

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 71055.

26 SEP 1946

Received at London Office

25 SEP 1946

Date of writing Report 19 When handed in at Local Office 18.9.19 Port of GLASGOW.
No. in Survey held at GLASGOW. Date, First Survey 11.4.45 Last Survey 6th September 1946
Reg. Book. Number of Visits 17

Single
on the screw vessel "EMPIRE TEDRITA"
Tons Gross 890
Net 370

Built at GLASGOW By whom built Messrs. A. & J. Inglis Ltd. Yard No. 1314 When built 1946

Engines made at GLASGOW By whom made Messrs. British Polar Engines, Ltd. Engine No. 592 When made 1945

Donkey Boilers made at CARFIN By whom made Messrs. Alex. Anderson & Son Ltd. Boiler No. 3933/4 When made 1945

Brake Horse Power 640 Owners Ministry of Transport Port belonging to Glasgow

Nom. Horse Power as per Rule 125 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended MN. 141 International carrying petroleum in bulk

OIL ENGINES, &c. — Type of Engines Heavy Oil M.44M. 2 or 4 stroke cycle 2 Single or double acting S.A. ✓

Maximum pressure in cylinders See B.C. Report. Diameter of cylinders 13 3/8 Length of stroke 22 7/16 No. of cylinders 4 No. of cranks 4

Mean Indicated Pressure MIP 96 340 m.p.s. 570 m.p.s.

Span of bearings, adjacent to the crank, measured from inner edge to inner edge Is there a bearing between each crank

Revolutions per minute Flywheel dia. Weight Means of ignition Kind of fuel used

Total kW Crank Shaft, (Solid forged, Semi built, All built) dia. of journals as per Rule as fitted Crank pin dia. Crank webs Mid. length breadth Mid. length thickness Thickness parallel to axis shrunk Thickness around eye-hole

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as fitted as per Rule

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner No

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as fitted Is the after end of the liner made watertight in the propeller boss

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 If so, state type Newark

Length of bearing in Stern Bush next to and supporting propeller 2'9"

Propeller, dia. 7'6" 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 Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication

Thickness of cylinder liners Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled or lagged with non-conducting material

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 G.S. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

1 M.E.

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

No. and size 1 - M.E. 90m.m. & 140 m.m. 1-G.S. 20 tons/hr. 1-Ballast 40 tons/hr.

Pumps connected to the Main Bilge Line 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 tons/hr 1-20 tons/hr Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 @ 3100 Galls/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. None

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 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 Yes 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 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 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 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. Engine

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

Scavenging Air Pumps, No. diameter stroke driven by

Auxiliary Engines crank shafts, diameter as per Rule 2 1/2" x 3 1/8" No. 1-18 Kw. 1-25 Kw. 1-6 1/2" kw.

as fitted 2 1/2" x 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. **None** Cubic capacity of each **-** Internal diameter **-** thickness **-**
Seamless, lap welded or riveted longitudinal joint **-** Material **-** Range of tensile strength **-** Working pressure **-**
Starting Air Receivers, No. **2** ✓ Total cubic capacity **56 cu.ft.** Internal diameter **2'- 1 1/2"** thickness **13/16"**
Seamless, lap welded or riveted longitudinal joint **Riveted** Material **Steel** Range of tensile strength **-** Working pressure **-**

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.** Receivers **20.7.34.** Separate fuel tanks **22.6**
(If not, state date of approval) **4.9.44.**
Donkey boilers **5.8.44.** General pumping arrangements **18.10.44.** Pumping arrangements in machinery space **13.2.45.**
Oil fuel burning arrangements **22.6.45.**

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 - -
Total No. of visits **17**

Dates of examination of principal parts—Cylinders. Covers. Pistons. Rods. Connecting rods.
Crank shaft. Flywheel shaft. Thrust shaft. Intermediate shafts **13.2.46.** Tube shaft.
Screw shaft **13.2.46.** Propeller **8.5.46.** Stern tube **13.2.46.** Engine seatings **27.3.46.** Engine holding down bolts **30.4.46.**
Completion of fitting sea connections **27.3.46.** Completion of pumping arrangements **3.9.46.** Engines tried under working conditions **6.9.46.**
Crank shaft, material Identification mark Flywheel shaft, material Identification mark
Thrust shaft, material Identification mark Intermediate shafts, material **SM Steel** Identification mark **Lloyd's 14**
Tube shaft, material Identification mark Screw shaft, material **SM Steel** Identification mark **Lloyd's 1441**
Identification marks on air receivers.

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" Report No. 69670.**

General Remarks (State quality of workmanship, opinions as to class, &c. **The machinery has been securely fitted on board the vessel, tried under working conditions and found satisfactory and is eligible, in my opinion to be classed with a record L.M.C.* 9,46 and notation 2 D.B. 180 lbs.**
The Admiralty Specification has been complied with. This machinery was constructed under B.C. Survey
Note: The torsional vibration characteristics of the main engine were proved satisfactory on the sister vessel "EMPIRE CAMPDEN".

The amount of Entry Fee ... £ 3 : - :
Special ... £ 10 : 8 :
Specification **Done** Fee... £ 2 : 12 :
Travelling Expenses (if any) £ : :
When applied for **24 SEP 1946**
When received **10**

Committee's Minute **GLASGOW**
Assigned **Done 9.46**
air Eng 2 D.B. 180 lb.

Lloyd's Register Foundation
Engineer Surveyor to Lloyd's Register of Shipping.