

REPORT ON OIL ENGINE MACHINERY.

No. 71055.

26 SEP 1946

Received at London Office

25 SEP 1946

Date of writing Report 19 16 When handed in at Local Office 19 16 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 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/hr 570 m/hr

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, shrunk. Thickness parallel to axis, 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 per Rule, as fitted.

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 per Rule, 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

Pumps connected to the Main Bilge Line { No. and size 1 - M.E. 90m.m & 140 m.m 1-G.S. 20 tons/hr. 1-Ballast 40 tons/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 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

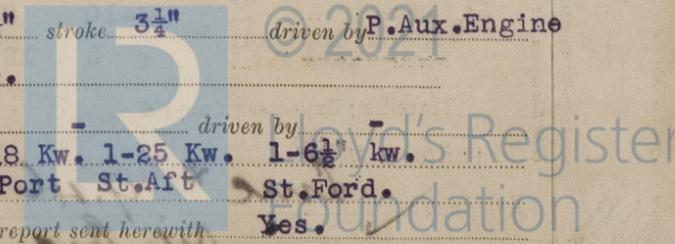
What provision is made for first charging the air receivers. Small Aux. compressor above.

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 buring 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.**

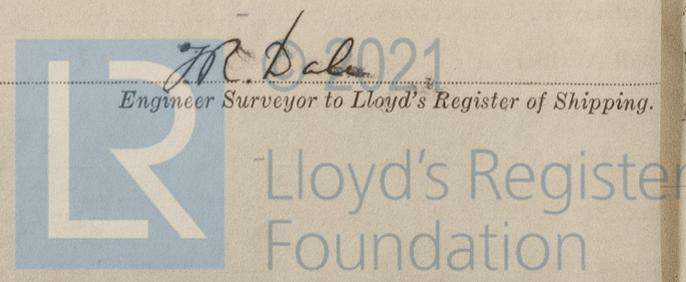
The foregoing is a correct description, _____ Manufacturer.

Dates of Survey while building
 During progress of work in shops - - -
 During erection on board vessel - - - **1945 Apr 11, 1946 Feb 13, 22, 27 Mar 27 Apr 8-11, 24, 30 May 1, 8, 21 Jun 2 Aug 2, 23 Sep 3-6**
 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 scatings **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 H.A.**
 Tube shaft, material _____ Identification mark _____ Screw shaft, material **SM Steel** Identification mark **Lloyd's 1441 H.A.**
 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
 Entry-Boiler Fee... £ **2** : **12**
 Travelling Expenses (if any) £ _____
 When applied for **24 SEP 1946**
 When received **10**



Committee's Minute **GLASGOW** **24 SEP 1946**
 Assigned **Lane # 9.46**
oil Eng 2 D.B. 180 lb.

Certificate (if required) to be sent to _____
 (The Surveyors are requested not to write on or below the space for Committee's Minutes.)