NPS Form 10-900
(Oct.1990)

OMB No. 1024-0018

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 Poe Reef Light Station

other names/site number Poe Reef Light

2. Location

street & number In Lake Huron, 2.6 miles northwest of Cordwood Point ☐ not for publication

city or town Benton Township ☒ vicinity

state Michigan code MI county Cheboygan code 031 zip code 49721

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.)

Signature of certifying official/Title — Date: 4/29/2005

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.)

Signature of commenting or other official — Date: 6/13/05

SHPO
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 05000985

Listed on 6 September 2005

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)

Modern Movement

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.)

Narrative Description

Established in 1929, the Poe Reef Light Station is located in northwestern Lake Huron 2.6 miles northwest of Cordwood Point in Benton Township, Cheboygan County, Michigan. This lighthouse marks shallow waters and a hazardous underwater rock formation named Poe Reef, which lies along the shipping route through the Straits of Mackinac South Channel that runs between Bois Blanc Island and the mainland of Michigan's Lower Peninsula. Inspired by the Modern movement, this structure rests on a square concrete pier and includes a three-story, riveted steel-plate tower topped by a square watch room and third-order lantern. The first level and the watch room are painted black, while the second and third levels are white. A red, domed roof tops the lantern. The color pattern, or daymark, of Poe Reef Light Station distinguishes it from a similar light station several miles to the northeast at Martin Reef. Owned by the United States Coast Guard, Poe 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 22.5 feet high, filled with crushed limestone and concrete. Steel plating, 7 feet in height 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. Some sections of the railing are painted white, while other sections are painted black. Attached on the south side of the deck is a small metal hoist.

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 exterior fabric is composed of steel plates that are riveted and counter-sunk to provide a smooth 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 at each corner, 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 segmental 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 south 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 east elevation are placed close together in the middle of the wall with little space between them. Those of the other elevations are closer to the pilasters with a larger space between the windows. All but one of the first level windows are covered by metal rolling shutters. The exception is the window on the east side of the entrance doors. It holds a steel plate from which protrudes a large, curved metal vent. The window openings on the second and third levels are sealed with glass blocks.

Atop the tower is a 14-foot square watch room constructed of metal plates. Ten feet in height, the watch room reflects the design of the tower—pilasters extending above the flat roof accentuate each corner and are topped with pyramidal concrete capitals. A modern radar beacon is attached to one of the capitals. Rectangular windows pierce three of the watch room walls, and a rectangular, glass-block transom is positioned above double-doors on the fourth wall.

Decorative moldings extend between the pilasters, and brackets attached to each pilaster support a projecting cornice. Above the cornice and between each capital is a two-tiered metal railing connected by two metal stanchions, per side, topped with ball finials. Between the stanchions and capitals are nine metal balusters. A solar array is attached to the south elevation of the watch room, and a modern fog signal is attached to the northeast corner of the gallery.

A ladder extends from the tower roof/watch room gallery to the roof of the watch room/lantern gallery. The decagonal lantern sits at the center of the watch room's flat roof. The parapet or bottom portion of the lantern is composed of cast-iron plates. Above the plates is glazing separated by mullions. The walls are finished with a cornice from which springs a high, domed roof that is surmounted by a ventilator ball and lightning rod spindle.

Interior

The original tower doors are still present and are fitted with a glass panel at the top. Originally a square, brick flue extended from the basement-level to the watch room ceiling at the center of the tower; today the flue is missing at the first floor level. A series of metal staircases provide access to the basement and to the second, third, and watch room levels. A ladder provides access to the lantern from the watch room. The risers and treads of the staircase exhibit a raised decorative pattern, which helped to prevent slipping when climbing the stairs. Each flight has metal pipe handrails, except for 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. Painted above the stairs are the words "DON'T SMOKE HERE!", alluding to the hazardous materials formerly stored in the basement. Eighteen stairs descend to a central square-shaped room the same diameter as the tower. Adjoining this room are four additional rooms that 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 glass block skylights in the deck of the pier; however, these have been covered over with concrete. Circular openings in the ceilings of the northern two rooms allowed coal to be loaded directly into the basement from the outside deck, above. On the floors of some of the storage rooms are concrete foundations for water and oil tanks.

Level 1

The walls of the first level are lined with hollow masonry tile that is covered in plaster and painted. 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 north 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 east-to-west and north-to-south across the ceiling. Two small, square holes are visible in the center of the ceiling where the brick flue once existed; a vertical I-beam has replaced the flue.

The single room contains seven multi-light, casement windows that open outward. Above the working casement is an eight-light 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 screens shutters, which open into the room. One window opening adjacent to the entrance contains a wood panel with a square hole cut in the center where the working casement existed and a metal plate with a fan vent where the fixed casement existed. Between the windows on the east wall, toward the top, are two openings that once held the type "F" diaphones. The openings are now sealed with metal plates on the outside.

The only object in the room is a metal cage located in the northeast corner. Overall, the first level is in fair condition. The blue-green and white paint on the walls is peeling and worn, as is that on the ceiling.

Level 2

Eleven stairs ascend the west wall to a corner landing, and ten more stairs ascend the north wall to the second level. Eight window openings sealed with glass bricks (and some fitted with metal vents) line the exposed, hollow masonry tile walls. Originally, the second level housed a bathroom and hallway at the north end, and the rest of the floor was divided on the north-south axis into two rooms—the keeper's room and the kitchen/dining room. There is very little evidence of these spaces today.

