

United States Department of the Interior  
National Park Service

National Register of Historic Places  
Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Martin Reef Light Station

other names/site number Martin Reef Light

2. Location

street & number In northern Lake Huron, 4.3 miles south of Cadogan Point ☐ not for publication

city or town Clark Township ☒ vicinity

state Michigan code MI county Mackinac code 097 zip code 49719

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this  
☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the  
National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In  
my opinion, the property ☒ meets ☐ does not meet the National Register Criteria. I recommend that this property be  
considered significant ☐ nationally ☐ statewide ☒ locally. ( ☐ See continuation sheet for additional comments.)

Jack Mameli, PE, CAPT, USCG 3/5/05  
Signature of certifying official/Title

Date

United States Coast Guard

State or Federal agency and bureau

In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. ( ☐ See continuation sheet for  
additional comments.)

Brian D. Xxxxxx 5/12/05  
Signature of commenting or other official

Date

STATE HISTORIC PRESERVATION OFFICE  
State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that this property is:

☒ entered in the National Register

☐ See continuation sheet.

☐ determined eligible for the  
National Register

☐ See continuation sheet.

☐ determined not eligible for the  
National Register

☐ removed from the National  
Register

☐ other (explain): \_\_\_\_\_

Signature of the Keeper

Date of Action

NRHP Registration Number 05000743

Listed on 27 July 2005

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☐ other (explain): \_\_\_\_\_

Signature of the Keeper

Date of Action

**5. Classification****Ownership of Property**

(Check as many boxes as apply)

- ☐ private  
☐ public-local  
☐ public-State  
☒ public-Federal

**Category of Property**

(Check only one box)

- ☐ building(s)  
☐ district  
☐ site  
☒ structure  
☐ object

**Number of Resources within Property**

(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
		buildings
		sites
1		structures
		objects
1	0	Total

**Name of related multiple property listing**

(Enter "N/A" if property is not part of a multiple property listing.)

Light Stations of the United States

**Number of contributing resources previously listed in the National Register**

0

**6. Function or Use****Historic Functions**

(Enter categories from instructions)

Transportation

Water-related

Lighthouse

**Current Functions**

(Enter categories from instructions)

Transportation

Water-related

Lighthouse

**7. Description****Architectural Classification**

(Enter categories from instructions)

No Style

**Materials**

(Enter categories from instructions)

foundation Wood, steel and concrete

roof Copper

walls Steel

other Lantern: Cast iron and glass

**Narrative Description**

(Describe the historic and current condition of the property on one or more continuation sheets.)

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Continuation Sheet

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Martin Reef Light Station  
Mackinac County, Michigan  
(Light Stations of the United States  
Multiple Property Listing)

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**Narrative Description**

Built in 1927, the Martin Reef Light Station is located in northern Lake Huron between St. Mary's River and the Straits of Mackinac, about 7 miles east of Les Cheneaux Islands. It marks a safe route between the Straits of Mackinac and the entrance to DeTour Passage, warning mariners of shallow waters and a hazardous underwater rock formation named Martin Reef. The light also marks the entrance to Port Dolomite, a limestone quarry. Inspired by the Modern movement, this three-story, riveted, steel-plate tower topped by a square watch room and fourth-order lantern rests on a square concrete pier. The red, cast-iron lantern roof provides a stark contrast to the otherwise white superstructure. Owned by the United States Coast Guard, Martin Reef Light Station serves as an active aid to navigation.

Exterior

The only access to this light station is from the water. A metal ladder attached to each of the four sides of the concrete pier provides access to the deck. The base of the pier is a timber crib, 60 feet square and 5.5 feet high, filled with crushed limestone and concrete. Steel plating, 7 feet high and 0.5 inch thick, is attached to the top of the crib, forming a protective flashing at the water line. The top or deck of the concrete pier is approximately 18 feet above water; it is 64 feet square due to the flaring of the side walls, which forms a two-foot overhang. The deck is enclosed by a two-tiered chain railing with fifty-nine metal pipe stanchions topped with ball finials. The entire railing is painted white.

Slightly elevated on a concrete base, the 38-foot tall tower is positioned in the deck's center and is 25 feet square. The tower's steel-plate exterior is riveted and counter-sunk to provide a smooth exterior surface. A projecting, steel, water table surrounds the tower's base and steel pilasters accentuate each corner. The pilasters extend slightly above the tower's flat roof and are topped by pyramidal concrete capitals. A narrow projecting cornice extends around the tower walls at the roofline. Below the cornice and between each pilaster, attached to each of the four elevations, is a projecting arch with a keystone at the center. Above the cornice and between each capital is a modestly arched parapet wall.

Metal double-doors with a simple casing are located on the west wall of the tower at the deck level. These doors are a new addition—the original doors still exist behind the new doors. Above the original doors was a four light transom, and above the transom was the casing for the rolling shutter. Today, the shutter has been permanently affixed just slightly below the transom and meets the top of the modern exterior doors. Tower fenestration consists of six rectangular windows on each wall—two at each level—with steel lintels and cast-iron sills. The third level windows are slightly shorter than those of the first and second levels. The windows on the north elevation are placed close together in the middle of the wall with little space between them, whereas those of the other elevations are closer to the pilasters with a larger space between the windows. The first level windows are covered by metal rolling shutters. The window openings on the second and third levels are sealed with glass blocks.

