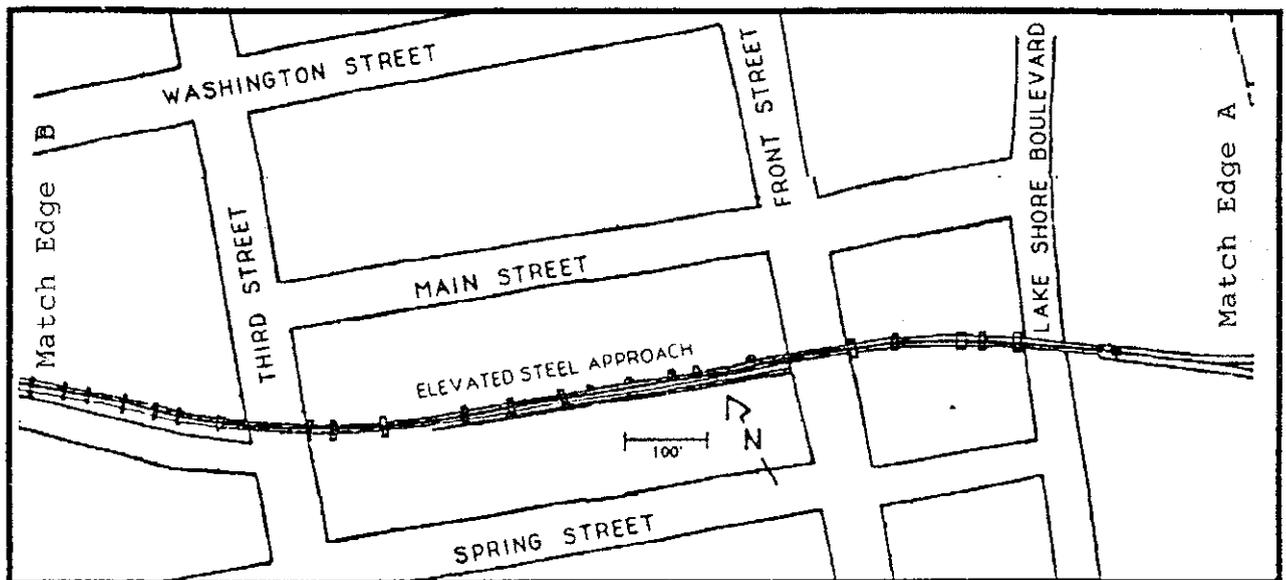
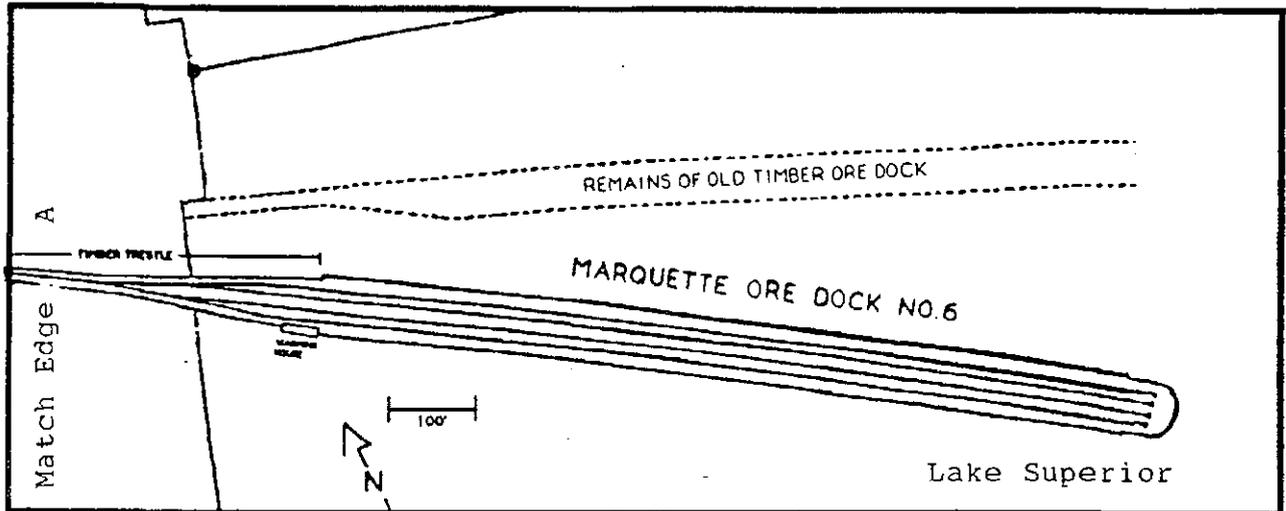
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