

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 15 OCT 1942

Date of writing Report 19 When handed in at Local Office 19 Port of **NEWCASTLE-ON-TYNE**

No. in Survey held at **Newcastle on Tyne** Date, First Survey **3<sup>rd</sup> April 1942** Last Survey **30<sup>th</sup> Sept 1942**  
 Reg. Book. on the **4<sup>th</sup> "EMPIRE DACE"** (Number of Visits **4<sup>th</sup>**)

Built at **Newcastle** By whom built **Swan, Hunter & Wigham Richardson** Yard No. **1754** Tons { Gross **716** Net **268** When built **1942-**

Engines made at **ditto** By whom made **ditto** Engine No. **1754** When made **"**

Boilers made at **ditto** By whom made **ditto** Boiler No. **1754** When made **"**

Registered Horse Power Owners **Admiralty M/S** Port belonging to **Newcastle on Tyne**

Nom. Horse Power as per Rule **132** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

Trade for which Vessel is intended **Ferry Services.**

ENGINES, &c.—Description of Engines **3 Cyl Triple Expn Recip.** Revs. per minute **225.**

Dia. of Cylinders **12 + 19 + 31** Length of Stroke **21"** No. of Cylinders **3.** No. of Cranks **3.**

Crank shaft, dia. of journals **6.09** as per Rule **6.78** as fitted Crank pin dia. **7 1/8"** Crank webs **shrunk** Thickness parallel to axis **4 9/16"**  
 Mid. length breadth **✓** Thickness around eye-hole **(3 3/4" at journals)**  
 Mid. length thickness **✓** Thickness around eye-hole **(3 1/4" at pins)**

Intermediate Shafts, diameter **5.8** as per Rule **7 1/8"** as fitted Thrust shaft, diameter at collars **6.09** as per Rule **7.125** as fitted

Tube Shafts, diameter **6.425** as per Rule **6 3/4"** as fitted Is the **tube** shaft fitted with a continuous liner **Yes**

Screw Shaft, diameter **16/32** as per Rule **17/32** as fitted Is the **screw** shaft fitted with a continuous liner **Yes**

Bronze Liners, thickness in way of bushes **16/32** as per Rule **17/32** as fitted Thickness between bushes **15/32** as per Rule **15/32** as fitted Is the after end of the liner made watertight in the propeller boss **Yes.** If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner **In one piece.**

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive **a tight fit.**

If two liners are fitted, is the shaft lapped or protected between the liners **✓** Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft **No** If so, state type **✓**

Length of Bearing in Stern Bush next to and supporting propeller **33 1/2"**

Propeller, dia. **7'6"** Pitch **5'6"** No. of Blades **4** Material **M. B. 17** whether Moveable **No** Total Developed Surface **20** sq. feet

Feed Pumps worked from the Main Engines, No. **None** Diameter **✓** Stroke **✓** Can one be overhauled while the other is at work **✓**

Bilge Pumps worked from the Main Engines, No. **None** Diameter **✓** Stroke **✓** Can one be overhauled while the other is at work **✓**

INDEPT. Feed Pumps { No. and size **Two 8 1/2" x 6" x 13" Simplex** Pumps connected to the { No. and size **Two: - McBallast 6" x 7" x 9" dup + one 8" x 6" x 6" dup**  
 { How driven **Steam** Main Bilge Line { How driven **(75 tons/hr) (47 tons/hr)**  
**all steam driven.**

Ballast Pumps, No. and size **One 6" x 7" x 9" duplex.** Lubricating Oil Pumps, including Spare Pump, No. and size **none.**

Are two independent means arranged for circulating water through the Oil Cooler **✓** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room **2 of 3" + 2 of 2" in E.R. + one of 3" at forward end of Bilge Rm.**

In Pump Room **✓** In Hold &c. **Three in Hold by Pt Suctions 2 1/2" each + Centre 3"**

Main Water Circulating Pump Direct Bilge Suctions, No. and size **One of 6"** Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **one of 3"**

Are all the Bilge Suction Pipes in hold **and tunnel wall** fitted with strum-boxes **Yes**

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges **Yes**

Are all Sea Connections fitted direct on the skin of the ship **Yes.** Are they fitted with Valves or Cocks **both.**

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates **Yes** Are the Overboard Discharges above or below the deep water line **both**

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel **Yes** Are the Blow Off Cocks fitted with a spigot and brass covering plate **Yes**

What Pipes pass through the bunkers **none** How are they protected **✓**

What pipes pass through the deep tanks **none** Have they been tested as per Rule **✓**

