

FREIGHTERS



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FAREWELL TO THE USCGC ALDER



- ❑ *PORT OF MONROE AWARDED GRANT FOR CARGO SCREENING INFRASTRUCTURE*
- ❑ *ALGOMA SPIRIT DEPARTS FOR THE BONEYARD*
- ❑ *NEW CAPTAIN HENRY JACKMAN BREAKS CARGO RECORD ON MAIDEN VOYAGE*
- ❑ *IN THE DESIGN: BALLAST SYSTEMS*



PORT OF MONROE AWARDED GRANT FOR CARGO SCREENING INFRASTRUCTURE

JULY 26, 2021

U.S. Senator Gary Peters (D, MI) recently announced that a \$770,983 Port Security Grant was awarded to the Port of Monroe. The grant, awarded by the U.S. Department of Homeland Security, was awarded to help the port upgrade cargo screening infrastructure.

"The receipt of this critical grant funding confirms that the Department of Homeland Security, U.S. Coast Guard, and FEMA are aligned and supportive to promote the safe, efficient, and secure movement of containerized cargo through the Port of Monroe," said Paul LaMarre III, the Director at the Port of Monroe. The cargo screening equipment will consist of a Radiation Portal Monitor, which will allow the Port to screen cargo for nuclear and radiological materials.

"This grant places the Port of Monroe in full compliance with the SAFE Port Act and in turn, should allow U.S. Customs and Border Patrol to fulfill their mission of enhancing our nation's economic prosperity", added LaMarre. This grant, along with cooperation from Customs & Border Patrol's Detroit regional office, will help the Port of Monroe reach a level playing field to compete with other ports for handling international cargo in the Great Lakes region. ■

Captain Henry Jackman on the St. Marys River with her record load, August 2, 2021. Photo by Roger LeLievre (Inset) Captain Henry Jackman on the Detroit River, August 16, 2021. Photo by Isaac Pennock

ALGOMA SPIRIT DEPARTS FOR THE BONEYARD

AUGUST 3, 2021

The 35-year-old bulk carrier *Algoma Spirit* was towed out of Montreal, QC, for scrap on August 2, 2021. She departed under tow of the ocean-going tug *V. B. Hispania*, bound for the boneyard in Aliaga, Turkey. Her name was shortened to *Piri* for the scrap tow.

Algoma Spirit was originally constructed in 1986 by 3 Maj Brodogradiliste of Rijeka, Croatia, as *Petka*. She was operated by Jugolinija, the state shipping line of Croatia, at the time part of the USSR. She passed hands to Viken Shipping in 2000, and to Algoma Central Corporation in 2008, being renamed *Algoma Spirit*. The *Spirit* was retired at the end of the 2020 season following a grounding in December 2020, and was sold for scrap early this summer. ■

NEW CAPTAIN HENRY JACKMAN BREAKS CARGO RECORD ON MAIDEN VOYAGE TO THUNDER BAY, ON

AUGUST 5, 2021

Algoma Central Corporation's newest ship, *Captain Henry Jackman* {2}, set a grain record at the Port of Thunder Bay on her maiden voyage. At Thunder Bay, ON, the *Jackman* loaded 31,100 metric tons of Canadian Western Red Spring Wheat grown in southwest Manitoba. The wheat was unloaded in Baie Comeau, QC, to be loaded onboard an ocean-going ship for delivery to West Africa.

Captain Henry Jackman is the latest addition to the Algoma fleet, and is the most recent of the 10-vessel Equinox class. She was constructed in China last year, and was completed and arrived in Canada in late June of 2021. The *Jackman* entered service in mid-July. ■