Atop the tower is a watch room constructed of metal plates. Ten feet in height, the watch room is square in shape with truncated corners. Each of the four walls of the watch room features a porthole window, one of which is encased in the upper part of a door. All of the openings are sealed from the inside with metal plates. A continuous, decorative, horizontal band protrudes from the walls about midway up, arching above each window. A shallow, molded cornice tops the watch room walls. An array of solar panels and a modern fog signal sit atop the tower on the south side of the watch room.

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The octagonal lantern sits at the center of the watch room's flat roof. Enclosing the roof is a metal railing connected by sixteen metal stanchions topped with ball finials. Between each stanchion, just below the finials, is a flat bar rail. A second bar rail several inches below the first is connected to a third bar rail at the bottom of the stanchions by eight thin balusters. The parapet (lower) part of the eight-sided lantern is composed of iron plates. One of these contains a small door providing access to the lantern gallery. The lantern's upper part contains eight single pane windows separated by iron mullions. The lantern roof is composed of pie-shaped metal plates that rise to a point and is topped by a ventilator ball and a broken lightning rod spindle.

Interior

The original wood paneled doors are still present and each is fitted with a four-paned glass window at the top. Located in the center of the open room is a square, brick flue that extends from the basement floor to the watch room ceiling. A series of metal staircases provide access to basement and to the second, third, and watch room levels; a ladder provides access to the lantern from the watch room. The risers and trends of the staircase exhibit a raised decorative pattern, which helped to prevent slipping when climbing the stairs. Each flight has metal pipe handrails, except the first level, which has a newel-post, handrail, and balusters made of wood.

*Basement*

The basement is reached through a doorway beneath the first-floor staircase. Eighteen stairs descend to a central square-shaped room the same diameter as the tower. Adjoining this room are four additional rooms which wrap around the corners of the pier; the only entrance to these rooms is from the central room. Originally used for storage of coal, water, paint, and oil, each of the rooms has a vaulted concrete ceiling and a concrete floor. The corner rooms were originally lit by a glass block skylights in the deck of the pier; however, these have been covered over with concrete. Circular openings in the ceilings of one of the rooms allowed coal to be loaded directly into the basement from the outside.

*Level 1*

The walls of the first level are lined with hollow masonry tile, which is covered in plaster and paint. A brick soldier course extends around the base of the wall. The entire floor is reinforced concrete except for two square deck lights—one just inside the door and another at the east end of the room. The deck lights contain glass blocks and originally provided natural light to the central room of the basement. The ceiling is plaster on metal lathe and I-beams are visible extending both north-to-south and east-to-west across the ceiling. The brick flue has a circular opening at the top.

The single room contains eight multi-paned, casement windows that open outward. Above the working casement is an eight-paned fixed casement of the same width. Below each window is a sill of brick headers. Above the fixed casement is a rectangular steel plate—the plate forms the back of the box for the exterior rolling shutters. Most of the windows retain their original hardware and screen shutters, which open into the room. Between the windows on the south wall, toward the top, are two rectangular openings that once held the type "F" diaphones. The openings are now sealed with metal plates on the outside.

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The only object in the room is a metal cage, which is located in the northwest corner. Overall, the first level is in fair condition. The walls, floor, and ceiling exhibit peeling and worn paint. The metal closet and several I-beams along the ceiling are rusting, and some of the bricks are missing from the flue.

*Level 2*

Eleven stairs ascend the north wall to a corner landing and nine more stairs ascend the east wall to the second level. Eight window openings sealed with glass bricks line the exposed, hollow masonry tile walls. There is a small metal vent at the top of each window. Originally the second level housed a bathroom and hallway at the east end, and the rest of the floor was divided on the east-west axis into two rooms—the keeper's room and the kitchen/dining room.

At the top of the stairs, in the southeast corner, mosaic tile covers a small area of the concrete floor. Holes exist in the tile for pipes, and channels in the floor surrounding the tile indicate the placement of the original walls of the bathroom. While none of the interior gypsum tile walls exist today, plywood walls have been erected along the approximate lines of the kitchen/dining room in the southwest corner. The exterior walls and ceiling of the room are also lined with plywood and the concrete floor is covered with large rubberized tiles. The room contains electrical equipment, and tubing runs through one of the interior walls to a metal pipe that extends from floor to ceiling just outside of the room.

*Level 3*

Four stairs running parallel to the lower staircase ascend to a two-part landing along the north wall. From the upper landing, a flight of ten stairs ascend the east wall to the third level. The exterior walls, ceiling, floor, and windows are nearly identical to those of the first and second levels. While no interior rooms are intact, channels in the floor indicate the placement of the former gypsum tile walls. The staircase to the watch room is located toward the center of the room near the flue and is supported by metal posts. Modern equipment related to the operation of light and fog signals, such as wet-cell batteries, is stored on wooden pallets on the south side of the room and an eyewash station is attached to one of the staircase posts.

*Watch room*

Nine stairs ascend westward to a landing and six additional stairs ascend northward from the landing to the watch room. Like the floors below, the walls are lined with masonry tile. However, a header course of brick exists atop the walls separating them from the ceiling. The ceiling is the underside of the lantern floor and the flanges and bolts connecting the plates are visible; the floor is reinforced concrete. Three of the walls feature porthole windows and the fourth contains an arched doorway, which provides access to the exterior gallery. The upper portion of the door is fitted with a porthole window. All of the windows are sealed with metal sheets but originally were fitted with round metal and glass casements. Electrical tubing runs from an electrical box on the floor up through the ceiling as well as through one of the sealed portholes. Adjacent to the brick flue, which terminates at the watch room ceiling, is a slanted ladder of ten rungs.

