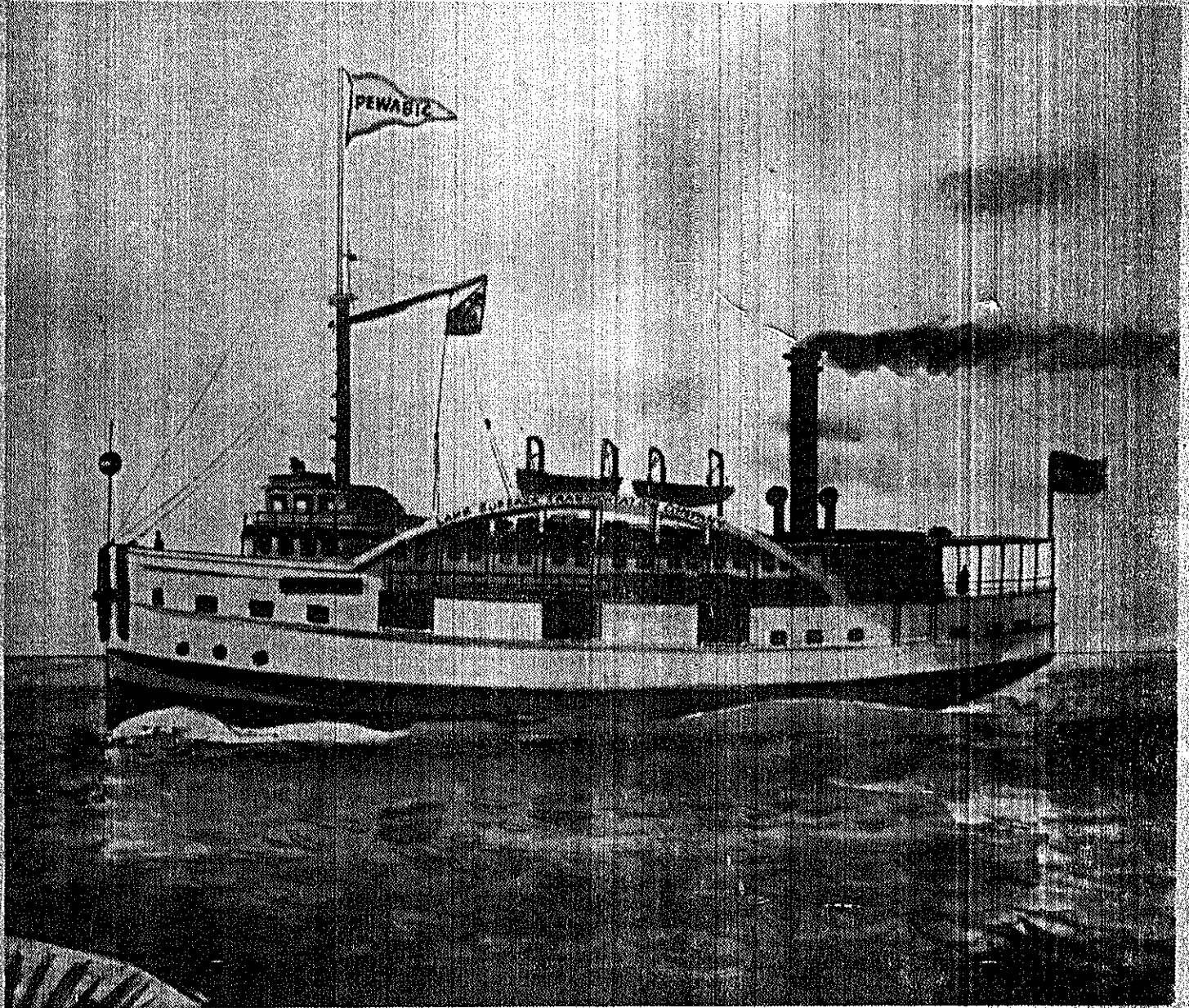


THE PEWABIC



LOSS OF THE STEAMER PEWABIC

At 8 p.m. on August 9, 1865 the passenger Steamer PEWABIC was six miles southeast of Thunder Bay Island on her return voyage from Lake Superior. She had sailed from Houghton, Michigan on August 7th with a full load of passengers and freight.