At the top of the stairs, in the northeast corner, blue and white mosaic tile covers a small area of the floor. Holes exist in the tile for pipes, and channels in the concrete floor surrounding the tile indicate the placement of the original walls of the bathroom. Yellow 'CAUTION' tape has been placed across the south end of the space, as the plaster ceiling is falling. Metal lathe in the ceiling is visible and badly rusted. Large amounts of debris cover the floor—likely the remains of gypsum blocks that formed the interior wall as well as plaster that covered the exterior walls.

Level 3

Four stairs running parallel to the lower staircase ascend to a two-part landing along the west wall. From the upper landing, a flight of ten stairs ascends the north wall to the third level. The exterior walls, ceiling, and floor are identical to the floor below, but are in much better condition. While no interior rooms are intact—originally the third floor housed an office, two rooms for assistant keepers, and several closets—channels in the floor indicate the placement of the gypsum block walls. The staircase to the watch room is located toward the center of the third level near the central flue and is supported by metal poles. A modern PVC pipe runs from the floor to the ceiling beside the staircase.

Watch Room

Nine stairs ascend southward to a landing, and five additional stairs ascend westward from the landing to the watch room. Unlike the floors below the walls are not lined with masonry tile, however, a header course of brick exists atop the steel-paneled walls and separates the walls from the ceiling. Both the walls and ceiling are painted white. Modern equipment including electrical boxes and tubing hangs on the wall, and six wet-cell batteries sit on wooden pallets on the concrete floor. The three window openings are sealed with glass-blocks and contain metal vents at the top. An interior and an exterior set of doors originally provided access to the tower roof/watch room gallery. The interior doors have been removed, but the hinges remain. The exterior doors are secured from the inside with a metal bar that rests in four brackets attached to the door. Adjacent to the brick flue, which terminates at the watch room ceiling, is a slanted ladder of thirteen rungs.

Lantern

The decagonal lantern is accessed via a folding 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, five of which contain circular vents to regulate airflow.

Above the parapet are ten glass panes held in place by cast-iron mullions. Above the glass is a narrow band of cast-iron panels, from which rise ten, S-curve, triangular, cast-iron panels that come together at a circular air vent. A series of metal rods, bars, struts and hooks are attached to the walls above the glass and to the ceiling. This equipment originally helped support the Fresnel lens and held curtains that would be closed when the lens was not in use in order to protect it. A metal pedestal topped by a modern optic sits in the center of the lantern.

Changes over Time

Some of the most noticeable changes to the Poe Reef Light Station are the presence of modern equipment such as the solar array, fog signal, and RACON radar beacon atop the tower, and a modern optic in the lantern. Originally a type "F" diaphone fog signal was mounted on a metal shelf, just above the first level windows on the east wall. The shelf still exists. Air compressors driven by semi-diesel engines located on the first level of the tower provided the power for the fog signal. The first optic was a third-order Fresnel lens fitted with an electric light. The light was automated In 1974. At that time its Fresnel lens was replaced by a 375-millimeter acrylic optic. Today, the signal light is emitted by a Max Lumina Marine Lantern ML-300 Series E optic. The existing fog signal and light are both powered by a bank of wet-cell batteries located in the watch room. These batteries are recharged by a solar array mounted on the watch room gallery.

The tower pattern or day mark has also changed. When the station first went into service on August 15, 1929, the tower was painted white with architectural details such as the window and door casings, the tower and watch room cornices, keystones, brackets and the water table painted black. Between 1957 and 1958, the entire first level and watch room exteriors were painted black, while the second and third stories of the tower remained white in order to better distinguish Poe Reef Light Station from the similar structure at Martin Reef.

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 northwest and southeast corners of the concrete pier have been removed as well as a flagpole and a flue atop the tower on the lantern gallery. In addition, glass blocks have replaced the original casement windows of the second, third and watch room levels, and all interior walls have been removed.

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
1929 – 1954

Significant Dates
1929

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

Narrative Statement of Significance

Poe 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 Great Lakes. The light marks the dangerous Poe Reef in the Straits of Mackinaw, a route used by ships passing between Lake Huron and Lake Michigan. 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.[1] In 1915, limestone emerged as an important bulk commodity in the region. Shipped freight tonnage reached a record of 217 million tons in 1948.[2] Poe Reef Light Station has been an integral part of successful commerce and safe travel across the state of Michigan and throughout the entire Great Lakes region since its inception and remains so today.

Poe 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 day mark and the loss of some exterior features such as the two pillar cranes on the pier deck, the flag pole and 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. Poe Reef Light Station continues to operate as a federal aid to navigation today.

Lighthouse Architecture in the Great Lakes

The construction of a permanent light station at Poe Reef Light Station marks the early stages of an extensive project to improve aids to navigation in the Straits of Mackinac. The Lighthouse Service obtained special Congressional appropriations for the task, seeking to replace all of the lightships in the area and to experiment with remote control operations. Fixed aids were superior to lightships in that they were not displaced by storms, were serviceable in early spring and late fall when ice made it impractical to maintain a lightship at a site, and were more cost effective over time. Before finishing Poe Reef, work had already begun on Fourteen Foot Shoal Light Station some 3.5 miles distant. Radiotelephones were installed at both stations to permit communication with each other and to land. Lighthouse Service engineers planned for one of the four Poe Reef keepers to monitor Fourteen Foot Shoal on an alternating basis. The engineers successfully developed a way to operate the sound signal through radio signals emitted from Poe Reef when fog approached, thereby eliminating the need for additional personnel. This was one of the earliest examples of off-site operation for a light station.