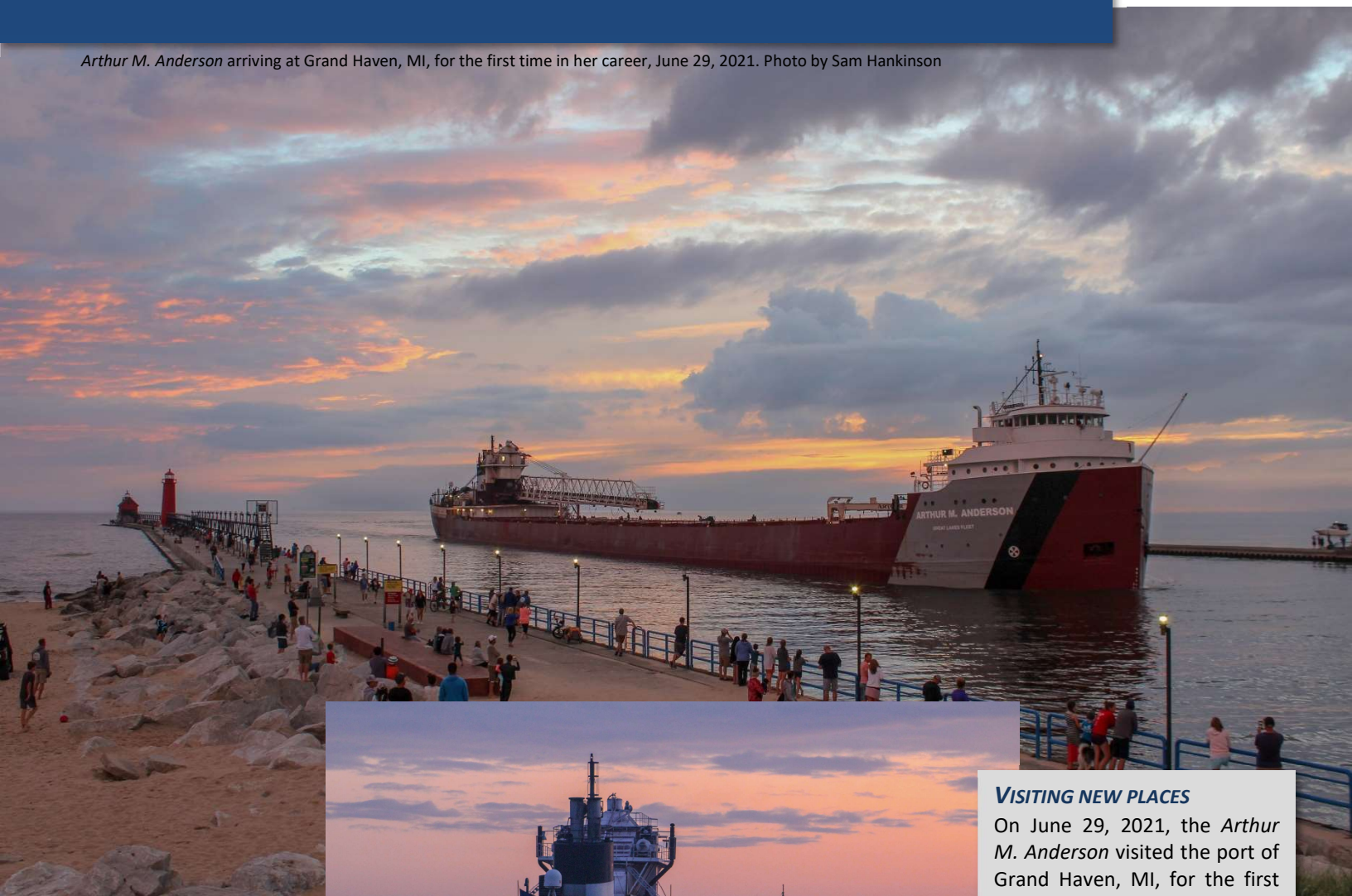
SOURCES:

"Beauchamp, Rene, and Gingras, Yvan. "Port Reports – August 3". Boatnerd Great Lakes & Seaway Shipping. 3 August 2021. Accessed 20 August 2021. www.boatnerd.com/port-reports-august-3/
Heikkinen, Chris. "New Algoma Vessel Breaks Port Record on Maiden Voyage to Thunder Bay". Lake Superior News. 5 August 2021. Accessed 20 August 2021. www.lakesuperiornews.com/economy/new-algoma-vessel-breaks-port-record-on-maiden-voyage-to-thunder-bay
"Peters Announces Port of Monroe Awarded \$770,983 Grant to Help Upgrade Cargo Screening Infrastructure" 26 July 2021. Accessed 22 August 2021. <https://portofmonroe.com/peters-announces-port-of-monroe-awarded-770983-grant-to-help-upgrade-cargo-screening-infrastructure/>

