West Hartlepool Rpt No. 18683

Rpt. 4. Adm. Ref. CP(M.S.) 1480/41. No. 122.

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 13 SEP 1945

Date of writing Report ..... 19 .... When handed in at Local Office ..... 19 .... Port of Nottingham.

No. in Reg. Book ..... Survey held at Lincoln. Date, First Survey 13.10.43. 17.11.44 Last Survey 22.6. 1.9.45. 1945. Number of Visits 41

on the STEEL SCREW STEAMER EMPIRE SOUTHWARK. Tons Gross - Net - N° 1181

Built at West Hartlepool By whom built Wm. Gray & Co. Ltd., Yard No. A/MS 1146 When built 1945.

Engines made at Lincoln. By whom made Robey & Co. Ltd., Engine No. A/195. When made 1945.

Boilers made at Davis Rowan & Co. Ltd. By whom made Glasgow. Boiler No. - When made 1945.

Registered Horse Power - 281 Owners Ministry of War Transport. Port belonging to West Hartlepool.

Nom. Horse Power as per Rule = 281 ✓ Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which vessel is intended - Ocean going

ENGINES, &c.—Description of Engines Inverted Triple Expansion. Revs. per minute 72.

Dia. of Cylinders 20" x 31" x 55" ✓ Length of Stroke 39" ✓ No. of Cylinders 3 ✓ No. of Cranks 3. ✓

Crank shaft, dia. of journals as per Rule 10.99. ✓ as fitted 11.1/4" ✓ Crank pin dia. 11.1/4" ✓ Crank webs Mid. length breadth - Mid. length thickness - Thickness parallel to axis 6.7/8" ✓ shrunk Thickness around eye-hole 4.7/8" ✓

Intermediate Shafts, diameter as per Rule - as fitted - **Thrust shaft**, diameter at collars as per Rule 11" - as fitted 11¼" ✓ -

Tube Shafts, diameter as per Rule - as fitted - **Screw Shaft**, diameter as per Rule 11.7/8" as fitted - 12¼" ✓ Is the {tube / screw} shaft fitted with a continuous liner - - Yes. ✓

Bronze Liners, thickness in way of bushes as per Rule .651" as fitted 1 1/16" - ✓ Thickness between bushes as per Rule .492" as fitted - 17/32" ✓ 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 One Length.

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 - 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 at No. If so, state type - Length of Bearing in **Stern Bush** next to and supporting propeller 4'-3⅜" ✓

Propeller, dia. 15-3" ✓ Pitch 14'-6" ✓ No. of Blades 4 ✓ Material Cast Bronze whether Moveable No. ✓ Total Developed Surface 73 - sq. feet

Feed Pumps worked from the **Main Engines**, No. - Diameter - Stroke - Can one be overhauled while the other is at work

Bilge Pumps worked from the **Main Engines**, No. 2 ✓ Diameter 4.1/4" ✓ Stroke 26" ✓ Can one be overhauled while the other is at work Yes.

Feed Pumps No. and size 2 @ 8"x6"x15" Singles ✓ How driven Independent steam ✓

Pumps connected to the **Main Bilge Line** No. and size 2 @ 9¼"x26" ✓ How driven Main Engine ✓ 1 @ 10"x11"x10" Duplex ✓ Independent steam ✓

Ballast Pumps, No. and size - 1 @ 10"x11"x10" Duplex. **Lubricating Oil Pumps**, including Spare Pump, No. and size ✓

Are two independent means arranged for circulating water through the **Oil Cooler** ✓ **Suctions**, connected both to Main Bilge Pumps and Auxiliary Bilge Pumps:—In Engine and Boiler Room 3 @ 3" ✓ 1 @ 4" ✓

In Pump Room - ✓ In Holds, &c. N°1. 2 @ 3" N°2. 2 @ 3½" ✓ Cross Bunker 2 @ 2" ✓

Main Water Circulating Pump Direct Bilge Suctions, No. and size - 1 @ 6" ✓ **Independent Power Pump Direct Suctions** to the Engine and/or Boiler Room Bilges, No. and size 1 @ 4" ✓

Are all the Bilge Suction Pipes in holds and tunnel well 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 On recesses ✓ 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 Below. ✓

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 Bilge suctions ✓ How are they protected Wood ceiling ✓

What pipes pass through the deep tanks No. 1 Bilge suctions ✓ Have they been tested as per Rule Yes. ✓

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. ✓ Is it fitted with a watertight door - worked from -