Poe 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 same work crew that built Martin Reef Light Station completed Poe Reef just two years later using standardized lighthouse design plans.

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[1]Charles K. Hyde, *Northern Lights: Lighthouses of the Upper Great Lakes* (Detroit: Wayne State University Press, 1995), 20.
[2]"A Chronology of Lake Navigation," <http://www.nmu.edu/upstudies/UPinfo/UPMarit/CHRONO.htm>.

The superstructure also represents a transition in the style of architecture employed in light house design. Several architectural features suggest that the Modern movement influenced Poe 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 second phase or Machine Age began after World War I when design emphasized the standardization of parts, absence of all non-functional decoration, and structural "honesty" as hallmarks.[3] Poe Reef Light Station's structural steel frame and steel-plate exterior exhibit few ornamental details. The tower has a smooth wall surface and a flat roof with coping at the roofline as does the watch room. The balustrades of the watch room and lantern galleries project a horizontal emphasis to the structure—an identifying feature of Art Moderne.[4]

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. At the present time, small craft and barge traffic also enter the Great Lakes from the Gulf of Mexico via the Mississippi River and the Illinois Waterway and from New York Harbor via 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. The St. Mary's Falls Ship Canal (the Soo Locks) at Sault Ste. Marie, Michigan, 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 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.

[3]Virginia and Lee McAlester, *A Field Guide to American Houses* (New York: Alfred A. Knopf, 1995), 10.
[4]Ibid., 465.

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, and 32 more were completed during the 1830s. From 1841 to 1852, the Lighthouse Establishment added 33 additional lights.[5] 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.[6] 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 light ships 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 Poe Reef Light Station

Maritime traffic through the Straits of Mackinac 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 the 1890s, the Lighthouse Board realized the need to mark several hazardous offshore locations, including Poe Reef, with aids to navigation. However, congressional funding was limited. The Board began rethinking how best to use an existing $60,000 Congressional appropriation. Rather than constructing a single lighthouse off Peninsula Point with the money, they chose to build four lightships.[7] On September 29, 1893, Lightship LV62 first anchored into position on Poe Reef and remained there during the next seventeen shipping seasons. Lightship LV59 replaced LV62 at the start of shipping season in 1911 and returned each season until proven unseaworthy in 1914. Transferred from Buffalo, LV96 marked Poe Reef from 1915 through the end of the navigation season in 1920. The fourth and final lightship, LV99, arrived at the site in the spring of 1921.[8]

The size, strength, and number of commercial vessels navigating the Great Lakes increased throughout the 1920s. The shipping season started earlier as it became easier for such vessels to make their way through thicker ice. Lightships 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. Congress responded to the dilemma by providing special appropriations for improving offshore aids to navigation in the Straits of Mackinac. The project began in 1925 with the construction of Martin Reef Light Station. Upon its completion in 1927, the experienced work crew moved the entire base camp to a new campsite at Cheboygan, Michigan, at the mouth of the Cheboygan River.

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[5]Charles K. Hyde, *Northern Lights*, 15-16.

[6]Ibid., 20.

[7]The four light ships were built by Craig Shipbuilding Company in Toledo, Ohio and designated as Light ships LV59, LV60, LV61, and LV62.

[8]Terry Pepper, "Martin Reef Lighthouse," in "Seeing the Light: Lighthouses of the Western Great Lakes," <http://www.terrypepper.com/lights/huron/poereef/poereef.htm>, page last updated 7 December 2003.

After establishing the base camp, work simultaneously began both on shore in Cheboygan and offshore at Poe Reef just 950 yards from Lightship LV99.[9] At camp, the work crew first built a wooden skid-way upon which they constructed and would eventually launch the 60-foot square underwater portion of the crib. A 7-foot belt of 0.5-inch thick steel plating was then attached to the top timbers of the crib, forming a protective flashing at the water line. Concomitantly, lighthouse tender ASPEN towed Lighthouse Service Scow #1 to the building site. Divers guided the scow's clamshell as it cleared all rocks and boulders from the hardpan bottom to create a level surface for the crib. Working in about 24 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.[10]

Lighthouse tenders MARIGOLD and ASPEN attached lines to the crib, eased it down the greased skid way into Lake Huron and carefully towed it to the prepared site on Poe Reef. The crib's ballast pockets were then filled with stone, allowing it to sink to the leveled reef bottom. Water was then pumped from the crib's pockets and a concrete mixer and chute aboard the Scow # 1 filled the crib to the top of the steel plating. 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 transported the bunkhouse from Cheboygan Pier onto the finished pier at Poe Reef. They constructed a cook shed and took residence at the work site, thus eliminating the daily commute from shore.[11]

Made of structural steel framing with walls of 0.25-inch thick steel plate backed with 10-inch hollow masonry tile, the lighthouse tower supported a watch room and a third-order lantern. The tower is nearly identical to that at Martin Reef completed in 1925. The first level housed signal equipment and machinery, while the second and third levels served as the keepers' living quarters. The living quarters came equipped with plumbing, heating, and electric lights.[12] Upon completion, the equipment, tools, and camp quarters were loaded aboard the ASPEN and transported back to Cheboygan, where work resumed on Fourteen Foot Shoal. At a final cost of $129,400, the Poe Reef Light Station was commissioned on 15 August 1929. Its established light characteristic was a group flashing white (first flash = 1 second; eclipse = 1.5 seconds; second flash = 1 second; eclipse 6.5 seconds). The optic's focal plane is 71 feet above lake level with a visible range of 16 nautical miles.