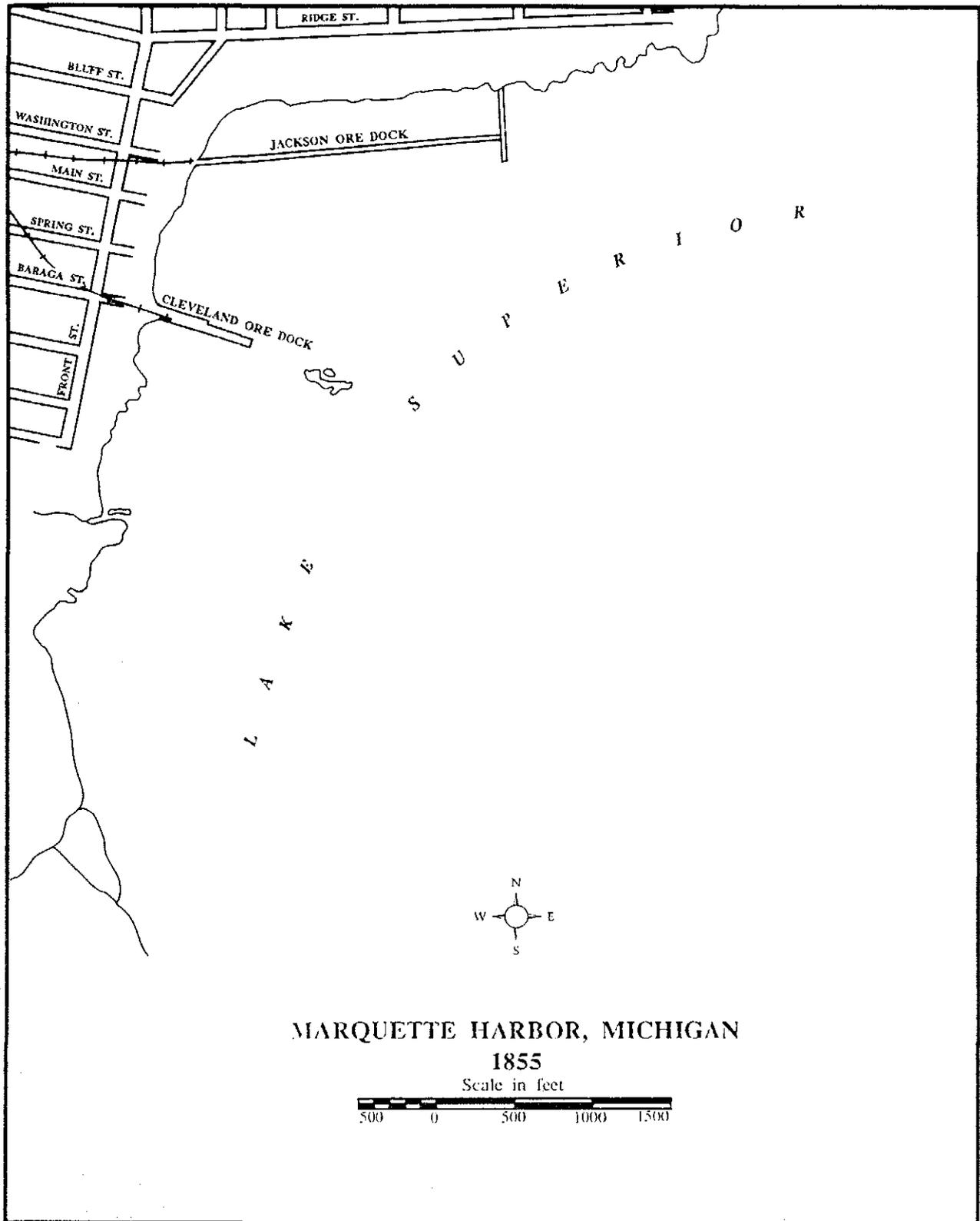
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