

LIVERPOOL NAUTICAL RESEARCH SOCIETY



THE END OF SANDPUMP DREDGING IN THE MERSEY

by John Shepherd

First published in *The Bulletin* Volume 47 Number 1 (2003)

© Liverpool Nautical Research Society 2019

THE END OF SANDPUMP DREDGING IN THE MERSEY

by the Editor

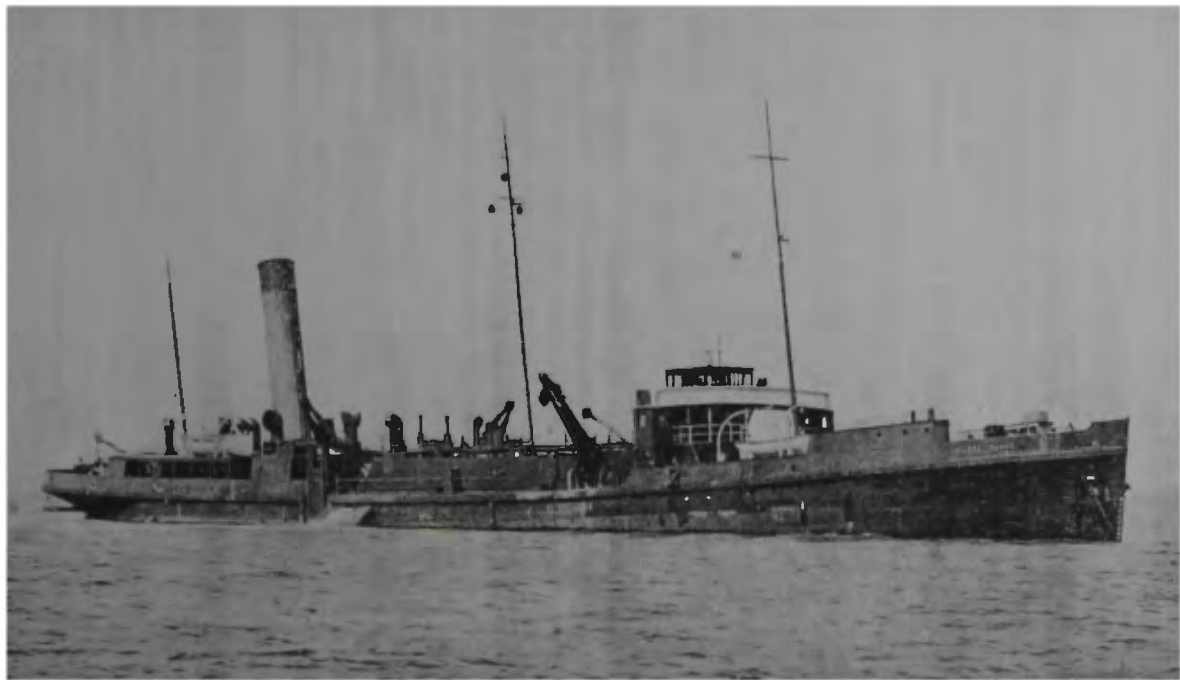
The decision by the Mersey Docks and Harbour Board in mid 1962 to sell its big sandpump dredgers marked a turning point in the Board's new policy for dredging the Mersey channels which began in December 1960. Up to that date the Board had used sand pumps for some 70 years in the clearance of sand from the estuarial channels and in 1960 owned three vessels of this type, the **Leviathan**, the **Hilbre Island** and the **Hoyle**.

Worried, however, by the steeply rising costs in maintaining the dredging programme, coupled with the fact that siltation in some of the Mersey channels appeared to be on the increase, the Board commissioned the Hydraulics Research Station of the Department of Scientific and Industrial Research to carry out an extensive investigation of conditions in the estuary. One result of this was a decision to experiment with a different method of dredging by using a new trailing suction dredger. Thus, in December 1960, the powerful new dredger **W.D. Mersey** (2,860 tons), owned by the Westminster Dredging Company of London, began work on contract to the Mersey Docks and Harbour Board.