NEWS IN PHOTOS

THE LATEST NEWS CAPTURED IN PHOTOS

Arthur M. Anderson arriving at Grand Haven, MI, for the first time in her career, June 29, 2021. Photo by Sam Hankinson



VISITING NEW PLACES

On June 29, 2021, the *Arthur M. Anderson* visited the port of Grand Haven, MI, for the first time in her storied 69-year career. The *Anderson* was built in 1952 for U.S. Steel Corp., to deliver iron ore to their steel mills. She was converted into a self-unloader in 1982, opening up the opportunity to handle more diverse cargoes. Now, she regularly hauls ore, coal, and stone. *Arthur M. Anderson* is most famous for being the last vessel in contact with the ill-fated *Edmund Fitzgerald* on the night of November 10, 1975. ▣



FAREWELL TO THE USCGC ALDER

LAKE SUPERIOR'S "KING OF THE WATERS" DEPARTS FOR NEW STATION ASSIGNMENT
JULY 7, 2021

USCGC Alder in Duluth/Superior harbor, October 12, 2020. Photo by Gus Schauer



On July 7, 2021, Duluth bid farewell to their Coast Guard Cutter *Alder* as she departed the Duluth Piers for the final time. *Alder* was stationed in Duluth, MN, since her commissioning on June 10, 2005. The "King of the Waters" broke ice, tended to aids to navigation, and served as a symbol of protection on the northern limits of the Great Lakes for over 16 years.

Alder departed Duluth for the U.S. Coast Guard Shipyard in Curtis Bay, MD, for her Midlife-Maintenance Availability (MMA) refit, before heading out to California to serve her new post in San Francisco, CA. Meanwhile in Duluth, the *Alder's* former station will be taken up by her older sister, the USCGC *Spar*, in the spring of 2022.

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Farewell to the USCGC *Alder*, may you have smooth sailing in your future, and welcome to the Great Lakes USCGC *Spar*. ▣