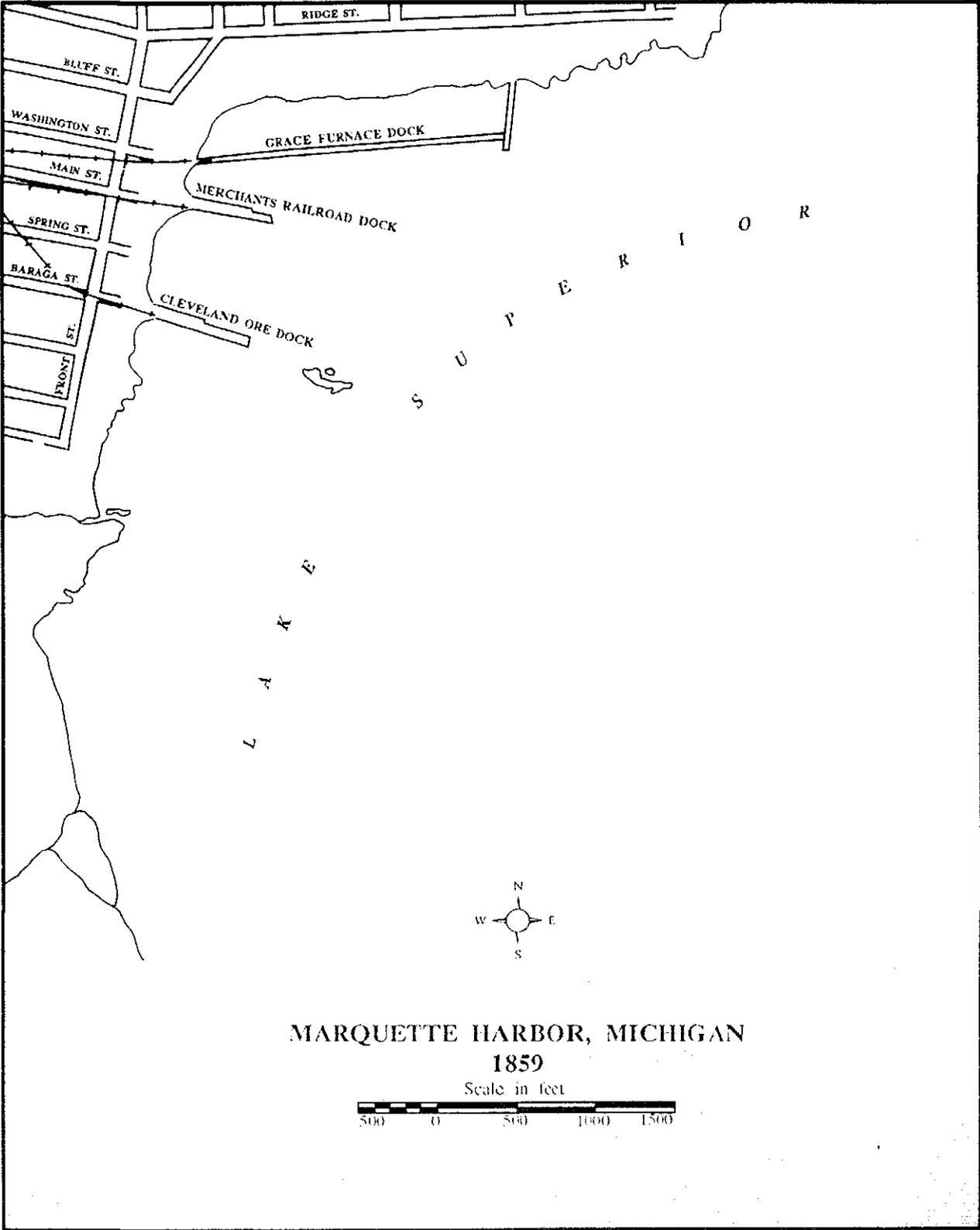
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