It was then found impracticable to combine the new method of dredging with the use of the old sand pumps and so the **Leviathan**, **Hilbre Island** and **Hoyle** were withdrawn from service and laid up at Birkenhead. By February 1962 it had become obvious that the work of the **W.D. Mersey** had produced such remarkably good results that dredging by trailing suction was infinitely superior to the former method. The three old vessels were therefore placed in the hands of brokers and offered for sale.

The first to go was the **Hoyle** (3,145 gross tons), a twin-screw sand pump hopper dredger completed by Cammell Laird at Birkenhead in February 1935. Her buyers were the Cardiff firm of Davies, Middleton and Davies who formed a new subsidiary known as In Situ Concrete Limited for the manufacture and delivery of ready-mixed concrete. The **Hoyle**, which had a capacity of about 3,500 tons of sand, was used in the supply of sand to the concrete making plant. Given the circumstances, her new name, **Sand Galore**, was particularly apt.

Next to go was the **Hilbre Island**, very similar to the **Hoyle**, but dating from 1933. She was also built by Cammell Laird and was in continuous service in the Mersey channels until withdrawn in 1961, after which she lay idle alongside the **Hoyle** in Morpeth Dock, Birkenhead. A month after the sale of the **Hoyle**, the Mersey Docks and Harbour Board announced that they had accepted an offer for the **Hilbre Island** for the Scheepswerf en Machinefabriek v/h A.V.D. Grijp of Sliedrecht, who were apparently buying the vessel as a trading proposition. Soon afterwards, while the **Hilbre Island** was being prepared for towing to Holland, it was rumoured that she was being offered for re-sale, which seemed to point to the transaction being simply speculative.



Photo, Mersey Docks and Harbour Board
THREE THOUSAND FIVE HUNDRED TONS OF SAND IN UNDER AN HOUR from a maximum depth of 65 feet can be removed by the sand dredger *Hilbre Island*. This vessel, seen above at work on the approaches to the Port of Liverpool, was built for the Mersey Docks and Harbour Board at Birkenhead, in 1933. She is a twin-screw vessel, with a hopper capacity of 70,000 cubic feet, a gross tonnage of 3,141, a length of 331½ feet, a beam of 54 feet and a depth of 21 feet.

There remained the problem of finding a buyer for the huge **Leviathan** which, in 1962, was 53 years old. Like her much smaller consorts she was also built by Cammell Laird, but unlike them she had a hopper capacity of 10,000 tons of sand which she could fill by means of her four 42-inch diameter pumps in 50 minutes. The **Leviathan** had twin screws driven by a pair of massive triple expansion engines, and had accommodation for a crew of 44. The vessel's capacity was divided into six hoppers - three on the port side and three on the starboard side - and at one time she could justifiably claim to be the largest dredger in the world.

The **Leviathan**, however, could only dredge whilst at anchor and this is where she differed from the modern trailing suction dredger which moves slowly ahead while working, thus effecting a skimming action on the area dredged, instead of digging large holes. The **Leviathan** worked hard in the Mersey but also had spells of idleness, one of which lasted for several years in the early 1930s, when she occupied a berth in the Morpeth Branch Dock, Birkenhead. Before she was brought back into service on that occasion she underwent an extensive refit during which her accommodation was moved from the forward end of the ship to the after end and greatly improved. The **Leviathan** was again laid up during the early part of the Second World War, but in 1944 she was brought out to assist in the assembly of the Mulberry Harbour off the Normandy Beaches, during which period she also acted as an anti-aircraft ship. The **Leviathan** was a coal burner until 1952 when her boilers were converted to burn oil fuel.

The successor to the sand pump dredgers, the **W.D. Mersey**, was completed in October 1960 by L. Smit at Kinderdyk, Holland. She had twin screws with a speed of 11 knots. A third Smit-Bolnes oil engine, located between the two main engines, drove the dredging pump and she carried on her starboard side a 36-inch diameter trailer pipe which could dredge to a depth of 65 feet 8 inches. Hopper capacity was 3,500 cubic yards, which is the equivalent to about 5,000 tons of spoil. The **W.D. Mersey** had a crew of 21. A feature of the **W.D. Mersey** was that she was able to work effectively, safely and economically in exposed waters in the approach channels subject to heavy wave action and swells of up to ten feet. Automatic hydraulic swell compensators held the trailer pipe on the seabed while the ship rolled and pitched and the **W.D. Mersey** could go on working in weather which would have driven the older sand pumps into port.