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*Lantern*

The octagonal lantern is accessed via a hatch door in the lantern floor/watch room ceiling. The cast-iron floor is embossed with a decorative pattern similar to that of the stairs. The lower section or parapet is composed of cast-iron plates, four of which contain circular vents to regulate airflow. One plate contains the hatch door, which provides access to the lantern gallery. Above the parapet are eight glass panes held in place by cast-iron mullions. Above the glass is the soffit from which the triangular ceiling panels rise. At the ceiling's apex is another circular vent, which is missing its cover. A pedestal topped by a modern optic sits at the center of the lantern.

Changes over Time

Some of the most noticeable changes to the Martin Reef Light Station are the presence of modern equipment such as solar panels and fog signal equipment atop the tower and a modern optic in the lantern. The original diaphone resonators were mounted on a metal shelf, just above the first level windows on the south wall; the empty shelf still exists. Air compressors driven by oil engines located in the first level of the tower provided the power for the fog signal.

The first optic was a fourth-order Fresnel lens powered by a 300-watt electric incandescent lamp. Today, the light is emitted by a solar-powered, VRB-25 Marine Rotating Beacon.

Other equipment has been removed and changes have been made to the structure as a result of automation. Two 5-ton pillar cranes equipped with air hoists that were located on the southwest and northeast corners of the concrete pier have been removed, as well as a metal flue that extended from the lantern gallery floor. Glass blocks have replaced the casement windows of the second, third and watch room levels, and all the interior gypsum tile walls have been removed. In addition, while the station was manned, the window and door casings, the tower and watch room cornices, and other architectural details were painted black. Today, the entire superstructure, with the exception of the lantern roof, is painted white.

**8. Statement of Significance****Applicable National Register Criteria**

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- ☒ A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☐ B Property is associated with the lives of persons significant in our past.
- ☒ C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☐ D Property has yielded, or is likely to yield information important in prehistory or history.

**Criteria Considerations**

(Mark "X" in all the boxes that apply.)

Property is:

- ☐ A owned by a religious institution or used for religious purposes.
- ☐ B removed from its original location.
- ☐ C a birthplace or a grave.
- ☐ D a cemetery.
- ☐ E a reconstructed building, object, or structure.
- ☐ F a commemorative property.
- ☐ G less than 50 years of age or achieved significance within the past 50 years.

**Areas of Significance**

(Enter categories from instructions)

Maritime History

Transportation

Architecture

**Period of Significance**

1927 to 1955

**Significant Dates**

1927

**Significant Person**

(Complete if Criterion B is marked above)

**Cultural Affiliation**

N/A

**Architect/Builder**

U.S. Lighthouse Service

**Narrative Statement of Significance**

(Explain the significance of the property on one or more continuation sheets.)

**9. Major Bibliographical References**

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

**Previous documentation on file (NPS):**

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested.
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # \_\_\_\_\_
- ☐ recorded by Historic American Engineering Record # \_\_\_\_\_

**Primary Location of Additional Data**

- ☐ State Historic Preservation Office
- ☐ Other State agency
- ☒ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Name of repository:

U.S. National Archives; Maritime Heritage Program, NPS;  
USCG Headquarters, Historian's Office, Washington, DC



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Martin Reef Light Station  
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Multiple Property Listing)

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Narrative Statement of Significance

Martin Reef Light Station is significant for its association with the efforts of the federal government to provide an integrated system of navigational aids throughout the United States and to provide for safe maritime transport within the Great Lakes. The light marks the dangerous Martin Reef in Lake Huron and is on the main route of steamers traveling from Lake Superior to Lake Michigan via the St. Mary's River. Since the mid-nineteenth century, the Great Lakes have served as a major transportation corridor for commercial traffic. As early as 1852, over 4 million tons of goods crossed the Great Lakes, largely consisting of lumber and grain. By 1910, the amount of shipped goods increased to 80 million tons of mainly iron ore and coal.<sup>1</sup> In 1915, limestone emerged as an important bulk commodity in the region. Shipped freight tonnage reached a record of 217 million tons in 1948.<sup>2</sup> In addition to marking the rocky reef, Martin Reef Light Station currently safeguards the entrance to Port Dolomite, a limestone quarry in Cedarville, Michigan. In 2003, Port Dolomite shipped 3 to 4 million tons of dolomite and limestone, alone.<sup>3</sup> Martin Reef Light Station has been an integral part of successful commerce and safe travel locally, across the state of Michigan, and throughout the entire Great Lakes region since its inception and remains so today.

Martin Reef Light Station meets the registration requirements outlined in the multiple property documentation form "Light Stations of the United States." The light station remains in its original location in Lake Huron. Despite changes to the windows, the loss of some exterior features such as the two pillar cranes on the pier deck and the flue on the lantern gallery, and the modernization of the light and fog signal equipment, its character and appearance are essentially unchanged from its period of significance. Martin Reef Light Station continues to operate as a federal aid to navigation today.

*Lighthouse Architecture in the Great Lakes*

Martin Reef Light Station embodies the distinctive characteristics and methods employed in lighthouse construction on the Great Lakes during the late nineteenth century and early to mid-twentieth century. Engineers started building lighthouses on isolated islands, reefs, and shoals, instead of solely on the mainland or on piers and breakwaters. At submarine sites, wooden crib foundations often replaced lightships and were especially well adapted to fresh water and hard rock bottoms. They were constructed on shore, towed to the offshore site, and filled with stone to sink them in place.