As early as December 1927, Lighthouse Service engineers planned to install a radiophone communication network at Poe Reef Light Station, Fourteen Foot Shoal Light Station, and onshore in Cheboygan, Michigan. Such technology eliminated the need for permanent keepers at Fourteen Foot Shoal, since the keepers at Poe Reef could furnish temporary assistance when necessary.

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[9]United States Department of Commerce, "Poe Reef Light Station, Lake Huron," *Lighthouse Service Bulletin* 3, no. 70 (Washington, D.C.: GPO, October 1, 1929), 307.

[10]John J. Sellman, *Martin Reef Lightship to Lighthouse: Another Chapter in Les Cheneaux History* (Cedarville: Les Cheneaux Historical Association, 1995), 27.

[11]Terry Pepper, <http://terrypepper.com/lights/huron/poereef/poereef.htm>.

[12]United States Department of Commerce, "Important Lighthouse Built on Poe Reef in Lake Huron," *Lighthouse Service Bulletin* 4, no. 4 (Washington, D.C.: GPO, April 1, 1930), 15.

The lighthouse district began testing a system of remote control fog signals at Fourteen Foot Shoal in January 1929, using Poe Reef as the control base. By February 1929, the Lighthouse Service deemed it practical to employ one Poe Reef keeper on a rotating basis at Fourteen Foot Shoal. The radiophone made it unnecessary for the Fourteen Foot Shoal keeper to stand a night watch. The man on duty could be contacted by radiophone if the keepers at Poe Reef noticed any problems with the remote control unit throughout the night.[13]

Poe Reef Light Station underwent major repairs during 1931 and 1932. Scouring had taken place at each corner of the crib. The worst occurred at the northwest and southeast corners, "where the crib had been undermined to a depth varying from 8 to 18 inches for a distance of 20 feet from the corners."[14] The problem was realized so late in the 1931 season that harsh weather prevented workers from correcting the damage at the southwest and northeast corners until 1932. During each repair, the basic process consisted of removing deposited gravel from beneath the worn crib and replacing it with concrete-filled bags and grout. A reinforced wall of concrete followed by 1,952 tons of riprap was then built around the entire base of the crib.

Poe Reef keepers were not allowed to have visitors while on duty at the principal station. However, while on duty at Fourteen Foot Shoal in 1934, second assistant W.J. Miller attempted to take advantage of his off-duty evenings when he requested that his wife be allowed to visit him at the station "at various times as found practicable."[15] In 1939, the Lighthouse Service was abolished as a separate federal agency, and its duties were subsumed by the U.S. Coast Guard. The Coast Guard continued to employ one primary keeper and three assistant keepers, one of whom was detailed for duty at nearby Fourteen Foot Shoal Light Station. This staffing continued until the lighthouse at Poe Reef was automated in 1974. Today, Poe Reef Light Station employs a solar-powered Max Lumina Marine Lantern ML-300 Series E optic. The characteristic is a white isophase light of two second duration that is visible for nine nautical miles. An isophase light is one where the signal's phases of light and darkness are equal. The lighthouse's fog signal operates year round and sounds a three-second blast every thirty seconds.

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[13]United States Department of Commerce, "Repairs to Foundation of Poe Reef Light Station," *Lighthouse Bulletin* 4, no. 36 (Washington, D.C.: GPO, December 1, 1932), 139-140.

[14]Park to Commissioner of Lighthouses, 10 December 1927, typed, RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives; Park to Commissioner of Lighthouses, 1 February 1929, typed, RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives; Office of Superintendent 11th District, Detroit, Michigan to Commissioner of Lighthouses, 14 October 1929, typed, RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives.

[15]H.D. King, Deputy Commissioner of Lighthouses, to Commissioner of Lighthouses, 31 May 1934, typed, RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives.

Bibliography

Primary Sources

King, H.D, Deputy Commissioner of Lighthouses, to Commissioner of Lighthouses, 31 May 1934. Typed. RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives.

Office of Superintendent 11th District, Detroit, Michigan to Commissioner of Lighthouses, 14 October 1929. Typed. RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives.

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Park to Commissioner of Lighthouses, 1 February 1929. Typed. RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives.

United States Department of Commerce. "Poe Reef Light Station, Lake Huron." *Lighthouse Service Bulletin* 3, no. 70. (Washington, D.C.: GPO, October 1, 1929), 307.

United States Department of Commerce. "Important Lighthouse Built on Poe Reef in Lake Huron." *Lighthouse Service Bulletin* 4, no. 4 (Washington, D.C.: GPO, April 1, 1930), 15.

United States Department of Commerce. "Repairs to Foundation of Poe Reef Light Station." *Lighthouse Service Bulletin* 4, no. 36 (Washington, D.C.: GPO, December 1, 1932), 139.