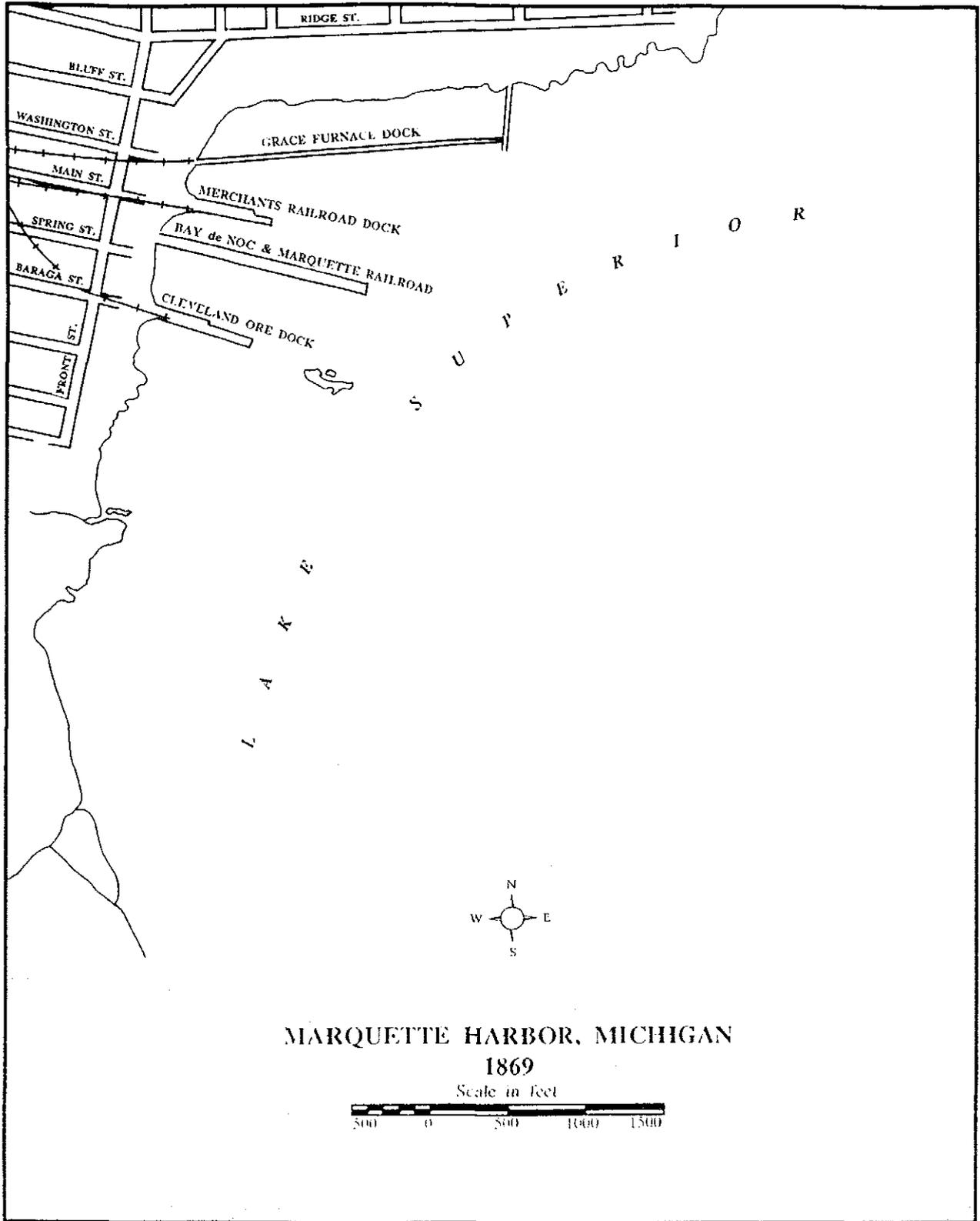
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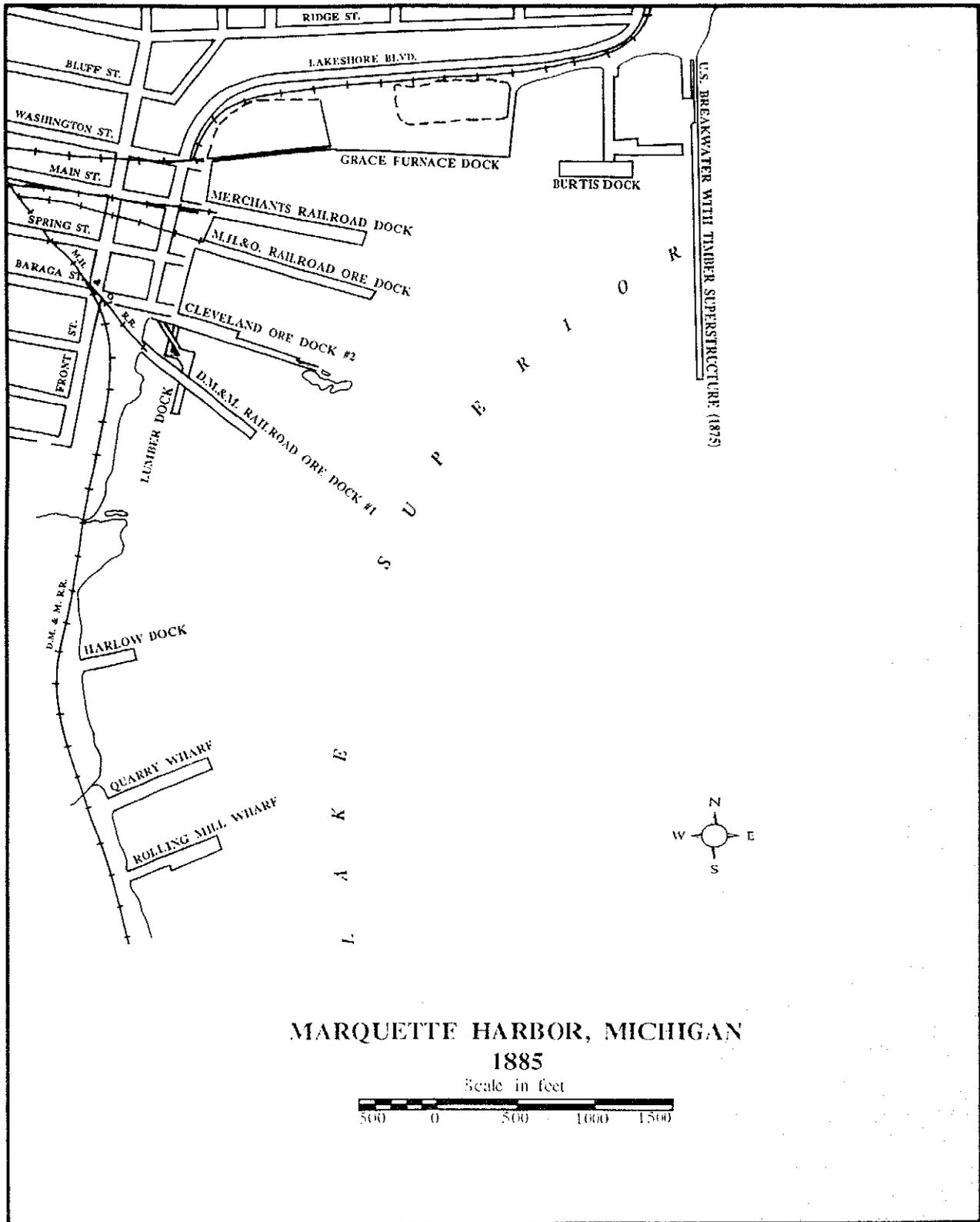