The sun was just about to set when the propeller driven METEOR, owned by the Lake Superior Transportation Company like the PEWABIC, was seen six miles to the south. The usual signals were exchanged and the PEWABIC altered her course to pass, but for some unknown reason, the METEOR turned in the same direction and struck the PEWABIC just aft of the bow under the pilot house on the port side. Both vessels were running at 12-knots when the impact came, causing the METEOR'S bow to cut halfway through the PEWABIC.

Only a few passengers had time to jump from the PEWABIC to the deck of the METEOR before the PEWABIC sank four minutes later. As the wreck sank air compressed in the hull forced the pilot house and cabins to float off. Life boats were lowered from the METEOR and a few passengers and crew members were rescued in the dark. The Steamer MOHAWK had seen the collision from a distance and arrived over the wreck within a few minutes. After searching for survivors the MOHAWK resumed her course for Detroit.

The PEWABIC had about 175 passengers and crew on board and of these 75 passengers and 28 of her crew were saved, the others were lost. The exact number of passengers was not known because the passenger list went down with the ship. The total number of people lost has been estimated to be as high as 125 people.

The cargo of the PEWABIC included 48 cakes of Isle Royal copper weighing 7,387 pounds, 41,400 pounds of Quincy mine copper in barrels, 9,109 pounds of Hancock mine copper in barrels, 53,600 pounds of Pewabic mine copper in barrels, 32,200 pounds of Franklin mine copper in ingots, and a large quantity of Quincy mine copper to make a total of 267 tons of pure copper.

The cargo also included 175 tons of iron ore, 200 ships-knees, 250 half barrels of fish, 27 rolls of leather and 10 tons of miscellaneous freight.

The PEWABIC was built in Cleveland, Ohio by Peck and Masters and was launched in October of 1863. The cabin work and interiors were not finished until the spring of 1864. She was 200-feet long, had a beam of 31-feet, and a hold about 12-feet deep. The PEWABIC had a center arch that was unique to vessels of that period which was designed to give the hull additional longitudinal strength.

The PEWABIC had skylights, stained glass windows, marble table tops, silver serving ware and cabins decorated with ornate wood work. She was considered to be one of the finest ships on the Great Lakes at that time.

SALVAGE EFFORTS

Although the exact location of the PEWABIC was known, most of the professional wrecking companies in existence at that time had no interest in the wreck because of it's depth. Diving operations in 180-feet of water had been carried out before 1865 but were considered impractical and very dangerous.

The traditional hard hat diving helmet and suit, invented in 1835, and still used by the U.S.Navy, was used for all salvage work on the Great Lakes before 1897, Decompression tables were non-existent and reports of divers dying of "heart attacks" and "bad Air" were very common.

In 1897 Captain Reid lost several divers while trying unsuccessfully to refloat the Steamer CAYUGA in 106-feet of water in Lake Michigan. Each diver was allowed to work on the botton for two hours without decompression! After several divers had been lost because of "over exertion," Captain Reid reduced the allowable work time to one hour.

The Cayuga was abandoned after a lifting pontoon broke loose from the wreck and sank the salvage barge. A diver was trapped under the barge and until a few years ago his air hose could still be seen coming out from under the wreckage.

Several small expeditions were organized to find the PEWABIC by wealthy businessmen who had no experience with salvage. The usual method of search was to drag a long cable between two tugs. In the fall of 1879 one search party snagged an obstruction but bad weather and limited capital prevented a definate identification of the obstruction.

In 1880 the tugs C.M.Farrer and E.M.Peck were chartered by several Alpena Michigan residents to search unsuccessfully for the wreck. Three different groups were looking for the wreck in 1892. One group lead by D.G.Aber, somehow thought the wreck should be "20 miles south or southeast" of Thunder Bay Island. The first interest by a reputable wrecking company was in 1892 when the wrecking steamer Emerald searched unsuccessfully for the wreck.