Secondary Sources

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McAlester, Virginia and Lee. *A Field Guide to American Houses.* New York: Alfred A. Knopf, 1995.

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

Pepper, Terry. "Poe Reef Lighthouse." In "Seeing the Light: Lighthouses of the Western Great Lakes." <http://terrypepper.com/lights/huron/poereef/poereef.htm>. 7 December 2003.

10. Geographical Data

Acreage of Property Less than one acre

UTM References

	Zone	Easting	Northing
1	16	705380	5063290

Verbal Boundary Description:
The boundary is conterminous with the exterior perimeter of the base of the structure's foundation crib and any rock riprap around it.

Boundary Justification:
The boundary includes the crib, pier, and superstructure that have historically been part of the Poe Reef Light Station.

11. Form Prepared By

name/title Karmen Bisher, Maritime Historian, NCSHPO Consultant/ edited by Jennifer Perunko, NPS Maritime Historian, and Daniel Koski-Karell, Ph.D., U.S. Coast Guard Headquarters Environmental Management Division

organization Maritime Heritage Program, National Park Service date 21 March 2005

street & number 1849 C Street, NW (2280) telephone 202-354-2244/2243

city or town Washington state DC zip code 20240-0001

Additional Documentation

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.

Additional items
(Check with the SHPO or FPO for any additional items)

Property Owner

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

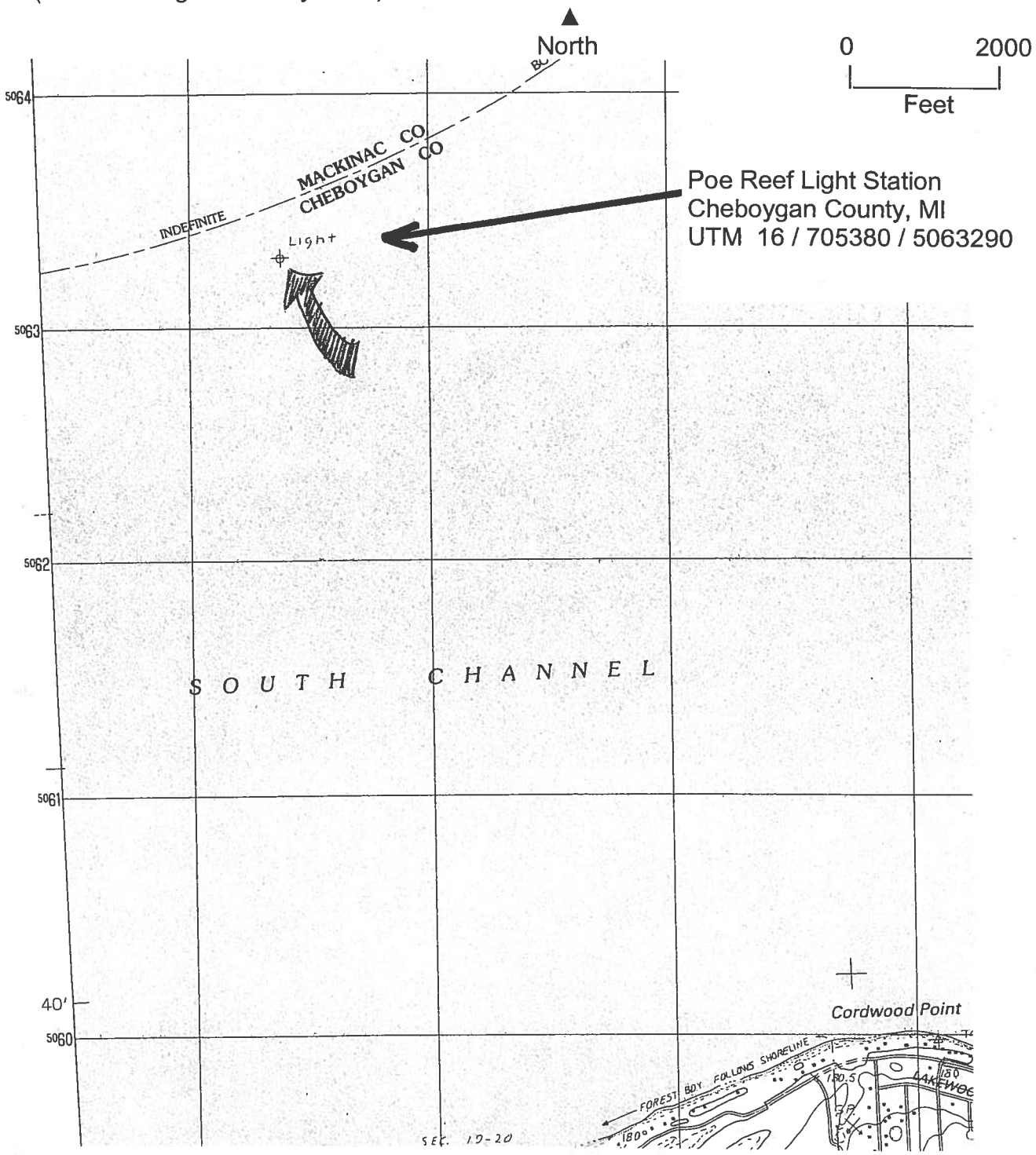
name U.S. Coast Guard Headquarters

street & number 2100 2nd Street SW telephone 202-267-1587

city or town Washington state DC zip code 20593

LOCATION MAP

This is a portion of the "Cordwood Point, Michigan" 7.5 minute topographic quadrangle map, scale 1:25,000 (U.S. Geological Survey 1982).