The construction of a permanent light station at Martin Reef Light Station marks the earliest stage of an extensive project to improve aids to navigation in the Straits of Mackinac. A fixed aid to navigation was superior to light ships in that it was not subject to displacement by storms, it was serviceable in early spring and late fall when ice made it impractical to maintain a lightship at a site, and it was more cost effective over time. Martin Reef Light Station is evidence of improved lighthouse building methods on the Great Lakes. Workers used Scammon's Harbor as a base camp when building both Spectacle Reef Light Station in 1874 and Martin Reef Light Station in 1927. Spectacle Reef cost \$406,000, used two lighthouse tenders and a dozen other vessels, and took a workforce of more than two hundred men to complete the four-year project. Martin Reef, on the other hand, cost \$112,000, used two lighthouse tenders and one work scow, and took eighteen men two years to build.<sup>4</sup>

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<sup>1</sup>Charles K. Hyde, *Northern Lights: Lighthouses of the Upper Great Lakes* (Detroit: Wayne State University Press, 1995), 20.

<sup>2</sup>"A Chronology of Lake Navigation," <<http://www.nmu.edu/upstudies/UPinfo/UPMarit/CHRONO.htm>>.

<sup>3</sup>"Limestone Quarries in Michigan," in "Limestone Mining," <<http://www.geo.msu.edu/geo333/limestone-mining.html>>.

<sup>4</sup>Charles K. Hyde, *Northern Lights*, 98; and John J. Sellman, *Martin Reef Lightship to Lighthouse: Another Chapter in Les Cheneaux History* (Cedarville: Les Cheneaux Historical Association, 1995), 13. A recent Internet source, <http://terrypepper.com/lights/huron/poereef/poereef.htm>, states that the Martin Reef construction crew consisted of 80 men.

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The crib foundation represents improved construction methods, while the superstructure represents a transition in the style of architecture and the types of building materials employed in lighthouse design. Several architectural features suggest that the Modern movement influenced Martin Reef Light Station. Architectural Historians Virginia and Lee McAlester state that the Modern movement in architecture developed in two stages from 1900 to 1940: the Arts and Crafts movement and the Machine Age movement. In the Arts and Crafts phase, ornamentation was not eliminated, but merely "modernized." The Machine Age phase began after World War I when design emphasized the standardization of parts, absence of all non-functional decoration, and structural "honesty" as hallmarks.<sup>5</sup> Martin Reef Light Station's structural steel frame and steel-plate exterior exhibits few ornamental details. The tower has a smooth wall surface and a flat roof with coping at the roofline. The watch room also has a flat roof with coping at the roofline as well as small, round windows and curved corners—all identifying features of Art Moderne.<sup>6</sup> Employing steel as a building material signals technological progression and the succeeding period of lighthouse development.

*Shipping, Commerce, and the Establishment of Navigational Aids on the Great Lakes*

The Great Lakes system includes Lakes Ontario, Erie, Huron, Michigan, and Superior, their connecting waters, and the St. Lawrence River. It is one of the largest concentrations of fresh water on the earth. The system has a total shore of about 11,000 statute miles and a total water surface area of about 95,000 square statute miles. With the opening of the St. Lawrence Seaway in 1959, the system provided access for oceangoing deep-draft vessels to the industrial and agricultural heartland of North America. Small craft and barge traffic reach the Great Lakes from the Gulf of Mexico via the Mississippi River and the Illinois Waterway and from New York Harbor to the Hudson River and New York State Barge Canal System.

The completion of the Erie Canal in 1825 linked Buffalo, New York on Lake Erie with New York City via the Hudson River and marked the start of enormous growth in population, maritime traffic, and trade in the Great Lakes Region. In 1829, the Welland Canal opened and linked Lake Ontario and Lake Erie. St. Mary's Falls Ship Canal (the Soo Locks) at Sault Ste. Marie opened in 1855, thus completing the last major link in the Great Lakes navigation system.

Commerce grew rapidly throughout the second half of the nineteenth century and into the early twentieth century. The lumber industry accounted for early development and expansion of marine traffic, calling for an increase in aids to navigation. The production of iron ore in the western Upper Peninsula of Michigan and in Wisconsin and Minnesota, and copper production in the Keweenaw region of the western Upper Peninsula, in addition to the cultivation of grain from the northwest, furnished southbound cargoes. These shipments corresponded with the heavy movement of coal from the lower Great Lake ports. The combined movement of these products, together with limestone cargoes from the Lake Huron area to the centers of steel production, resulted in the greatest bulk freight marine commerce the world has ever seen.

<sup>5</sup>Virginia and Lee McAlester, *A Field Guide to American Houses* (New York: Alfred A. Knopf, 1995), 10.

<sup>6</sup>Ibid., 465.