In 1897 the American Wrecking and Salvage Company of Milwaukee, Wisconsin working under contract for the Aetna Insurance Company, chartered the wrecking steamer H.A.Root for the entire season of 1897. The Root arrived in Port Huron June 1, 1897, and installed the Smith Diving Bell and other pieces of related diving equipment. The Smith Diving Bell was a new invention, developed by W.G. Smith, and the main purpose of the expedition was to demonstrate it's capabilities. The Root sailed for Alpena and found the PEWABIC for the first time in 32 years on June 8, 1897. According to Smith "the PEWABIC was located six and one-half miles south southeast of Thunder Bay Island in 160-feet of water. She lies in the regular path of vessels, headed out, and on an almost even keel. The sides stand 20-feet above the bottom. The upper works and upper decks are entirely gone but the bulwarks are standing and the deck appears to be in tact. The hull seems to be in good shape."

It was the cargo and not the steamer itself that made the search so attractive. In 1897 copper was worth .11 cents a pound, so the entire cargo of 276 tons was valued at only \$60,720.00. There were several reports that the safe contained \$60,000.00 in gold. The PEWABIC'S purser, Charles A. Mack, and Captain George P McKay, treasurer of the Lake Carriers Association in 1897, both stated that there was less than \$50.00 in the safe. Just after the PEWABIC sank a steerage passenger claimed that his wife had worn a money belt that contained a large amount of money and several valuable diamonds. It seems doubtful that a wealthy woman would travel as a steerage passenger.

On June 18, 1897, the first barrel of copper, weighing 1,500 pounds, was recovered. Captain Ludington of the H.A. Root explained that it had taken nearly three weeks to set anchors around the wreck and that Smith had discovered that most of the barrels had been broken up and buried in the wreckage. The "salon" door, smokestack and exhaust pipe were recovered while clearing away some of the wreckage. Captain Ludington and Smith abandoned their plan to raise the entire wreck and show it around the Great Lakes for admission charge, so dynamite was used to clear the wreckage.

On June 26th a freight truck and four pieces of copper weighing a total of three tons was recovered. One piece of copper was marked "O.M.s Co. No.63" and weighed 2,476 pounds. The freight truck was displayed in a store window in Alpena and attracted considerable interest.

On July 8 Captain Gibson, who was master of the Steamer MOHAWK in 1865, stopped at the wreck site and gave directions where Smith might locate the baggage. Captain Gibson felt that all personal belongings and baggage should still be on the wreck. He stopped the MOHAWK directly over the wreck just after it had gone down and had seen nothing on the surface except a life boat and parts of the cabin. On July 10 the H.A.Root docked in Alpena with "a large amount of copper", three freight trucks, the governor off the engine, the main spar and a silver dining tray. On July 27 Captain Persons and his wife, the lighthouse keeper at Thunder Bay Island visited the wrecking operations and were invited to descend on the wreck in the diving bell.

"It was a sight for your life to see the old boat. We were lowered into the hull where the break was. Her bow is cut off about 25 or 30 feet from the stem. She was not entirely cut in two, but when she went down head first the copper rushed into the bow and broke it off, and now it lies about 20 feet from the hull. As we were leaving the wreck we could almost hear some of the lost passengers cry out to us".

By the end of August only 30 tons of copper had been recovered. The wreck had been unsuccessfully dynamited several times. Critics of the Smith diving system were quick to point out the lack of progress. "The PEWABIC wreckers have obtained little for their efforts thus far, except the distinction of having found the famous old wreck that has defied location for many years, and the advertising that has been awarded to their peculiar style of diving bell." The general opinion was that Smith had not recovered enough copper to pay expenses.

J.S.Gadsen, the Chicago agent for Aetna Insurance company, gave the best description of the diving bell and salvage procedure: "When we went down, the bell was lowered from the wrecking barge over the sunken steamer by a derrick to near the water level and three of us would enter the bell at the top. Air was pumped in and the cover was put on and sealed. Then we descended. For 20 feet or so from the surface there was a slight leak at the edges of the cover, but as we got deeper the overhead pressure was so great that it sealed tight, and not a drop came through. We were in telephonic communication with the surface at all times and the bell was lighted by electricity. We were lowered first on one side of the steamer, which we inspected. It was a hazy day and rather dark, but even at that depth we could see all around us. Several fine specimen of lake trout went swimming by, some of them almost touched the glass. The bell has four legs on the outside worked by cogs and cranks from the inside for balancing it on sloping bottoms. There is also a little propeller for moving it around to any desired position, also worked from the inside.

