



The barge being towed at sea Photo: Contributed

Pangaea Logistics Solutions, a pop-up port and a 42,000-tonne cargo deep in the Arctic Circle

Ship operator and mining partner claim to have pulled off lifting of world's northernmost dry bulk cargo in remote Greenland

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by Joe Brady in Stamford

Pangaea Logistics Solutions is known for delivering on the tough trades, getting its hands dirty on projects that others would not even consider.

You might have thought the Rhode Island-based bulker operator and Denmark-based subsidiary Nordic Bulk Carriers already had enough challenges hauling iron ore from the remote Canadian Arctic territory of Baffin Island, where they have carved a niche trade out of the ice.

But that was before March, when London-based Bluejay Mining approached New York--listed Pangaea with a proposition.



Could the company load the northernmost dry bulk cargo



ever carried, high above the Arctic Circle, at a place called Moriusaq, in an unpopulated region of northern Greenland? Oh, and by the way, there is no port, no terminal and no infrastructure of any type.

Pangaea could and did, carrying 42,000 tonnes of ilmenite sand — used in making titanium — to Quebec in August.

“It was a challenge, and we like challenges,” said Peter Koken, vice president and commercial director of Phoenix Bulk Carriers, a wholly owned subsidiary of Pangaea.

Complex challenges

“We like to do things and succeed at challenges that are complex and difficult. The fact that we are already operating in the Arctic lent itself well to developing this project.

“But most projects are not in such remote areas and, in the case of Moriusaq, I would say extremely remote and fully lacking in infrastructure.”



Phoenix Bulk Carriers' Peter Koken Photo: Contributed

Roderick McIlree, chief executive of Bluejay Mining, told TradeWinds: “We started with several shipping companies under consideration and narrowed it down to Pangaea.

“We liked their affiliation with Nordic and the Danish flavour, and it became evident quickly that they were serious guys — we had faith in them from the start.”

Koken and McIlree said cooperation between the two companies was vital, as was assistance with stevedoring and equipment handling from a Newfoundland partner with which Pangaea has an existing joint venture.

Moriusaq sits on Greenland's north-west coast just above the 76th parallel. That Arctic Circle begins at parallel 66.5.



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Moriusaq is considered a closed settlement with an official population of zero. It is about 42 km (26 miles) north-east of the US Thule Air Base and 80 km south of Qaanaaq — the main town in the region (population: 656 in 2013).

“The challenge, of course, was not only the fact the trade was high in the Arctic, where ice floes and icebergs conspire to create potentially hazardous navigation, but that there was absolutely no port infrastructure on-site to load a bulk carrier with 42,000 metric tons of ilmenite

ore,” Koken said.

Temporary port

By May, Pangaea's team had accumulated the necessary data to design a temporary port with a high-speed loading system that would leave no environmental “footprint” once the job was done.

It firmed up the plan with a trip to Denmark that month to meet Bluejay Mining's technical team. Koken then led the first site visit with an engineering and execution team of 10 departing from Newfoundland, Canada, in July. Two planes, one helicopter and roughly 10 hours later, they arrived at the mine in Moriusaq.



The barge is secured before the arrival of the Nordic Barents Photo: Contributed

“We wanted to make sure we understood the environment and how we were going to execute on the contract,” Koken said.

Final details of the project were agreed shortly thereafter.

The ore sat in a large pile on the shore.

But the loading vessel — the 43,700-dwt ice-class 1A Nordic Barents (built 1995) — would require a safe depth alongside of at least 41 feet (12 metres) in an area with shallow water.

Custom built

Bluejay Mining's crew was instrumental in building a causeway extending 30 feet from shore, to which a bulkhead was attached.

Pangaea then moved in its own 400-foot (122-metre) barge and positioned it against the bulkhead perpendicular to the shore, providing the needed water depth to load the entire cargo. The barge had been outfitted in Newfoundland with all the necessary equipment for the operation, including front-end loaders, conveyor systems, generators and securing equipment.



Pangaea Logistics Solutions sees opportunity rise from dust of cooling towers

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"You have to be fully self-sustaining," Koken said. "Fuel, spare parts, tools — everything we needed had been stowed, lashed and secured on the barge prior to departing Newfoundland."

The most difficult part of the operation was positioning the barge properly and securing it with "spuds" — six steel pipes up to 100 feet long that were temporarily planted in the seabed.

The last piece of the equation was completing set-up of the loading and conveyor system, and bringing the Nordic Barents alongside the barge to load.

"Set-up of the temporary port facility took about 2.5 days," Koken said. "Loading took just under three days. Upon completion of loading, the vessel sailed for Quebec and an efficient two-port discharge took about four days."

Pangaea acted during a tight August weather window that provided some of northern Greenland's balmiest conditions — daytime temperatures in the 50s-degree Fahrenheit (10s-degree Celsius) with night readings in the 40s-degree Fahrenheit.



The Nordic Barents departs for Quebec with its 42,000-tonne cargo Photo: Contributed

"It's a very narrow shipping window that far north," Koken said. "It's still very icy there in July — a lot of medium-size icebergs and some small ice floes. By August, most of the winter ice has blown away. There are still a few icebergs but the risk to navigation is not as pronounced as June or July."

With the difficult job completed, focus turns to the future. Bluejay Mining is awaiting - results from a trial shipment to a Rio Tinto smelter just outside of Montreal. If positive, the mining company has bigger plans for the Moriusaq site.

'Huge deposit'

"It's a bulk commodity, so the cost per tonne isn't especially high, but the vast resources of this material is what really sets it apart," McIlree said. "It's a huge deposit. There could be up to 1bn tonnes of ore there. We've already identified up to 730m tonnes."

According to Bluejay Mining's website, most ilmenite comes from Africa. But the Greenland deposits are closer to Europe and the US. Bluejay Mining is the largest licence holder in Greenland.



Pangaea confirms China pair with financing twist

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"The untapped resources are why we spend so much time in Greenland," McIlree said.

"Should that assessment with Rio Tinto go well, this is an economically robust opportunity. We're going to move forward and I don't see why we wouldn't use Pangaea and - Nordic.

"This was a coordinated effort and it's a great story. We were really impressed by their professionalism throughout. There's no reason to change your horse in a race when it's doing well."



The bleak but beautiful Moriusaq landscape Photo: Contributed

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