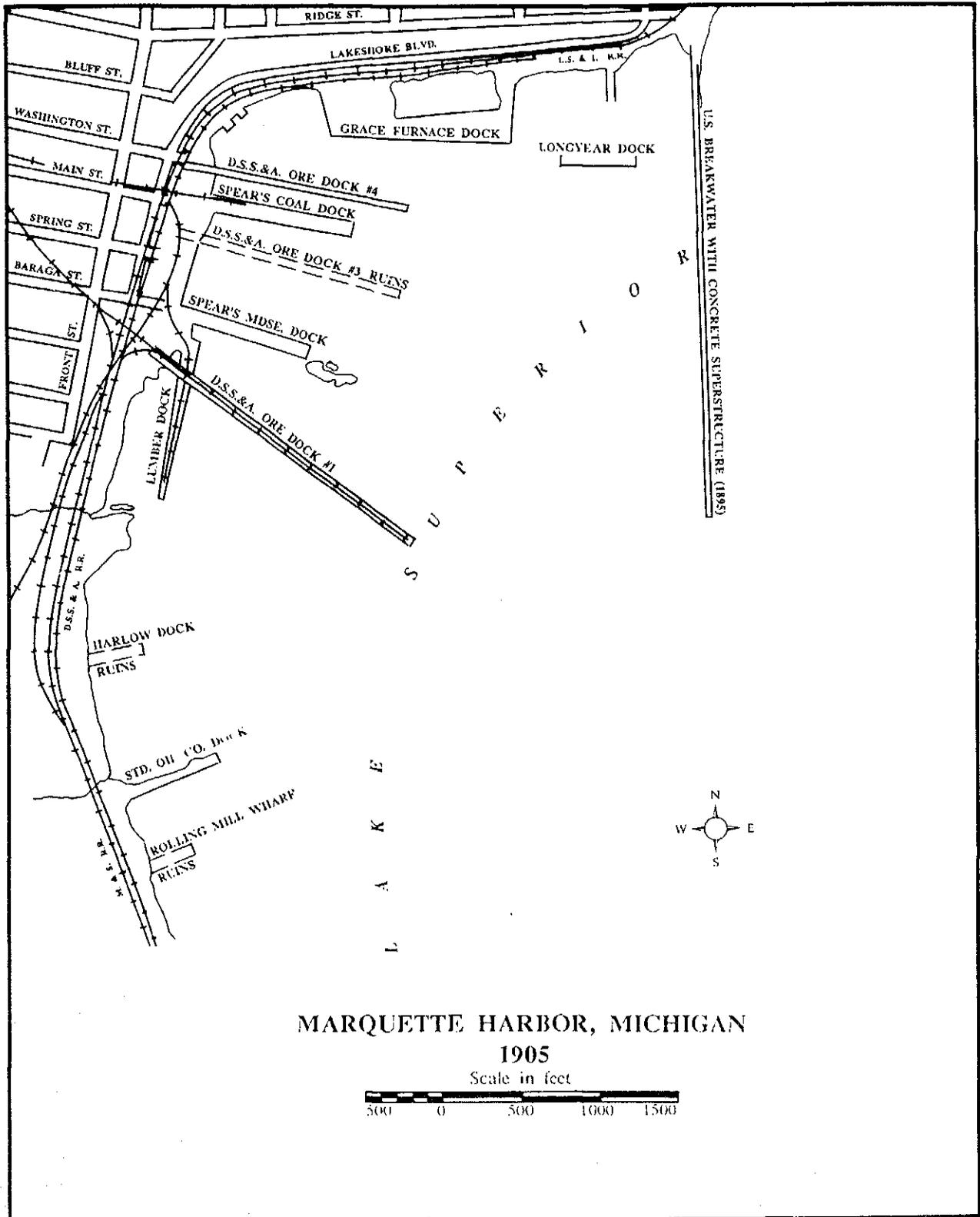
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