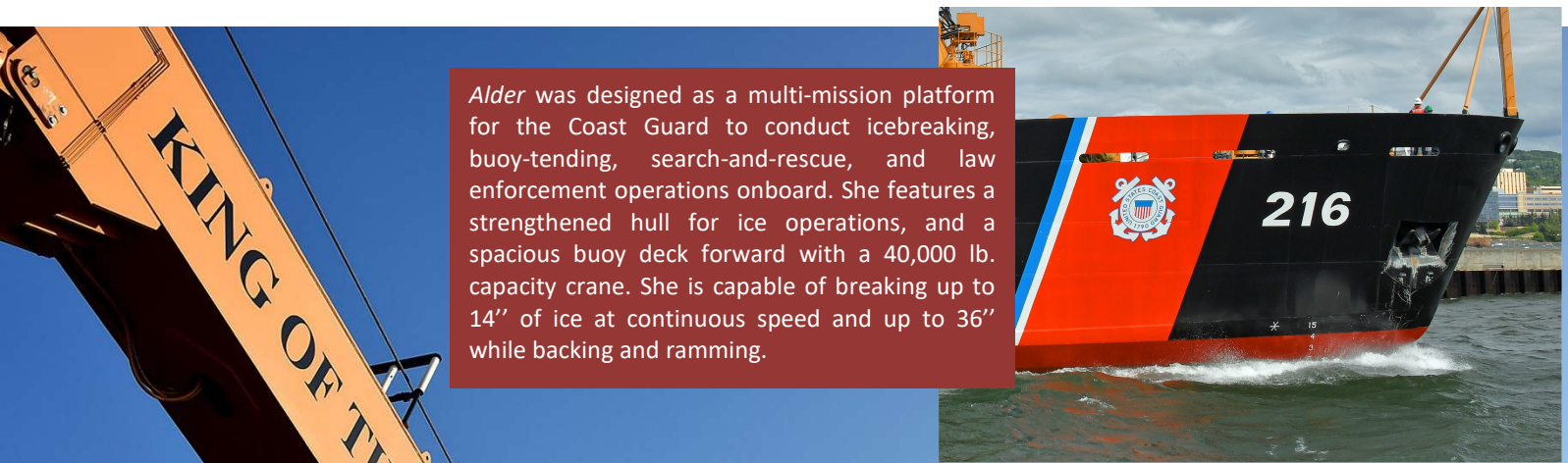


Alder breaking ice, 2018. Photo by David Schauer

Alder was the last of 16 *Juniper*-Class Seagoing Buoy Tenders constructed by Marinette Marine Corp. for the U.S. Coast Guard. She was side-launched at Marinette on February 7, 2004, and delivered to the Coast Guard on September 2, 2004.



Alder at Great Lakes Maritime Academy harbor. Photo by Daniel Lindner



Alder was designed as a multi-mission platform for the Coast Guard to conduct icebreaking, buoy-tending, search-and-rescue, and law enforcement operations onboard. She features a strengthened hull for ice operations, and a spacious buoy deck forward with a 40,000 lb. capacity crane. She is capable of breaking up to 14" of ice at continuous speed and up to 36" while backing and ramming.

Inset: Close up of Alder's bow. Photo by David Schauer
Below: Detail of Alder's crane and superstructure. Photo by David Schauer



Buoy duty in Duluth harbor, March 2017.
Photo by David Schauer



Alder at Coast Guard festival, 2019. Photo by Isaac Pennock



Crew at work during buoy tending. Photo by David Schauer



Alder on the St. Marys River, 2009. Photo by Roger LeLievre

IN THE DESIGN: BALLAST SYSTEMS

A LOOK INTO BALLAST SYSTEMS ONBOARD GREAT LAKES SHIPS

Ballast pump on the spar deck of the *Stewart J. Cort*. Photo by Roger LeLievre



INTRODUCTION

Ballast is an important part onboard any ship. By definition, ballast is anything onboard a vessel that is onboard to maintain the hydrostatic and hydrodynamic properties of the vessel. In other terms, it is any extra weight added to the vessel for the purpose of keeping the ship structurally sound and seaworthy. Ballast can be any extra deadweight, with concrete, steel, and water some of the most commonly used. Ballast possesses an inverse relationship with cargo onboard a bulk vessel, as when the vessel is fully loaded, it will carry little to no ballast, and vice versa. Liquid ballast, in most cases water, is the most common form of ballast on Great Lakes ships, and will be discussed throughout this article.

PURPOSES OF BALLAST

Liquid ballast serves many purposes, and is used to trim and list the ship in order to achieve favorable trim and allow the vessel to get in and out of restricted draft areas. It also helps achieve proper propeller submersion. Ballast allows a vessel to sail in a stable condition while sailing empty, reducing the hogging moments and keeping bending moments in check. While a vessel is sailing without cargo, the fore and aft ends are heavier than the midsection. In order to keep the vessel from hogging and potentially suffering structural damage, ballast is taken in the midsection in order to help even out the weight across the hull. Ballast helps counteract cargo that has been displaced while sailing, and also reduces stillwater bending moment and sagging moments induced by the cargo. It also lowers the vertical center of gravity. ➡

➡ The wider a ballast tank is, the higher the vertical center of gravity is. This is why many vessels are designed with slim ballast tanks on either side of the cargo hold.

HOW DO BALLAST SYSTEMS WORK?

Liquid ballast systems draw water from the sea or lake through pumps into specific ballast tanks onboard the vessel. Water is drawn through centripetal pumps, typically powered ➡ by an electric motor. The pump pushes the water through pressure piping to tanks in the midsection of the ship. The tanks are fitted with natural vents for air displacement when water is pumped in or discharged.

BALLAST SYSTEM DESIGN

When designing a ballast system, several questions must be taken into account for pumping water for the system. How much water capacity and how fast? What is the minimum weight required to maintain an immersed propeller? What is the minimum weight required to keep the ship stable?