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The need for aids to navigation on the Great Lakes increased along with the expansion of shipping and settlement. Seven lighthouses were built on the Great Lakes between 1818 and 1822. Thirty-two lighthouses were completed during the 1830s building boom. From 1841 to 1852, the Lighthouse Establishment added 33 new lights.<sup>7</sup> Between 1852 and 1860, the total number of aids to navigation increased from 76 to 102. Another construction boom occurred in the 1890s. By the beginning of the twentieth century, the Great Lakes had 334 major-lighted aids, 67 fog signals, and 563 buoys.<sup>8</sup> Several distinct designs or types of lighthouses emerged during the nineteenth century. Until 1870 or so, the most common design consisted of a wood, stone, or brick keeper's dwelling with the light exhibited in a lantern on the roof or in an attached square tower. By the 1870s, taller towers connected to a keeper's house by an enclosed passageway became popular. Lighthouse engineers practiced and perfected the construction of light stations on isolated islands, reefs, and shoals from 1870 to 1910. The lighthouses most commonly rested on submarine crib foundations. Light vessels also served as a substitute for building expensive lighthouses at offshore sites during this time. Harsh weather on the Great Lakes forced lightships to leave their stations before the end of the shipping season in mid-December. Lightships often had to wait until larger, stronger vessels broke the ice before returning to their locations at the start of shipping season in mid-April, meaning some dangerous areas were left unmarked for a period of time. Lighthouse engineers worked throughout the late 1920s and 1930s to replace all lightships on the Great Lakes with permanent aids to navigation in order to promote safer travel and increase maritime commerce.

*History of the Martin Reef Light Station*

Maritime traffic between the Straits of Mackinac and the entrance to the DeTour Passage increased dramatically towards the end of the nineteenth century due to the discovery of iron ore and the ensuing construction of steel mills in the Great Lakes region. As early as 1896, the Lighthouse Board began petitioning Congress for appropriations to mark the hazardous Martin Reef and increase mariners' safety. The Board realized the high cost of a permanent light station on the submarine site and instead requested a \$15,000 appropriation for building a wooden lightship. Congress was unresponsive and the request was reiterated in the *Annual Report* for the next three years. In 1900, the Lighthouse Board increased the amount to \$35,000 and decided that a stronger, steel-hulled vessel was necessary to withstand the tremendous wave action at the reef's exposed location. Congress continually ignored the Board's request until June 20, 1906 when an act finally authorized the construction of a lightship. LV89 MARTIN REEF was completed in the fall of 1908 and placed one mile south of the reef at the start of the 1909 navigation season.<sup>9</sup>

Throughout the 1920s, the size and strength of commercial vessels increased. The shipping season started earlier as it became easier for such vessels to make their way through thicker ice. Lightship LV89 did not have the sufficient power or size to move into position until several commercial vessels had broken the ice and made their way through the area first. When the lightship was urgently needed at another site, Lighthouse Service engineers began designing a permanent light for Martin Reef to replace it. They argued that a fixed aid to navigation was not subject to displacement by storms, was serviceable in early spring and late fall when it is impracticable to maintain a lightship at the site, and cost much less than that of a new lightship. In the spring of 1925, the first order of business after receiving congressional approval was the establishment of a land-based camp at Scammon's Harbor on the north

<sup>7</sup>Charles K. Hyde, *Northern Lights*, 15-16.

<sup>8</sup>*Ibid.*, 20.

<sup>9</sup>Terry Pepper, <[http://terrypepper.com/lights/huron/martin\\_reef/martin-reef.htm](http://terrypepper.com/lights/huron/martin_reef/martin-reef.htm)>.

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shore of Government Island in Les Cheneaux Islands. Also used as the base of operations when building Spectacle Reef Light Station (1874), Scammon's Harbor was chosen because of the deep water close to shore and its proximity to the submarine construction site.

After establishing the base camp, work simultaneously began both on land at Scammon's Harbor and in the water at Martin Reef. At camp, the work crew first built a wooden skid-way upon which they constructed and would eventually launch the 60-foot square, 5.5 feet high underwater portion of the wooden crib. A 7-foot high belt of 0.5-inch thick steel plating was then attached to the crib's upper timbers, forming a protective flashing at the water line. Concomitantly, workers used the Lighthouse Service Scow #1, equipped with a steam-powered derrick and clamshell bucket, to clear and level an area for the crib. Working in 10 to 12 feet of water, divers were exposed to temperatures as low as 45 to 50 degrees Fahrenheit and subsequent body heat loss. Diving equipment in the 1920s included layers of full-length underwear, an outer garment of vulcanized rubber sheeting and cotton twill, a wool stocking cap, rubber cuffs at the wrists, rubber gloves, lead shoes, and a brass helmet. Although these articles helped reduce heat loss, the task remained difficult and dangerous.<sup>10</sup>

Lighthouse tenders MARIGOLD and ASPEN attached lines to the wooden crib, eased it down the greased skid-way into Lake Huron, and carefully towed it to the southeast end of Martin Reef. The crib's ballast pockets were then filled with stone, allowing it to sink to the leveled, hard pan bottom. With rope caulking and Portland cement, the divers descended to the bottom of the crib and created a watertight seal between the timbers and the reef. The crew pumped water from the crib's pockets, attached prefabricated forms, and poured concrete into the crib. Four prefabricated vaulted chambers for coal and water storage were installed. The pouring of the concrete wave flare completed the pier. Before beginning work on the three-story steel tower, workers moved the entire base camp from Scammon's Harbor to the finished pier, where they installed a temporary acetylene light and dismissed LV89 for its new assignment at North Manitou Shoal in Lake Michigan.

Made of structural steel framing with walls of 0.25-inch steel plate backed by 10-inch hollow masonry tile, the lighthouse tower supported a watch room and a fourth-order lantern. The first level originally served as an engine room for the station's machinery. The second floor featured a bathroom in the southeast corner and two rooms at the front of the floor including a kitchen/dining room. The third floor was divided into bedrooms for the keeper and assistant keepers. In 1926, Commissioner of Lighthouses George R. Putnam approved using an octagonal fourth-order lantern in storage at the Lighthouse Depot, instead of commissioning a new helical fourth-order lantern. The lantern chosen for Martin Reef Light Station had once topped the tower at Pipe Island Light Station (1888).