"An ingenious feature is two steel rods, working in ball bearing joints or journals, which pass through the bottom of the bell, and at their ends are grappling hooks for handling the wreckage. A piece of rock was lowered from the surface and it was pushed into position where it would hold the cable to which it was attached. Then a piece of dynamite was lowered and was placed in position in the same way.

An electric wire was attached to it, and we told them to lift us up. When the dynamite was exploded the surface of the lake was greatly agitated and large numbers of lake trout were killed by the shock and soon were seen floating on the surface.

"When I was there about 30 tons of copper had been recovered, but there were 267 tons on the steamer when she sank, and it is doubtful if any more of it can be recovered. No copper can be found in the hold. We believe that as the vessel was struck in the bow and went down head foremost, the copper went through her, and is now under the hull."

The H.A. Root arrived in Milwaukee September 29, 1897, with 50 tons of copper, the main spar, five freight trucks, the salon door, a marble table top, the silver dining tray, the smokestack, and one beer bottle marked "C. Norris City Bottling Works, Detroit, Michigan."

One single piece of copper weighed 11,200 pounds. The 50 tons of copper recovered by the H.A. Root was only worth \$11,000. After giving the insurance company its share the American Wrecking and Salvage Company didn't have enough revenue to cover its cost. However, the expedition was highly successful in proving that a diving bell could be used to recover a cargo in deep water.

The PEWABIC was forgotten until the copper shortage of World War I. In 1917 an expedition organized and led by Margret C. Goodman of Detroit found the wreck for the second time in 52 years.

A special armored diving suit, designed by B.F. Leavitt of Toledo, was used by the Goodman expedition. It was, in reality, almost a submarine.

The Leavitt diver reported that the wreck was on a clay and rock bottom, on an even keel and the rigging and decks were intact. The diver said he was able to make his way through the steamer's salon and cabins with ease. This statement is surprising because the H.A. Root expedition in 1897 used explosives to "Clear the Wreckage."

Several watches, an ancient revolver, coins dated before the Civil War, bracelets and hair combs, square-toed shoes, black silk and hand lace, door keys and locks with PEWABIC stamped on them and steamer silver ware were recovered by the divers. A picture of a passenger, F.W. Ludlow, was as distinct as the day it was made.

A cane made from the wood and copper salvaged July 17, 1917 from the PEWABIC was presented to Captain George P. McKay of Cleveland in 1918 by S.S. Moffat, collector of customs, Alpena, Michigan.

Although many have looked for it, the PEWABIC remained untouched until it was relocated by this writer, owner of Busch Oceanographic Equipment Company on July 21, 1973. The author did a great deal of research on the PEWABIC to determine its most probable position as precisely as possible. Accurate research data is always vital to insure a successful search. Underwater Closed Circuit TV, proton gradient magnetometer, and a Wesmar side scan sonar system were used during the search.

Utilizing techniques that the author has developed for deep water small object search-recovery, the wreckage was found in less than one hour. We lowered the closed circuit television and were surprised to find that the PEWABIC was mostly intact. We carefully recorded the position and left the site unmarked to prevent vandalism.

A permit issued by the Department Of Natural Resources, is required before salvage operations may begin. The permit is written to insure that all artifacts of historical interest are preserved and to protect the commercial salvor from vandals and pirates.

The commercial salvor has a large investment in equipment and his daily operating cost is high. He must have a firm legal agreement with the proper authorities to protect his rights. Unfortunately, there are many operators, both large and small that will try to illegally salvage a wreck. As Mark Twain once said "they stoled into the territory, they stoled the territory, they stoled out of the territory."

The "big time" shady operator will usually rent everything in sight, propose to salvage the wreck in a few weeks and than disappear when the rent comes due. The small time shady operator will usually sneak out to a wreck, remove what he can haul and then sneak back to shore. In either case artifacts of historical interest are either lost or destroyed.

Busch Oceanographic Equipment Company has agreed to recover and label artifacts for the State Of Michigan, provide color motion picture film footage and 35mm color slides and provide two copper ingots for display in exchange for exclusive rights to salvage the cargo. Through this agreement the State will receive valuable services at no cost that would otherwise be unavailable to obtain valuable artifacts, photographs and information for public display.

The wreck is setting on an even keel in approximately 180-foot of water. We were very surprised to find the stern section of the wreck completely intact. The bulwarks on the stern are still standing 15 feet above the main deck. The center arch comes through the main deck just forward of the engines and runs the entire length of the ship.