On the Great Lakes, cargoes are loaded and unloaded in short periods of time, requiring vessels to be equipped with high-capacity pumps for high pumping rates. The gross capacity of the ballast in comparison to the cargo capacity in a set loading and unloading timeframe help determine the required pumping rates.

There are several different ballast systems found on Great Lakes vessels. Manifold systems are found typically on older vessels, and consist of 2-4 pumps located in the engine room, with valves on pipes that lead to specific ballast tanks in the vessel. The pipes with valves run to each ballast tank. ➡



(Above) Ballast pump on the spar deck of the *Stewart J. Cort*. Photo by Roger LeLievre
(Left) Water is discharged from the *St. Marys Challenger*, 2009. Photo by Roger LeLievre

➡ Main or header systems are found on most new vessels, and are comprised of a pump in the engine room leading to a large high-pressure pipeline running down the length of the vessel with smaller pipes branching off to each individual ballast tank.

Some vessels are equipped with individual pumps for each ballast tank. For example, the *Stewart J. Cort* or Interlake Steamship's 1,000' vessels *James R. Barker*, *Mesabi Miner*, and *Paul R. Tregurtha* have a system of 18 or so mini ballast systems, allowing for very high ballast intake and discharge rates.

Pumps for ballast systems are usually found in the engine room with most other mechanical systems onboard a vessel. Throughout the 20th and into the 21st century, ballast systems have evolved from individual pumps for each tank to manifold ballast systems, and later header systems. The next innovation moving through the industry is the automation of ballast systems. Interlake Steamship's fleet of bulk carriers is fitted with remote actuated valves on their ballast systems, allowing the systems to be operated remotely with a manual backup.

BALLAST WATER TREATMENT

In recent times, a new challenge has been brought before operators and engineers. Ballast water treatment requirements are fast approaching, with intentions to reduce the spread of invasive specimens through ballast water. ➡

➡ Ballast water treatment systems are not currently required on U.S. domestic vessels on the Great Lakes, but the release of new regulations on the Canadian side of the lakes show that changes are not far in the future.

Ballast water treatment can be done in several ways, through chemical treatment or UV light treatment. Chemical treatment is just as it sounds, as chemicals like chlorine are injected into the water as it is brought into the ballast system following a UV filter. Chlorination systems require a hold time of 3-6 days in order for organisms in the water to be killed.

UV light systems run the water through a UV light filter to kill organisms. There are two forms of the UV systems, a housing style and manifold style. Housing style systems run the water through a filter and into a chamber sided with UV bulbs. Basically "putting bulbs into the flow". On the other hand, the manifold style system runs the water through a filter, then into a manifold with lamp chambers in the middle of the pipeline before returning to the main water line, or "putting the flow by the bulbs".

Though treatment systems have been put into action onboard ocean ships, ships on the Great Lakes pose a unique challenge when it comes to ballast treatment. Silty water found in many of the harbors on the lakes and ice during the winter may clog filter systems. Space constraints also pose a difficulty. Likely the largest challenge are the high intake and discharge rates required in order for a Great Lakes freighter to efficiently handle cargo. Hold times on some treatment systems are unfeasible, as time spent not hauling cargo is money lost.

Solutions to these issues will be found someday in the future. Ballast treatment systems are no longer a matter of if but a matter of when. When that time will come that they are mandated on all Great Lakes vessels is still unknown, but some operators are beginning to look to the future to solve this unique challenge.

Special thanks to the naval architects who provided their time and resources to help me write this article. Thank you to Travis Martin and Nicholas Posh from Bay Engineering, Eric Helder from Interlake Steamship Company, and Nick Hunter from NETSCo. —Brendan Falkowski

