

RECEIVED

REPORT ON OIL ENGINE MACHINERY.

No. 70705

Received at London Office 5 JUN 1946

pt. 4b.

6 JUN 1946

IN D.O.

Date of writing Report 19 When handed in at Local Office 3 6 1946 Port of GLASGOW.

Survey held at GLASGOW. Date, First Survey 31st Jan 1946 Last Survey 7th May, 1946 Number of Visits 10

Single Screw vessel "EMPIRE TEDMUR" Tons Gross 890 Net 370

GLASGOW. By whom built A. & J. INGLIS LTD. Yard No. 1313 When built 1946

GLASGOW. By whom made BRITISH POLAR ENGINES LTD. Engine No. 591 When made 1946

CARFIN. By whom made ALEX. ANDERSON & SONS LTD. Boiler No. 3931/2 When made 1945.

640 Owners MINISTRY OF TRANSPORT. Port belonging to GLASGOW.

125 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

INTERNATIONAL.

Heavy Oil M44M 2 or 4 stroke cycle 2 Single or double acting S.A.

See B.C. Report. Diameter of cylinders Length of stroke No. of cylinders No. of cranks

Is there a bearing between each crank

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Kind of fuel used

Kind of fuel used

1377 m/m 9 1/2" Thrust Shaft, diameter at collars as fitted

appd. 8 1/2" Is the tube screw shaft fitted with a continuous liner No

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Is the after end of the liner made watertight in the

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

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 tube shaft Yes Newark Length of bearing in Stern Bush next to and supporting propeller 2'-9"

Propeller, dia. 71-6" Pitch 4'-4 3/4" No. of blades 4 Material Br. whether moveable No Total developed surface 20.2 sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched

Forced Thickness of cylinder liners Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

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

Cooling Water Pumps, No. 1-M.E. and 1-G.S. 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. 2 Diameter 140 m/m Stroke 90 m/m Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and size 1-M.E. 140 m/m x 90 m/m, 1-G.S. 20 ton/hr. 1-Ballast 40 ton/hr. How driven M.E. St. Ford, Aux. Vert Cent. Elect.

Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

Ballast Pumps, No. and size 1-40 ton/hr. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2@3100 gall/hr. 1-20 ton/hr. In series but can be worked independently

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 3-2 1/2" In pump room 1-3"

In holds, &c.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1-3" 1-2 1/2"

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction pipes 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 Valves Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are 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 None 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 Is it fitted with a watertight door 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. No. of stages diameters stroke driven by

Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

Small Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 4 1/2" & 1 5/8" stroke 3 1/4" driven by P. Aux. Eng.

What provision is made for first charging the air receivers Small aux. compressor above.

Scavenging Air Pumps, No. diameter stroke driven by 2 1/2" and 3 1/8" No. 1-18 Kw. 1-25 Kw. 1-6 1/2 Kw.

Auxiliary Engines crank shafts, diameter as per Rule 2 1/2" and 3 1/8" as fitted 2 1/2" and 3 1/8" Position Port St. Aft. St. Ford.

Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes

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AIR RECEIVERS:—Have they been made under survey... **B.C.** ✓ State No. of report or certificate **SEE B.C. REPORT**

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 and cleaned **Yes** ✓ Is a drain fitted at the lowest part of each receiver **Yes**

Injection Air Receivers, No. - Cubic capacity of each - Internal diameter - thickness -

Seamless, lap welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure by Rules - Actual -

Starting Air Receivers, No. **2** Total cubic capacity **56 cu.ft.** Internal diameter **21-1/2"** thickness **13/16"**

Seamless, lap welded or riveted longitudinal joint **Riveted** Material **Steel** Range of tensile strength - Working pressure by Rules - Actual -

IS A DONKEY BOILER FITTED **Yes** ✓ If so, is a report now forwarded **Yes** ✓

Is the donkey boiler intended to be used for domestic purposes only **No** ✓

PLANS. Are approved plans forwarded herewith for shafting **2-12-35 and 4-9-44** Receivers **20-7-34** Separate fuel tanks **22-6-45.**

Donkey boilers **5-8-44** General pumping arrangements **18-10-44** Pumping arrangements in machinery space **13-2-45.**

Oil fuel burning arrangements -

SPARE GEAR.

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

State the principal additional spare gear supplied **See List.**

The foregoing is a correct description, Manufacturer.

Dates of Survey while building

During progress of work in shops - -

During erection on board vessel - - **1946 Jan 23-24-31 Mar 14-27 Apr 8-11-24-26 May 7**

Total No. of visits **10**

Dates of examination of principal parts—Cylinders - Covers - Pistons - Rods - Connecting rods -

Crank shaft - Flywheel shaft - Thrust shaft - Intermediate shafts **24-1-46** Tube shaft -

Screw shaft **24-1-46** Propeller **31-5-45** Stern tube **24-1-46** Engine seatings **31-1-46** Engine holding down bolts **14-3-46**

Completion of fitting sea connections **31-1-46** Completion of pumping arrangements **7-5-46** Engines tried under working conditions **7-5-46**

Crank shaft, material **O.H. Steel** Identification mark **B.C. 594** Scav. Engine shaft, material **O.H. Steel** Identification mark **B.C. 582**

Thrust shaft, material **O.H. Steel** Identification mark **B.C. 922** Intermediate shafts, material **S.M. Steel** Identification marks **LDS. 14413 H.A.I.**

Tube shaft, material - Identification mark - Screw shaft, material **O.H. Steel** Identification mark **LDS. 14413 H.A.I.**

Identification marks on air receivers **B.C. TEST. 7079** **B.C. TEST 7076**

27-11-45 E.F. **29-10-45 E.F.**

Is the flash point of the oil to be used over 150°F **Yes** ✓

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with **Yes** ✓

Description of fire extinguishing apparatus fitted -

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo - 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 **"EMPIRE BELGRAVE".**

General Remarks (State quality of workmanship, opinions as to class, &c. **This machinery has been securely fitted on board the vessel and tried under working conditions and found satisfactory and is eligible in our opinion to be classed with record L.M.C. 5,46 and notation 2 D.B. 180 lb. The Admiralty Specification has been complied with.**

NOTE: The torsional vibration characteristics of the main engine were proved satisfactory on a sister vessel "EMPIRE CAMPDEN":

The amount of Entry Fee ... £ 3 -

INSPECTION ... £ 10 8

SPECIFICATION ... £ 2 12

Donkey Boiler Fee... £ -

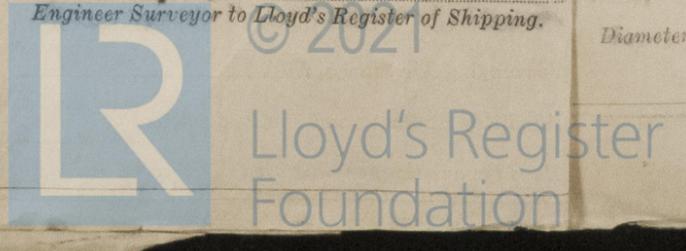
Travelling Expenses (if any) £ -

When applied for **4 JUN 1946**

When received **19**

Committee's Minute **GLASGOW 4 JUN 1946**

Assigned **Asst Eng. 2 DB 180 lb**



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