The first 50 feet of the vessel, from the bow toward the stern, has been destroyed. All that is left of the bow is an anchor half buried in iron ore. Unfortunately, the cargo of copper, which was shipped in wooden barrels, is covered by the iron ore. The cargo must have shifted toward the bow as the vessel sank, making a jumbled mess of iron ore, copper and wooden wreckage.

The 1897 and 1917 expeditions cleared the wooden wreckage and left a rock pile consisting of iron ore, coal and copper. The aft 50 foot section of the hold is still intact. The author explored the hold and found that it is empty except for a few barrels of fish and four rolls of leather. The leather is still neatly coiled in rolls approximately four feet in diameter and four feet high. The main deck at the stern is littered with wreckage from the cabins. It was on the stern, right in the middle of the deck, that we discovered the most unexpected and suprising thing. The safe, rumored to contain \$50,000. and supposedly recovered in 1917 by Leavitt, was sitting in plain sight on the stern. We recovered the safe on July 4th and were disappointed to find that it had rusted through in several spots. However, we maintained our excitement as we watched the water run out through the holes and discussed the best way to open it. We finally decided to cut a hole in the back side and remove four inches of clay and mica fire insulation. The inside of the safe was lined with wood that had maintained it's strength after 109 years on the bottom of Lake Huron. Inside the safe we found two leather pouches which were almost completely disintegrated. Each pouch contained a soggy black mass of papers. The author worked all night and managed to successfully restore part of a five dollar bill issued in 1864 and a check for \$5.00 from the Ridge Mining Company.

Working in 180-foot of water is slow and tedious, scuba gear is impractical for performing any useful work at this deptn. Surface supplied diving gear, a modernized version of the old "hard hat" diving dress is being used by Busch divers.

Air is supplied by a low pressure air compressor or from high pressure storage cylinders. Air pressure and volume are controlled for the diver on the surface from a gas control panel designed by this writer for deep multiple gas mixtures diving. An umbilical assembly supplied breathing gas to the diver and provides power for operating tools and lights, voice communications and closed circuit television pictures.

The diver wears clothing under an inflatable dry suit which stays warm in the 38-degree water temperature at the bottom. Even with this type of equipment, a diver can remain on the bottom for only 30-minutes and then must endure 57 minutes of decompression. Except for the first dive of the day, when visibility is usually 15 feet, the diver must work inside a jumbled pile of wreckage with zero visibility. Everything is done by carefully feeling around by hand in the silt.

Weather is the most difficult problem encountered in the recovery operation. One or two good days per week is common. The weather changes so fast that the salvage ship is often forced to turn around halfway to the wreck and run for shelter. If a storm hits while a diver is down, the ship must hover over the wreck until decompression has been completed and the diver returns to the surface. For this reason, it is necessary to work around the clock when the weather is favorable.

Roughly three thousand years ago the first copper miners on Lake Superior gathered pieces of 'float copper' dropped from ancient glaciers. The precolumbian "copper miners" were followed by the French in 1690, the English in 1771, and finally American interests in 1820. The first mine in the region was established at Copper Harbor in 1843. Prior to the 1860's, most of the Lake Superior copper mining was centered on deposits of large pure copper masses. The Quincy Mining Co., was one of the first to attempt mining the low grade ore deposits. The Quincy was organized in 1848 but was unimportant until 1856 when the Pewabic lode was discovered. The mill was located on Portage Lake just west of the present Houghton-Hancock bridge. North of the Quincy and on the same lode, was the Pewabic Mining Company, organized in 1853. The Franklin Mining Company was also operating on the Pewabic lode and was located just north of the Pewabic mine. Organized in 1857, the Franklin mine operated for more than 60 years, but with poor financial results. Organized in 1860, the Hancock Mining Company was never considered to be a major producer of copper and was operated primarily by "tributors". A tributor was someone who worked a mining company's tailing pile for a fixed percentage of the copper that was found. These mines went out of operation many years ago.

A book, written by Oceanographer -- Explorer Gregory J. Busch, giving the complete history of the steamer PEWABIC, the salvage attempts, and a history of Lake Superior copper mining, is being published at present. This hardbound edition includes many rare photographs and illustrations. To order a copy, write to the address below.

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