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **Yes**

Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another **Yes** Is the Shaft Tunnel watertight **None (mach. aft)** Is it fitted with a watertight door **✓** worked from **✓**

MAIN BOILERS, &c.—(Letter for record **S.**) Total Heating Surface of Boilers **2554 sq. ft.**

Is Forced Draft fitted **Yes** No. and Description of Boilers **2 Single ended.** Working Pressure **180 lbs./sq. in.**

IS A REPORT ON MAIN BOILERS NOW FORWARDED? **Yes.**

IS A DONKEY BOILER FITTED? **No.** If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only **✓**

PLANS. Are approved plans forwarded herewith for Shafting **12/2/42** Main Boilers **11/2/42** Auxiliary Boilers **✓** Donkey Boilers **✓**  
 (If not state date of approval)

Superheaters **✓** General Pumping Arrangements **9/3/42** Oil fuel Burning Piping Arrangements **✓**  
**Pumping armt in E.R. 24/2/42**

SPARE GEAR.

Has the spare gear required by the Rules been supplied **Yes**

State the principal additional spare gear supplied **20 Condenser tubes, 40 ferrules & packings for Condenser tubes.**

The foregoing is a correct description.

SWAN, HUNTER, &amp; WIGHAM RICHARDSON LTD.

G. J. Sheedy Manufacturer.



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Lloyd's Register Foundation

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1942  
Apr 3. 13. 20. 23. 24. May 8. 11. 13. 14. 26. 29. June 1. 2. 3. 5. 9. 10. 12. 15. 16. 18. 22. 23. 24. 29. July 1. 2. 3.  
During progress of work in shops - - 14. 17. 22. 23. 24. 29. 31. Aug. 5. 6. 11. 13. 17. 27. Sep. 5. 9. 10. 25. 30.  
Dates of Survey while building  
During erection on board vessel - - -  
Total No. of visits 46.

Dates of Examination of principal parts—Cylinders 26/5/42 Slides 22/7/42 Covers 26/5/42  
Pistons 22/7/42 Piston Rods 22/7/42 Connecting rods 22/7/42  
Crank shaft 1/7/42 Thrust shaft 6/8/42 Intermediate shafts 6/8/42  
Tube shaft ✓ Screw shaft 24/6/42 Propeller 24/6/42 + 6/8/42  
Stern tube 31/7/42 5/8/42 Engine and boiler seatings 6/8/42 + 10/9/42 Engines holding down bolts 5/9/42  
Completion of fitting sea connections 6/8/42 Boilers fixed 10/9/42 Engines tried under steam 25/9/42 + 30/9/42  
Completion of pumping arrangements 25/9/42 Thickness of adjusting washers AF1BLR 3/8 F.V. AV 11/32; FOR2BLR 13/32 FV AV 25/32  
Main boiler safety valves adjusted 25/9/42 Identification Mark 11532 HAI 4/7/42 AW. Thrust shaft material 7 Stl. Identification Mark 508.  
Crank shaft material 7 Stl. Identification Marks 11531 HAI. 498. Tube shaft, material ✓ Identification Mark ✓  
Intermediate shaft material 7 Stl. Identification Mark 11532 HAI. 520 Steam Pipes, material S.D. Stl. Test pressure 540 lbs. Date of Test 3/7/42 to 9/9/42  
Screw shaft, material 7 Stl. Identification Mark 520 Is an installation fitted for burning oil fuel No. Is the flash point of the oil to be used over 150°F. ✓  
Have the requirements of the Rules for the use of oil as fuel been complied with ✓  
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No If so, have the requirements of the Rules been complied with ✓  
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with No desired.  
Is this machinery duplicate of a previous case Yes If so, state name of vessel TUZLA Tunc Rpt. 100.766. SHAWRYand ko 1752.  
General Remarks (State quality of workmanship, opinions as to class, &c.

The Machinery of this Vessel has been constructed under special survey in accordance with the approved plans and the Society's Rules and the materials and workmanship are good.  
The machinery has been efficiently installed on board the vessel, & tested satisfactorily under working conditions at quay, and is eligible in my opinion to be classed with this Society and to have record + LMC. 9.42 and the notations 2 SB. 180 lbs. FD. CL.

Certificate to be sent to NEWCASTLE-ON-TYNE.  
The amount of Entry Fee ... £ 3 : 0 :  
Special ... £ 35 : 0 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 14 OCT 1942  
When received, 19  
Committee's Minute TUE. 27 OCT 1942  
Assigned + LMC 9.42  
A. Watt.  
Engineer Surveyor to Lloyd's Register of Shipping.