LIFE IN THE "LEVIATHAN"

A letter from Harry W. Bristow which appeared in *Sea Breezes*, September 1962.

I was a member of the first crew of the **Leviathan**. I was in fact offered the post of engineer-mechanic to take charge of a new 35-ft motor surveying launch which was kept in patent davits on the deck of the **Leviathan**, on the starboard side opposite the engine room door.

When not required to run the new launch I was employed on day work as engine attendant in the pumping and propelling engine rooms. I took up my appointment during the first week of April 1909 from my home town of Chatham, Kent, coming up to Liverpool to join the **Leviathan** on Good Friday.

I was soon dubbed '*The Southerner*', but the officers and crew were all very friendly disposed towards me during my time in the dredger which ended in September 1910 when I left to join the Port of London Authority as a motor engineer in a new twin-screw surveying launch then building at Southampton. It was with genuine regret that I left my shipmates in the **Leviathan** but I kept in touch with them and visited them whenever I was in Liverpool up to 1913.



Looking aft from the bridge of the **Leviathan**.

Photo: John Shepherd collection

The **Leviathan's** motor launch was a beautiful craft, 35 feet long and teak built. Built on the Thames at Weybridge, Surrey, by a son of the well-known Coates family, cotton machine manufacturers of Greenock, the launch had a speed of $7\frac{1}{2}$ miles per hour. Mr Coates in fact came to Liverpool to see me about the craft as some of the officials of the Mersey Docks and Harbour Board were not satisfied with this speed. However, he was unable to get any more out of the launch and I was left to carry on with my job. Whenever the launch came to the Liverpool Landing Stage with the Chief Marine Surveyor and other officials it always aroused much interest among the crowds of spectators, stage employees and ferry crews.

During the summer of 1909 the launch went out for surveying duties beyond New Brighton with the Chief Marine Surveyor on board. These outings, I recall, were always very pleasant in that fine summer. After I had been on day work for six weeks and when not out with the launch, the **Leviathan's** chief engineer, Mr John Wright, a native of Liverpool, said he would have me in the propelling engine room in the second engineer's watch and instruct me in the running of the triple-expansion engine.

I was soon competent to run the port engine and duly placed in the second engineer's watch (Mr Gallagher). In the period 1909/10 the **Leviathan** carried a crew of 58 all told, including an elderly Maltese cook and his assistant.

The Chief Marine Surveyor and his personal steward lived on board the **Leviathan** from Monday afternoon to Saturday morning when they were landed at either Princes Landing Stage or Woodside Stage.

Our sleeping quarters forward were cramped for the bunks were in tiers of three. For the six weeks I was on day work from 6 a.m. to 5 p.m., with time off for meals, there was no spare bunk for me. At night time I had to occupy the bunk of one of the men who was on duty until 2 a.m. When he came off duty I had to get into the bunk of another man going on duty at 2 a.m. This was all done without any grumbling on either side.

It was a happy **Leviathan**. There was no wireless on board when I was in her and when she was in dock every three months for a boiler blow down, oil lamps had to be used, and at weekends too. Every thirteenth weekend I took my turn for the weekend watch from Saturday afternoon until 8 a.m. on Monday when the crew came on board.

The enginemen and firemen were catered for by one of the cranemen who charged us six shillings a week for our food. Our watches were long, six hours off and six hours on, with four on and four off dog watches.

It was stated that the four pumps could load 10,000 tons of sand in fifty minutes. In my eighteen months in her she never did this, although she achieved it on her trials in March 1909 when the coal was hand picked. It was a good working week when the **Leviathan** dredged thirty-five full loads, a huge total of 350,000 tons of sand. For this my wages were £2-5s-0d (£2.25p) a week: I never drew more.

In 1959 I wrote to the Mersey Docks and Harbour Board about my service in the **Leviathan**. The Assistant Engineer-in-Chief told me that the crew then totalled 88, in three watches or shifts. |||||