LIST OF PHOTOGRAPHS

Contemporary Photographs (1-4)

Name of Property: Poe Reef Light Station
County and state: Cheboygan County, Michigan
Name of photographer: Karmen Bisher
Date of photographs: 23 June 2004
Location of original negatives: Maritime Heritage Program, National Park Service, Washington, D.C.

1. East elevation.

2. Overall exterior, façade and east elevation.

3. Basement staircase.

4. Interior of lantern—lantern gallery railing with radar equipment attached to concrete capital.

Historical Photographs (5-6)

Name of Property: Poe Reef Light Station
County and state: Cheboygan County, Michigan
Name of photographer: Unknown
Negatives in U.S. Coast Guard Historian's Office, U.S. Coast Guard Headquarters, Washington, DC.

5. Circa 1928 view showing pier during construction.

6. 1929 view of Poe Reef Light Station showing original white daymark.

POE REEF LIGHT STATION
CHEBOYGAN COUNTY, MI
PHOTOGRAPHER: KARMEN BISHER
DATE: 23 JUNE, 2004
ORIGINAL NEGATIVE IN MARITIME HERITAGE PROGRAM
NATIONAL PARK SERVICE,
WASHINGTON, D.C.

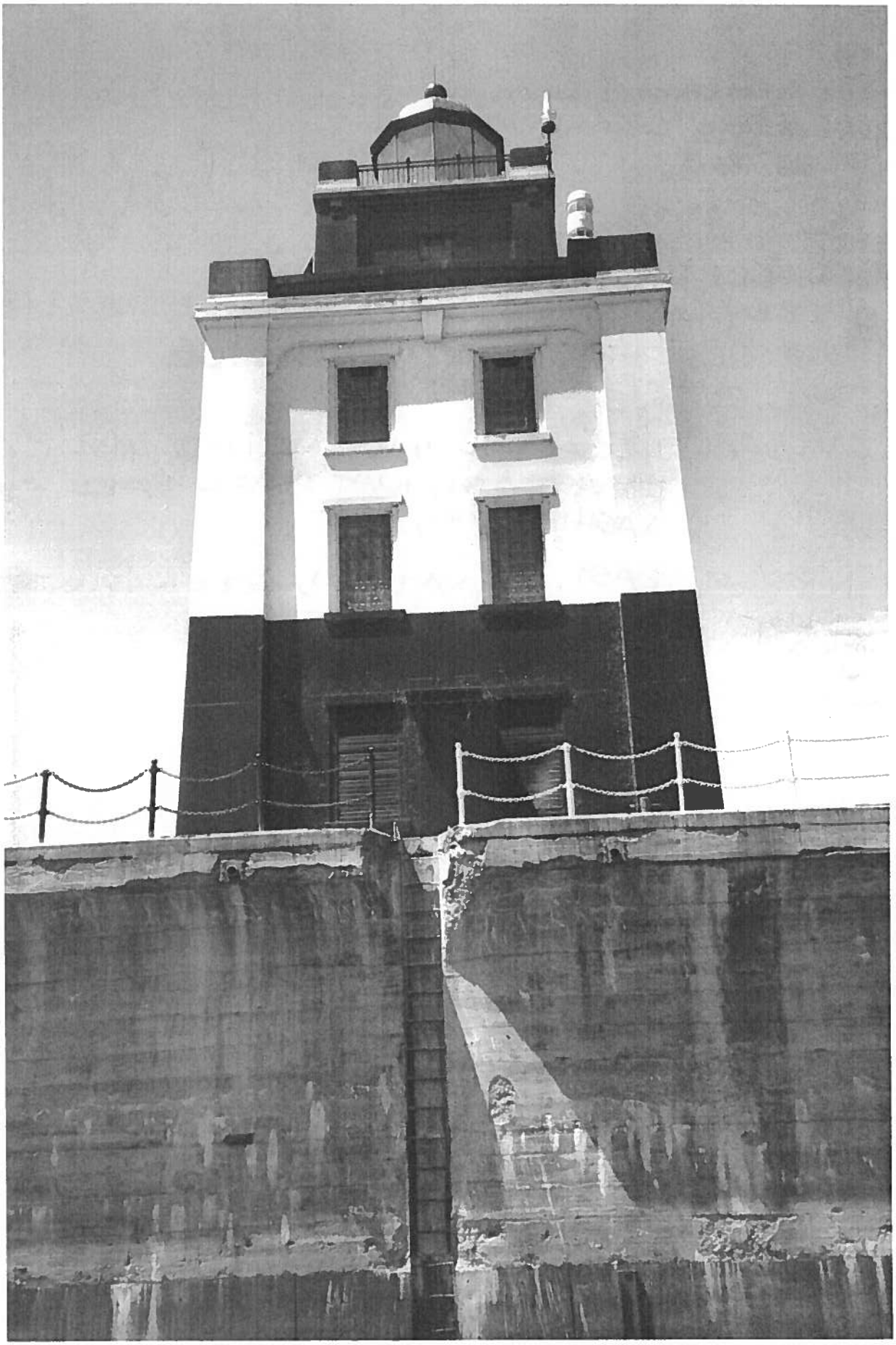
VIEW OF SOUTH ELEVATION, LOOKING NORTH
PHOTO #1

Poe Reef Light Station
Cheboygan County, Michigan
Photo # 1

Poe Reef Light Station
Cheboygan County, Michigan
Photo #2

POE REEF LIGHT STATION
CHEBOYGAN COUNTY, MI
PHOTOGRAPHER: KARMEN FISHER
DATE: 23 JUNE 2004
ORIGINAL NEGATIVE IN MARITIME HERITAGE PROGRAM, NATIONAL PARK SERVICE, WASHINGTON, D.C.