Upon completion of the station in July 1927, the equipment, tools, and camp quarters were removed from the pier and loaded aboard the work scow, which with the MARIGOLD and ASPEN, moved on to a new base camp at the mouth of the Cheboygan River to begin construction of another light station. The light was first exhibited from Martin Reef Light Station on August 1, 1927. The fourth-order Fresnel lens and 300-watt electric incandescent lamp produced three white flashes every ten seconds and was visible for 16 nautical miles. The fog signal emitted a two-second blast every twenty seconds during inclement weather. The total cost of the light station was approximately \$112,000.

<sup>10</sup> John J. Sellman, *Martin Reef Lightship to Lighthouse*, 27.

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Historical documents indicate that the station was equipped with quarters "for three or four keepers as may be desired." However, existing employment records appear to show only a keeper and two assistants at the station at any one time. A 1928 article printed in *Engineering News-Record* stated, "The lighthouse structure has living quarters for three attendants."<sup>11</sup> The men were not permitted to bring their families to the desolate offshore station as were keepers at land-based lights. However, in August 1931 the second assistant keeper was permitted to have his wife visit him for one week as the first assistant keeper was on shore-leave at that time. The allowance was made "subject to the condition that there will be no interference with the work of the station ... and that all risk and hazard will be on the responsibility of the keeper and the visitor."<sup>12</sup>

A little over a decade after the station was completed, in 1939, the Lighthouse Service was abolished as a separate federal agency and the U.S. Coast Guard subsumed its duties. A recent Internet site states, based on the recollections of a Guardsman stationed at Martin Reef, that the station "was manned by four-man crews consisting of a Chief Engineman, Boatswain's Mate, a Fireman and a Seaman."<sup>13</sup> On January 9, 1974, the Commandant authorized the Commander of the Ninth Coast Guard District "to discontinue Martin Reef Light Station as a manned unit of the U.S. Coast Guard on or about 31 December 1973."<sup>14</sup> Today, the automated light station employs a solar-powered VRB-25 Marine Rotating Beacon. The characteristic is alternating white and red flashes showing every ten seconds. The fog signal operates year round and produces a three-second blast every thirty seconds.

<sup>11</sup>Irving L. Gill, "Building an Offshore Lighthouse in Lake Huron: Crib and Concrete Base carries Steel-Frame Structure for Living Quarters and Lamp - Construction Methods," *Engineering News-Record*, 26 July 1928, 130.

<sup>12</sup> Letter to Commissioner of Lighthouses, Washington, D.C. from Office of Superintendent 11<sup>th</sup> District, Detroit, Mich. Dated July 31, 1931, RG 26, National Archives.

<sup>13</sup>TerryPepper, <[http://terrypepper.com/lights/huron/martin\\_reef/martin-reef.htm](http://terrypepper.com/lights/huron/martin_reef/martin-reef.htm)>.

<sup>14</sup>Commandant, U.S. Coast Guard to Commander, Ninth Coast Guard, date unknown, typed, USCG Headquarters, Historian's Office, Washington, D.C.

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Martin Reef Light Station

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**10. Geographical Data**

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Acreage of Property: Less than one acre.

UTM Reference:	Zone	Easting	Northing
1	16	721159	5088155

**Verbal Boundary Description:** The boundary is coterminous with the exterior perimeter of the rock riprap surrounding the foot of the wooden crib that supports the structure's concrete pier.

**Boundary Justification:** The boundary includes the wooden crib, concrete pier, and superstructure that have historically been part of the Martin Reef Light Station. The submerged land beneath the wooden crib is the property of the State of Michigan.

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**11. Form Prepared By**

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name/title Karmen Bisher, Maritime Historian, NCSHPO Consultant, edited by Jennifer Perunko, NPS Maritime Historian andDaniel Koski-Karell, Ph.D., U.S. Coast Guard Headquarters Environmental Management Division.organization Maritime Heritage Program, National Park Service date 17 February 2005street & number 1849 C Street, NW (2280) telephone 202-354-2244/2243city or town Washington state DC zip code 20240-0001

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**Additional Documentation**

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Submit the following items with the completed form:

**Continuation Sheets****Map:** USGS map (7.5 or 15 minute series) indicating the property's location.**Photographs:** Representative black and white photographs of the property.

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**Property Owner**

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(Complete this item at the request of the SHPO or FPO.)

name U.S. Coast Guard Headquartersstreet & number 2100 2nd Street SW telephone 202-267-1587city or town Washington state DC zip code 20593

**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

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**LIST OF PHOTOGRAPHS**

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These are photographs of Martin Reef Light Station, which is situated offshore in northern Lake Huron in Mackinac County, Michigan.

The following information is common to photographs 1, 2, 3, and 4. The name of the photographer is Karmen Bisher. The photos were taken on June 22, 2004. The location of the original negatives is the Maritime Heritage Program, National Park Service, Washington, D.C.

1. Overall exterior, south and east elevations.
2. Interior, first level, brick flue and staircase.
3. Interior, second level, hollow masonry tile walls and window opening containing glass blocks.
4. Interior, third level, brick flue and staircase (grooves in the floor are where interior walls once existed).