EDGAR B. SPEER

Edgar B. Speer in Duluth Harbor, July 2020. Photo by Gus Schauer



While their 1,000-Footer *Edwin H. Gott* was being constructed in Sturgeon Bay, WI, U.S. Steel Corp. contracted American Shipbuilding Co. to construct a similar vessel. The keel for Hull #908 was laid in spring 1977 at their Lorain, OH, shipyard. The new vessel, later known as the *Edgar B. Speer*, was to be a near-identical sister to the *Edwin H. Gott*, which was commissioned in February 1979. She was designed for operating in heavy winter conditions, with a strengthened hull and high horsepower engines for operating in ice. Her twin Pielstick 18PC2-3V-400 diesel engines provide about 19,260 BHP, pushing the vessel at a service speed of 14.75 knots. She was the 10th 1,000-Footer constructed, and is 1004' long, 105' wide, and 56' deep with a cargo capacity of 73,700 tons. Her cargo holds were designed with low cubic capacity for carrying taconite pellets, a high-density cargo. The *Speer* also featured a single unloading conveyor system beneath the hold, leading to an aft loop belt with a transverse shuttle boom located forward of her accommodations block. This shuttle boom limits the locations that she can unload to shoreside hoppers found in Gary, IN, and Conneaut, OH.

Soon after her keel was laid in Lorain, construction was started on a section of cargo hold at AmShip's Toledo, OH, yard. This section was later towed to Lorain and placed in the graving dock to be joined with the main portion of the vessel. Meanwhile, her accommodations block was being fabricated at their South Chicago, IL, yard. The deck house was then loaded in sections onto the deck of the freighter *Kinsman Enterprise {1}* at AmShip South Chicago for transport to Lorain for final assembly.



Edgar B. Speer on the St. Marys River, 2018. Photo by Logan Vasicek

➡ The entire vessel was launched on May 8, 1980, almost a year behind schedule due to delays from a labor strike at the shipyard. The new 1,000-Footer was christened *Edgar B. Speer* on June 4, 1980, at AmShip Lorain. The *Speer* was managed by U.S. Steel Corp. Great Lakes Fleet, with Connecticut Bank & Trust as the registered owner as trustee.

Edgar B. Speer successfully completed her sea trials on August 26, 1980, and departed Lorain on her maiden voyage on September 19, 1980, bound for Two Harbors, MN, to load 55,000 tons of taconite pellets for delivery to Gary, IN. She was under command of Capt. William Simonds with Chief Engineer John Wilson on her maiden voyage.

While in winter layup at Sturgeon Bay, WI, on December 2, 1985, *Edgar B. Speer* and the *Stewart J. Cort* broke loose from their moorings, causing minor damage. The *Speer* spent August 1986 through May 1987 in layup at Duluth, MN, due to labor disputes within U.S. Steel Corp. In 1988, majority stock of U.S.S. Great Lakes Fleet was acquired by Blackstone Capital Partners. Her trade routes remained normal, with the only visible change being the addition of a black and grey diagonal stripe to both ➡

Edgar B. Speer passing Mission Point on the St. Marys River, early 1980's. Photo by Thomas Manse
Below: *Edgar B. Speer* in the Rock Cut on the St. Marys River, June 2021. Photo by Daniel Lindner



Edgar B. Speer at Duluth, 2018. Photo by Isaac Pennock

➡ sides of her bow at the beginning of the 1990 season.

Through the late 1980's and into the 1990's and recent decades, *Edgar B. Speer* has been involved in several ship-to-ship cargo transfers. Notable occasions include November 27, 1987, when she delivered a cargo of taconite pellets to Lorain, OH. The dock could not accommodate the *Speer's* unloading boom, so she unloaded into her fleetmate *Philip R. Clarke* on Lake Erie, which in turn took the cargo up the Black River to unload. It took three trips to fully unload the *Speer*. On August 25, 1993, the *Speer* delivered taconite to Cleveland, OH, unloading into the holds of her fleetmate *Cason J. Callaway*, which unloaded directly onto the dock. A similar situation occurred on July 11, 1994, when she unloaded into the holds of the Canadian vessel *Jean Parisien* at Nanticoke, ON.

On March 24, 2001, the *Speer's* fleetmate *Arthur M. Anderson* became disabled in the Straits of Mackinac. The *Speer* was brought in to tow her in a side-by-side manner to Bay Shipbuilding for repairs. While sailing the St. Marys River on December 3, 2003, *Edgar B. Speer* lost one of her twin rudders.