VIEW OF EAST ELEVATION, LOOKING WEST.
PHOTO #2



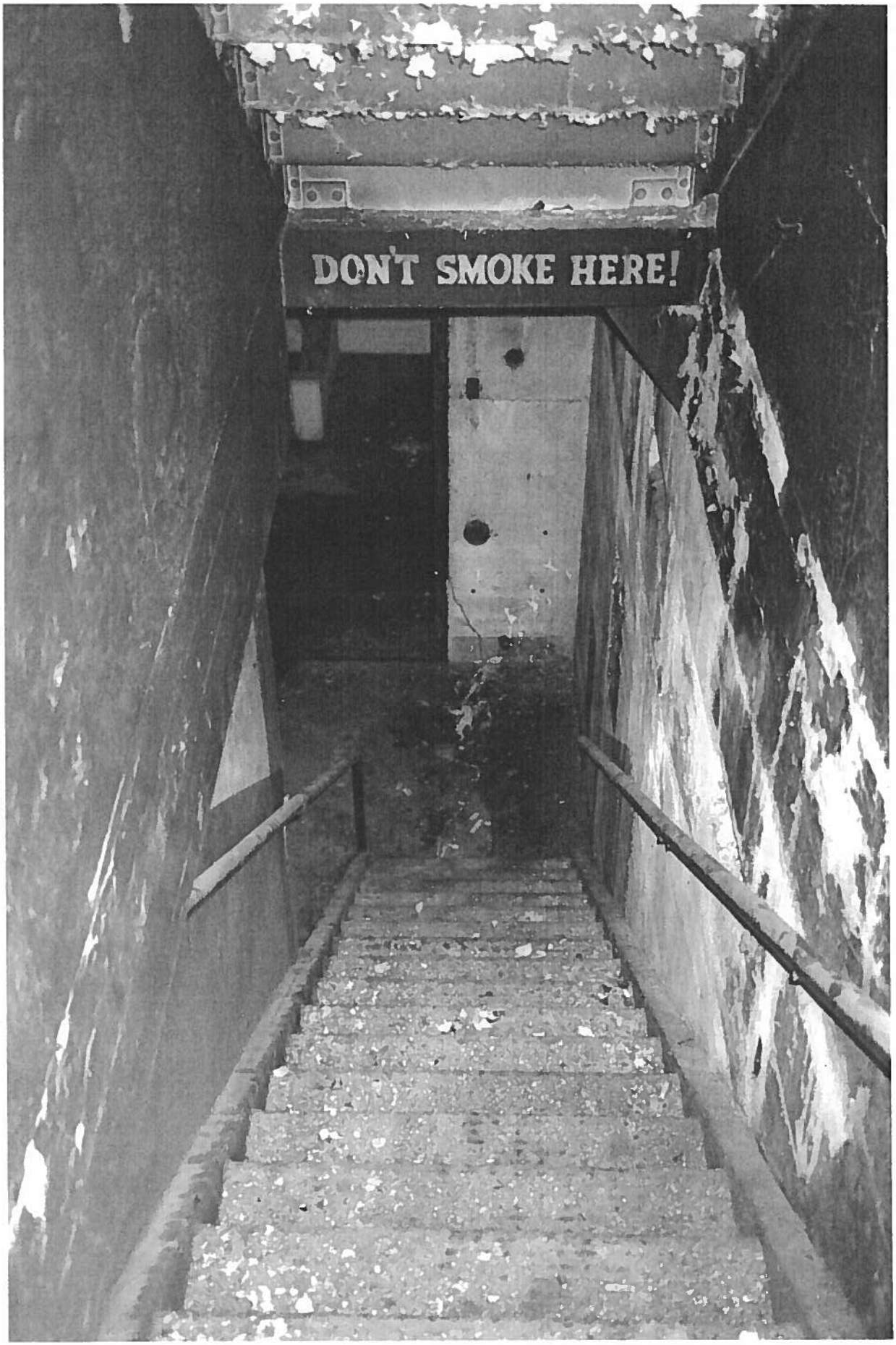
LO. 76

Poe Reef Light Station
Cheboygan County, Michigan
Photo # 3

POE REEF LIGHT STATION
CHEBOYGAN COUNTY, MI
PHOTOGRAPHER: KARMEN BISHER
DATE: 23 JUNE, 2004

ORIGINAL NEGATIVE IN MARITIME HERITAGE PROGRAM, NATIONAL PARK SERVICE, WASHINGTON, D.C.

VIEW OF BASEMENT STAIRWAY
PHOTO #3


DON'T SMOKE HERE!