Historic Photograph:

This is a circa 1926 photo. The photographer is unknown. The original negative is in the Coast Guard Historian's Office, U.S. Coast Guard Headquarters, Washington, DC.

5. Martin Reef Light Station under construction, circa 1926.



Martin Reef Light Station  
Mackinac County, Michigan  
Photo #1

PHOTO #1

MARTIN REEF LIGHT STATION

MAC KINAC COUNTY, MI

PHOTOGRAPH BY VARMEN FISHER

22 JUNE 2004

LOCATION OF ORIGINAL NEGATIVE:

MARITIME HERITAGE PROGRAM,

NATIONAL PARK SERVICE, WASHINGTON, DC

VIEW OF OVERALL EXTERIOR, SOUTH AND EAST ELEVATIONS,



4  
Martin Reef Light Station  
Mackinac County, Michigan  
Photo # 2

PHOTO #2

MARTIN REEF LIGHT STATION

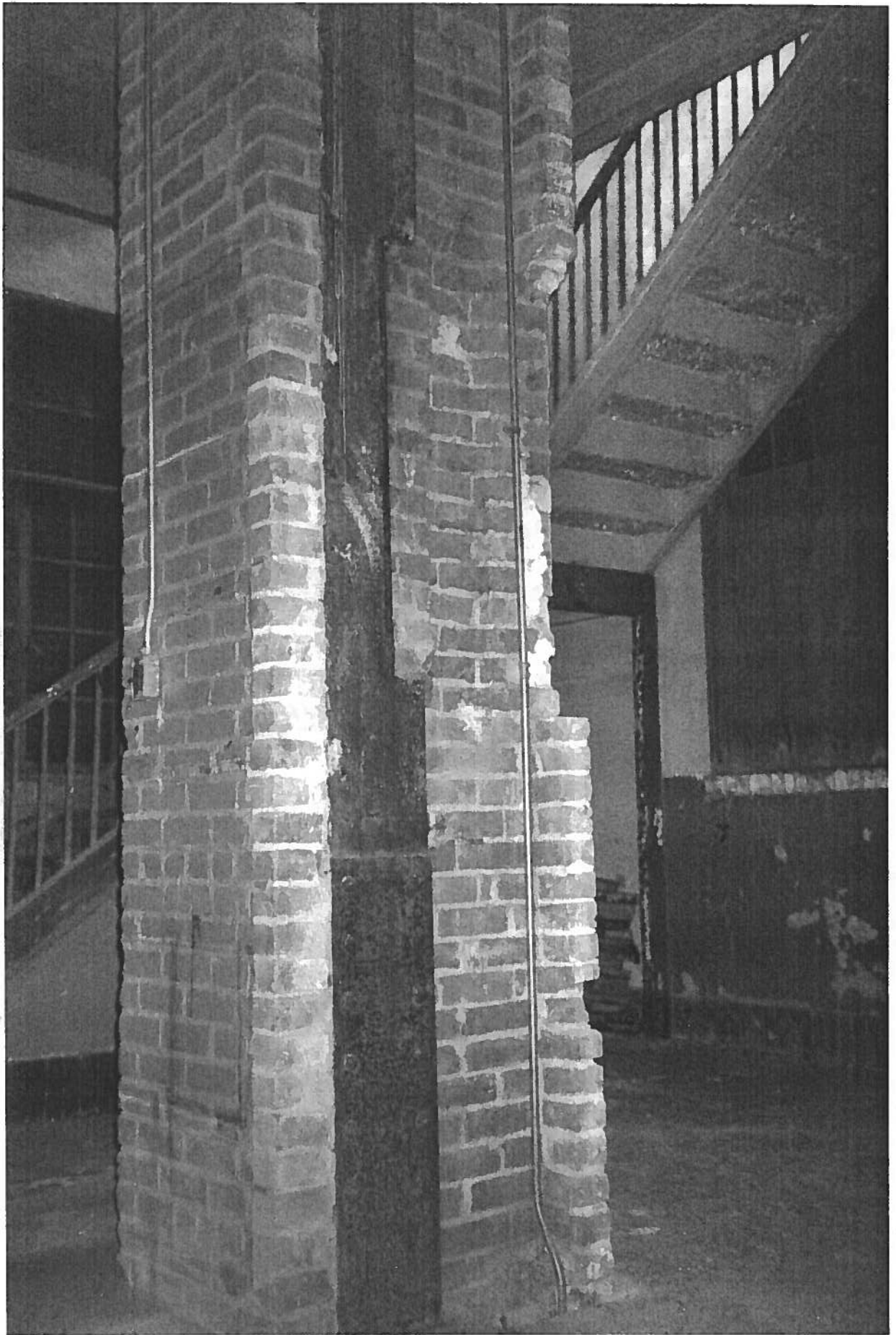
MAC KINAC COUNTY, MI

PHOTOGRAPH BY KARMEN BISHER  
22 JUNE 2004.

LOCATION OF ORIGINAL NEGATIVE:

MARITIME HERITAGE PROGRAM,  
NATIONAL PARK SERVICE, WASHINGTON, DC

VIEW OF INTERIOR, FIRST LEVEL, BRICK FLUE  
AND STAIRCASE.