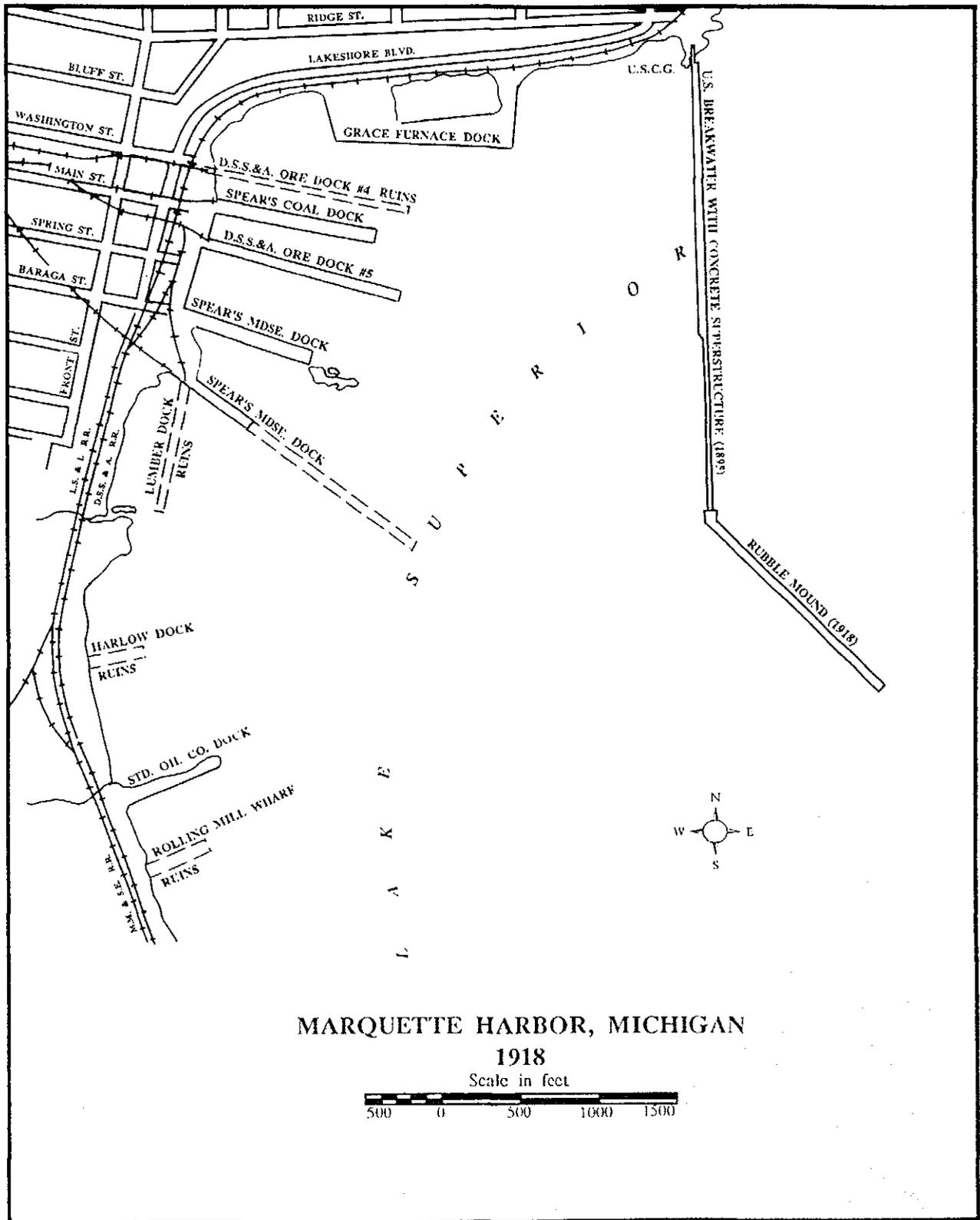
1869

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