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MAIN BOILERS, &c.—(Letter for record ....) Total Heating Surface of Boilers B.C. Bulk - 2073.37 x 2 = 4146.6 ✓ Certificate attached -

Which Boilers are fitted with Forced Draft - Which Boilers are fitted with Superheaters -

No. and Description of Boilers - Working Pressure 200 lbs. - (See overleaf) ✓

IS A REPORT ON MAIN BOILERS NOW FORWARDED? -

IS A DONKEY BOILER FITTED? If so, is a report now forwarded? -

Can the donkey boiler be used for other than domestic purposes -

PLANS. Are approved plans forwarded herewith for Shafting 1.9.41. (If not state date of approval) Main Boilers - Auxiliary Boilers - Donkey Boilers -

Superheaters - General Pumping Arrangements - Oil fuel Burning Piping Arrangements -

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes. ✓

State the principal additional spare gear supplied -

The foregoing is a correct description. FOR ROBEY & CO., LIMITED. C. Yorke Manufacturer.

WORKS MANAGER.

005174-005179-0034

Dates of Survey while building

During progress of work in shops: 13.10.43. to 22.6.45. - 28 Visits.

During erection on board vessel: 17.11.44 to 1.9.45. = 41 Visits

Total No. of visits: -

Dates of Examination of principal parts—Cylinders 9.10.44. to 1.2.45. Slides 14.2.45. Covers 1.2.45.

Pistons 1.2.45. to 25.4.45. Piston Rods 11.8.42. & 1.2.45. Connecting rods 11.7.42 & 14.2.45.

Crank shaft 14.10.41, 20.10.43, 8.6.45. Thrust shaft 23-5-45 - 29-6-45. Intermediate shafts - -

Tube shaft - ✓ Screw shaft 23-5-45 - 29-6-45. Propeller 29-6-45.

Stern tube 29-6-45. Engine and boiler seatings 30-5-45. Engines holding down bolts 18-7-45.

Completion of fitting sea connections 30-5-45. -

Completion of pumping arrangements 28-8-45. Boilers fixed 19-7-45. Engines tried under steam 29-8-45.

Main boiler safety valves adjusted 28-8-45. Thickness of adjusting washers - 458 UNB. D. 3/8" S. 3/8" D. 7/16" S. 13/32" D. 3/32 S. 3/32" ✓

Crank shaft material S.M.Steel. Identification Mark 14.10.41. Thrust shaft material Forged Steel Identification Mark No HH38 CP

Intermediate shafts, material ✓ Identification Marks - ✓ Tube shaft, material - Identification Mark ✓

Screw shaft, material Forged Steel Identification Mark No HH37CP Steam Pipes, material S.D. Steel Test pressure 600 lbs Date of Test 27-7-45

Is an installation fitted for burning oil fuel exo ✓ 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 exo ✓ 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 -

Is this machinery duplicate of a previous case Yes If so, state name of vessel A/194.

General Remarks (State quality of workmanship, opinions as to class, &c.

This engine has been built under Special Survey in accordance with the Society's Rules, the Secretary's letters and the approved plans. The materials and workmanship are good.

The engine is constructed for use with superheated steam.

The Machinery has been despatched to The Central Marine Engineering Works, West Hartlepool for installation in the vessel.

The machinery of this vessel has been satisfactorily fitted and secured on board.

The boilers built under British Corporation Survey and marked.

BC TEST No 7376 380 LBS WP 220 LBS. J.M. 18.6.45.	BC TEST No 7377 380 LBS WP 220 LBS J.M. 18.6.45

have been satisfactorily fitted and secured on board and the safety valves adjusted for a working pressure of 200 lbs ✓

The machinery tried under working conditions and found satisfactory.

The machinery of this vessel is eligible in my opinion to be classed in the Register Book. L.M.C. * 9.45. 2SB (S.H.) F.D. C.L.

Arthur W. Oxford.
West Hartlepool.

The amount of Entry Fee ... £ : :
2/5 ths. per Secs. letter 3/3/43.
Special ... ... £ 26 : 3 :
Specification 25%
Donkey Boiler Fee - ... ... £ 6 : 10 6d
Travelling Expenses (if any) £ 7 : 0. :

When applied for, 18.7. 1945
When received, 19

WEST HARTLEPOOL.
£ 4-0-0
£ 13-9-0
Spec. £3-7-0.

12/9/45.

J. M. Buchanan
Engineer Surveyor to Lloyd's Register of Shipping.

Date FRI. 28 SEP 1945

Committee's Minute LMC * 9.45

W.P. 2001b. Sept.
F.D. C.L.

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

Certificate to be sent to