Poe Reef Light Station
Cheboygan County, Michigan
Photo #4

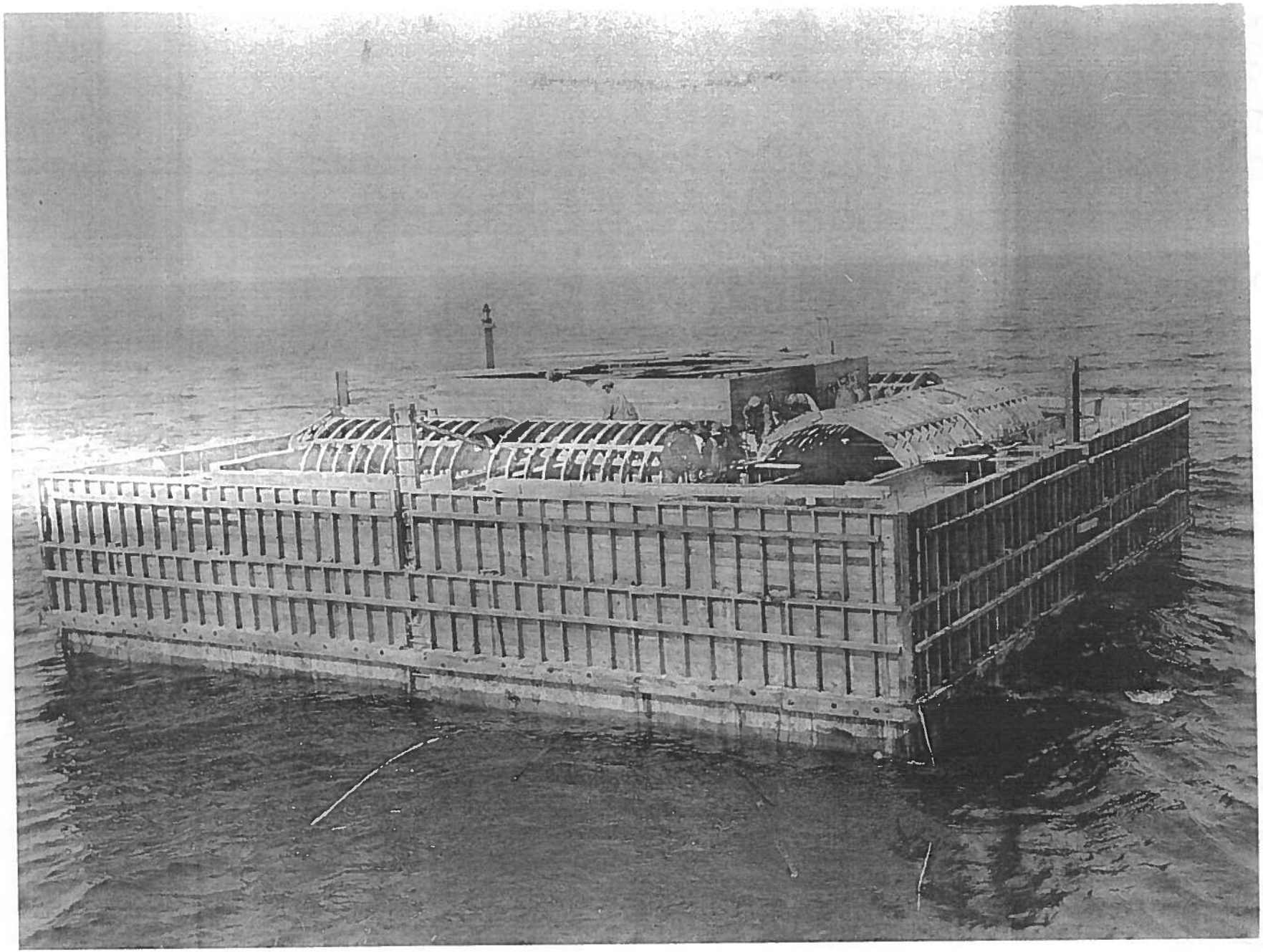
POE REEF LIGHT STATION
CHEBOYGAN COUNTY, MI.
PHOTOGRAPHER: KARMEN BISHER
ORIGINAL NEGATIVE IN MARITIME HERITAGE PROGRAM, NATIONAL PARK SERVICE, WASHINGTON, D.C.
VIEW OF LANTERN GALLERY RAILING AND CONCRETE CAPITAL WITH RADAR BEACON AFFIXED, LOOKING NORTHEAST

PHOTO #4

POE REEF LIGHT STATION
CHEBOYGAN COUNTY, MI
PHOTOGRAPHER: UNKNOWN
DATE: CIRCA 1928
ORIGINAL NEGATIVE IN U.S. COAST GUARD HISTORIAN'S OFFICE
U.S. COAST GUARD HEADQUARTERS,
WASHINGTON, D.C.

VIEW SHOWING PIER DURING CONSTRUCTION.
PHOTO #5.

Poe Reef Light Station
Cheboygan County, Michigan
Photo #5



Poe Reef Light Station
Cheboygan County, Michigan
Photo #6

POE REEF LIGHT STATION
CHEBOYGAN COUNTY, MI
PHOTOGRAPHER: UNKNOWN
DATE: 1929
ORIGINAL NEGATIVE IN U.S. COAST GUARD HISTORIAN'S OFFICE, U.S. COAST GUARD HEADQUARTERS, WASHINGTON, D.C.

VIEW OF POE REEF LIGHT STATION SHOWING ORIGINAL WHITE DAYMARK.

PHOTO #6