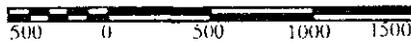


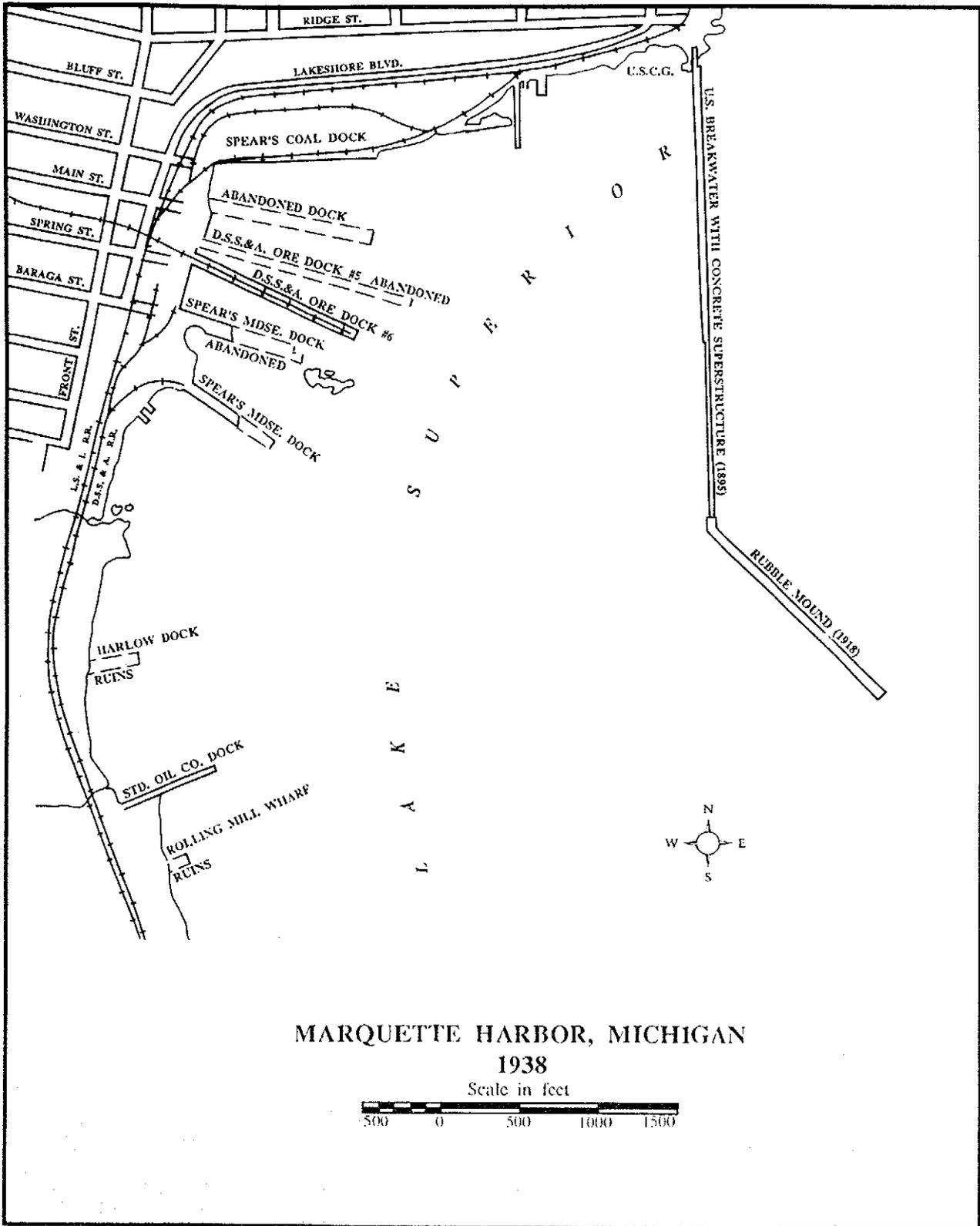


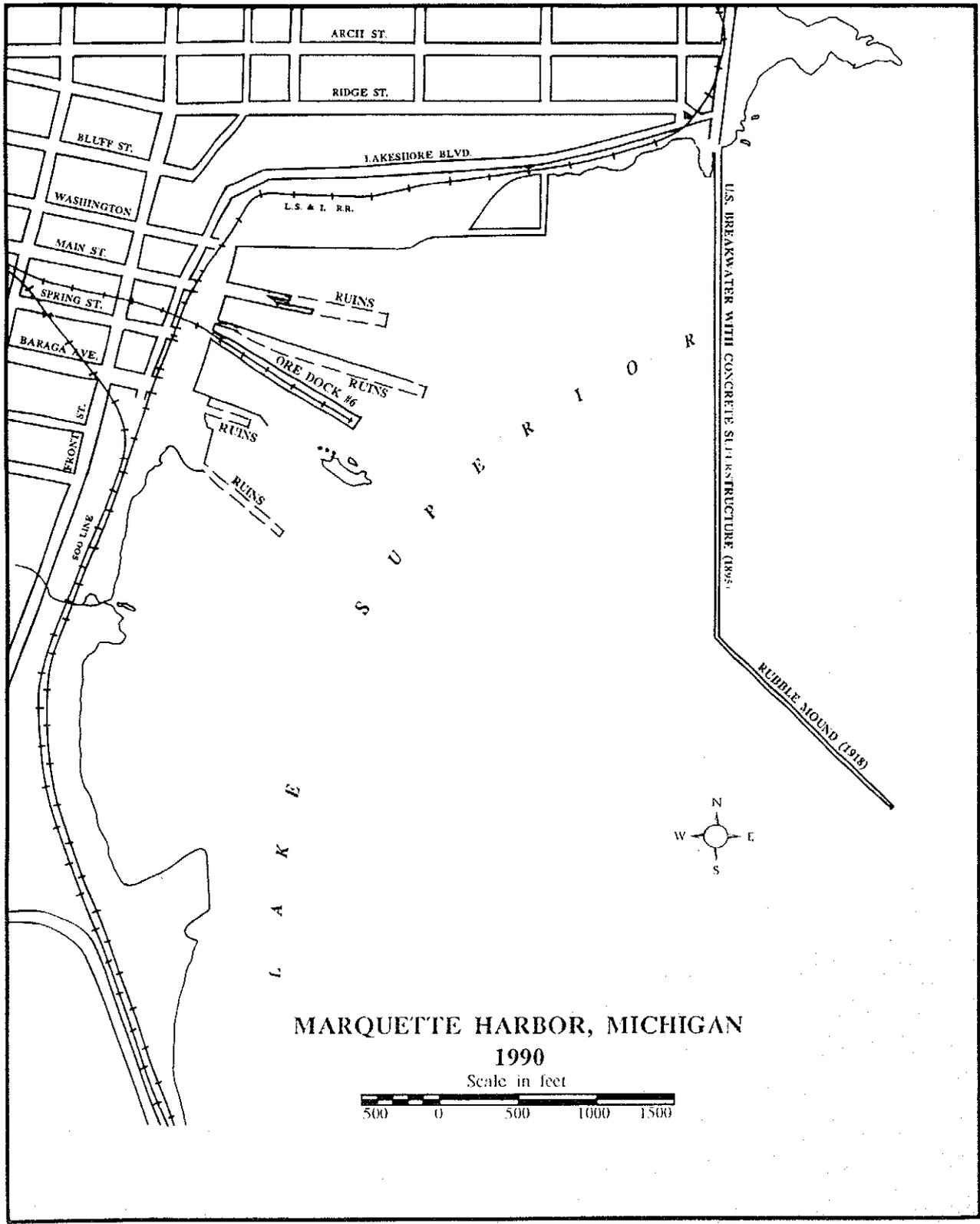
MARQUETTE HARBOR, MICHIGAN

1918

Scale in feet







MARQUETTE HARBOR, MICHIGAN

1990

Scale in feet