Martin Reef Light Station  
Mackinac County, Michigan  
Photo # 3

PHOTO # 3

MARTIN REEF LIGHT STATION

MACKINAC COUNTY, MI

PHOTOGRAPH BY KAREN BISHOP

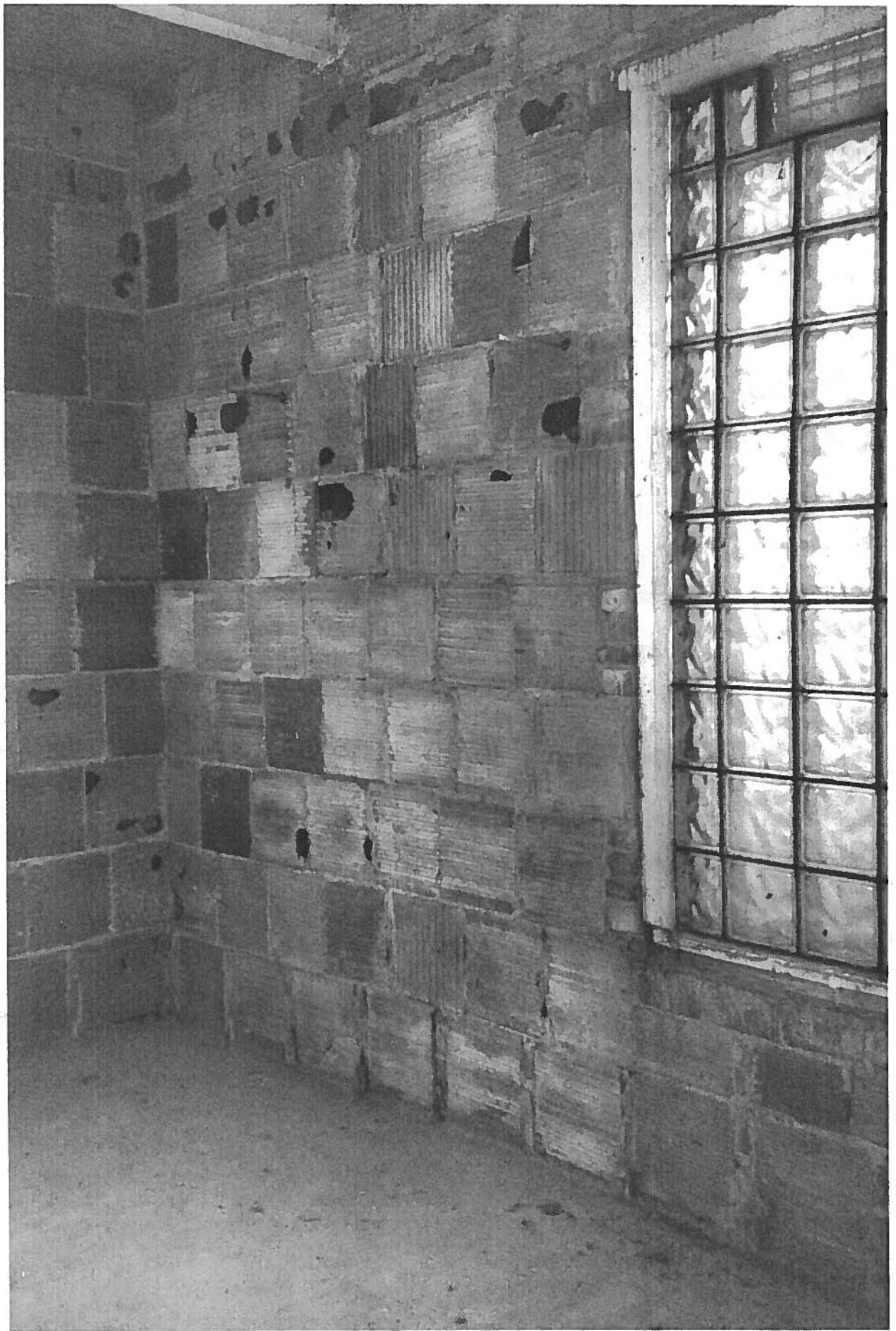
22 JUNE 2004

LOCATION OF ORIGINAL NEGATIVE:

MARITIME HERITAGE PROGRAM,  
NATIONAL PARK SERVICE, WASHINGTON, DC

VIEW OF INTERIOR, SECOND LEVEL, HOLLOW MASONRY  
TILE WALLS AND WINDOW OPENING CONTAINING  
GLASS BLOCKS.





3-9-04 S Martin Reef Light Station  
Mackinac County, Michigan  
Photo # 4

PHOTO # 4

MARTIN REEF LIGHT STATION

MAC KINAC COUNTY, MI.

PHOTOGRAPH BY KARMEN BISHOP

22 JUNE 2004

LOCATION OF ORIGINAL NEGATIVE:

NATIONAL HERITAGE PROGRAM,

NATIONAL PARK SERVICE, WASHINGTON, DC

VIEW OF INTERIOR, THIRD LEVEL, BRICK FLUE  
AND STAIRCASE (GROOVES IN FLOOR ARE  
WHERE INTERIOR WALLS ONCE EXISTED).





Martin Reef Light Station  
Mackinac County, Michigan  
Photo #5

PHOTO #5

MARTIN REEF LIGHT STATION  
MACKINAC COUNTY, MI

PHOTOGRAPHER UNKNOWN

DATE: CIRCA 1926

LOCATION OF ORIGINAL NEGATIVE:

COAST GUARD HISTORIAN'S OFFICE,  
US COAST GUARD HEADQUARTERS, WASHINGTON, DC

VIEW OF MARTIN REEF LIGHT STATION UNDER  
CONSTRUCTION, CIRCA 1926.

