

Rpt. 4b

REPORT ON OIL ENGINE MACHINERY.

No. 86794

Received at London Office 11 FEB 1931

Date of writing Report

Wallsend

When handed in at Local Office 10.2.1931 Port of Newcastle-on-Tyne

No. in Survey held at Reg. Book.

Date, First Survey 4 June 1930 Last Survey 2 Feb 1931

Number of Visits 69

on the ^{Single} ~~Triple~~ ~~Quadruple~~ Screw vessel

Imperial Transport

Tons { Gross 8022 Net 4830

Built at Glasgow

By whom built Blythwood S.B. Bay Yard No. 31 When built 1931

Engines made at Wallsend

By whom made North Eastern M & Co. Ltd. Engine No. 2165 When made "

Donkey Boilers made at Wallsend

By whom made North Eastern M & Co. Ltd. Boiler No. 2165 When made "

Indicated Brake Horse Power 4000

Owners Houlder Bros.

Port belonging to

Nom. Horse Power as per Rule 633

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

Trade for which vessel is intended

28 3/4 63

OIL ENGINES, &c. Type of Engines North Eastern Marine. 2 or 4 stroke cycle H Single or double acting S.A.

Maximum pressure in cylinders 560 lbs. Diameter of cylinders 130 mm. Length of stroke 1600 mm. No. of cylinders 8 No. of cranks 8

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 990 mm. Is there a bearing between each crank Yes

Revolutions per minute 94 Flywheel dia. 2590 mm Weight 4.36 tons Means of ignition compression Kind of fuel used F. Palace 150 F.

Crank Shaft, dia. of journals as per Rule 485 mm as fitted 490 mm Crank pin dia. 490 mm Crank Webs Mid. length breadth 980 mm Thickness parallel to axis 303 mm

Flywheel Shaft, diameter as per Rule 485 mm as fitted 490 mm Intermediate Shafts, diameter as per Rule 138 mm as fitted 144 mm Thrust Shaft, diameter at collars as per Rule 138 mm as fitted 19 mm

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 14.66 mm as fitted 15.2 mm Is the tube screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 3/4 mm as fitted 3/4 mm Thickness between bushes as per rule 1/16 mm as fitted 1/16 mm 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 Yes

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 Yes

If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes

Length of Bearing in Stern Bush next to and supporting propeller 5'-6"

Propeller, dia. 14'-3" Pitch 12'-11" No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 95 sq. feet

Method of reversing Engines compressed air. Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced. Thickness of cylinder liners 70 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine up funnel

Cooling Water Pumps, No. Two centrifugal 6 1/2" Bore Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

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

Pumps connected to the Main Bilge Line No. and Size 1 @ 7 x 8 1/2 x 8" duplex Bilge, 1 @ 9 x 10 x 10" duplex ballast. How driven Steam Steam

Ballast Pumps, No. and size 1 @ 9 x 10 x 10 Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 10 x 9 x 2 1/2

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces 4 @ 3 1/2 1 @ 3

In Holds, &c. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 5

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces 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 platform 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 How are they protected

What pipes pass through the deep tanks 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 Yes Is it fitted with a watertight door Yes worked from

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. one No. of stages 3 Diameters HP 140 mm MP 150-640 LP 150 mm Stroke 550 mm Driven by main engines

Auxiliary Air Compressors, No. 1 No. of stages 3 Diameters 3 1/2 x 14 x 14 Stroke 9 Driven by Steam

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted Steam driven

IR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes

Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces manholes

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. Two Cubic capacity of each 10.95 cub. ft. Internal diameter 15 3/4" thickness 3/8" Seamless, lap welded or riveted longitudinal joint seamless. Material Steel Range of tensile strength 28 to 32 tons Working pressure by Rules 1095 lbs. sq.

Starting Air Receivers, No. Two Total cubic capacity 880 cub. ft. Internal diameter 5'-9" thickness 1 1/8" Seamless, lap welded or riveted longitudinal joint riveted. Material Steel Range of tensile strength 30 to 34 tons Working pressure by Rules 460 lbs. sq.

003591-003598-0104

IS A DONKEY BOILER FITTED? *yes two* If so, is a report now forwarded? *yes*
 PLANS. Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Tanks *yes*
 (If not, state date of approval) Donkey Boilers *yes* General Pumping Arrangements *sent to Glasgow* Oil Fuel Burning Arrangements *yes*
 SPARE GEAR *As per list attached.*

The foregoing is a correct description of the machinery described in the above description.
W. Campbell Secretary
 Manufacturer.

Dates of Survey while building
 During progress of work in shops - 1930 June 4 July 2, 14, 18, 23, 25, 29 Aug. 5, 11, 18, 21, 25 Sep. 1, 2, 4, 5, 8, 9, 10, 14, 16, 17, 18, 19, 22, 23, 25
 During erection on board vessel - 29 Oct. 1, 2, 3, 6, 7, 8, 9, 10, 15, 16, 17, 21, 23, 24, 26, 31 Nov. 6, 7, 10, 11, 13, 17, 20, 24, 26 Dec. 3, 4, 5, 8, 9, 11, 17 Jan. 5, 12, 1931
 Total No. of visits *69*

Dates of Examination of principal parts - Cylinders *2-9-30 to beam 8-10-30* Pistons *18-9-30 to 14-10-30* Rods *18-4-30* Connecting rods *19-9-30*
 Crank shaft *2-10-30* Flywheel shaft *21-10-30* Thrust shaft *21-10-30* Intermediate shafts *21-10-30* Tube shaft ✓
 Screw shaft *2-10-30* Propeller *3-10-30* Stern tube *3-10-30* Engine seatings *10/3/31* Engines holding down bolts *10/3/31*
 Completion of fitting sea connections *13-2-31* Completion of pumping arrangements *21-4-31* Engines tried under working conditions *21-4-31*
 Crank shaft, Material *o.H. Steel* Identification Mark *24/65 W.P.* Flywheel shaft, Material *o.H. Steel* Identification Mark *18 L.Y.*
 Thrust shaft, Material *o.H. Steel* Identification Mark *18 L.Y.* Intermediate shafts, Material *o.H. Steel* Identification Marks *18 L.Y.*
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material *o.H. Steel* Identification Mark *406 W.P. + 65 L.Y. R.W.F.*

Is the flash point of the oil to be used over 150° F. *yes.*
 Is this machinery duplicate of a previous case *no* If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
This machinery has been built under Special Survey. Materials - Workmanship good. Hydraulic tests satisfactory, it has been shipped to Glasgow for installation in the vessel. The Glasgow Surveyors have been notified.

NEWCASTLE-ON-TYNE

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

Total fee, £ 106-13-0
 The amount of Entry Fee ... £ 6-0-0
 Special ... £ 85-6-4
 Donkey Boiler Fee ... £ 20-8-0
 Travelling Expenses (if any) £ ✓
 When applied for, 10 FEB 1931
 When received, Low W. 2/3/31

William Dutton
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 15 SEP 1931
 Assigned See Glasgow Report No. 51756