In early 2004, Blackstone Capital Partners sold their majority stake of USS Great Lakes Fleet to the Canadian National Railway. USS Great Lakes Fleet was reorganized as Great Lakes Fleet, INC., under ownership of Canadian National. The company remained U.S.-based with the ships remaining under the American flag to comply with the Jones Act.

On January 18, 2004, the *Edgar B. Speer* became stuck in ice in the Rock Cut on the St. Marys River, requiring assistance from the USCGC *Mackinaw* WAGB-83. It took over 3 days of work with the *Mackinaw* and further assistance of four large tugs to finally free the *Speer*. ➡



Edgar B. Speer on the St. Marys River, 2021. Photo by Roger LeLievre

➡ On August 5, 2006, her fleetmate *Roger Blough* lost her rudder in the St. Marys River. The *Speer* once again came to the rescue of her fleetmates, taking the *Blough* in tow side-by-side to Gary, IN, for both vessels to unload before proceeding to Bay Shipbuilding in Sturgeon Bay, WI, to leave the *Blough* for repairs.

Edgar B. Speer spent the majority of the 2020 season in layup at Toledo, OH, due to the economic slowdown brought on by the COVID-19 pandemic. She returned to normal service at the opening of the 2021 season, and continues to serve the taconite trade, delivering ore to U.S. Steel mills in Gary, IN, and Conneaut, OH. ▣

SOURCES

Ahoy & Farewell II. Marine Historical Society of Detroit, 1996. Pp. 35-36.
Bawal, Raymond A., Jr. *Superships of the Great Lakes*. Inland Expressions, 2011. Pp. 61-64.
Miller, Al. *Tin Stackers: The History of the Pittsburgh Steamship Company*. Wayne State University Press, 1999. Pp. 237-240.
Wharton, George. "Edgar B. Speer". Great Lakes and Seaway Shipping Online. N.d. Accessed 20 August 2021.
<<https://greatlakesandseawayshipping.com/stories/edgar-b-speer.htm>>



BRENDAN FALKOWSKI is a Great Lakes ship enthusiast who shares his passion for the freighters through his newsletter and his artwork. He is currently pursuing his high school education in mid-Michigan before graduating and moving on to college, where he plans to attend the University of Michigan's College of Engineering to study Naval Architecture and Mechanical Engineering. Brendan is an avid musician, and is a drum major in his high school marching band. He enjoys sailing and spending time with his friends and family.

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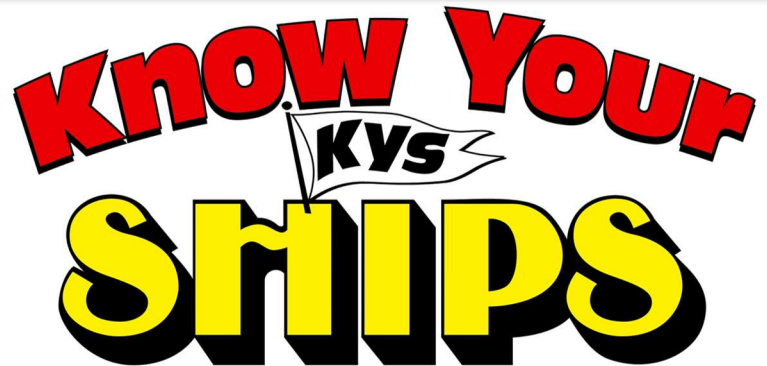
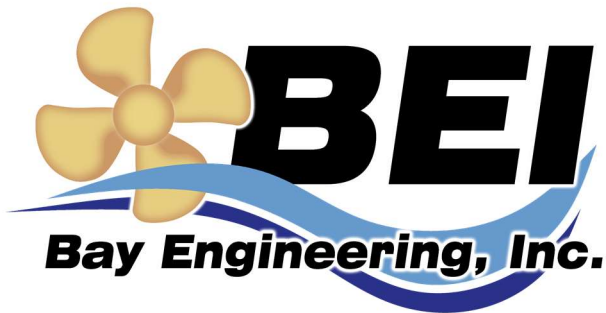
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Cover Photo: USCGC *Alder* departs her home port of Duluth, MN, for the final time as she heads to Baltimore for a refit and restationing, July 7, 2021. Photo by David Schauer

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