

# REPORT ON OIL ENGINE MACHINERY.

No. 23195

JAN 1946

Received at London Office

Writing Report 21<sup>st</sup> Dec 1945 When handed in at Local Office 22<sup>nd</sup> Dec 1945 Port of GREENOCK

Survey held at GREENOCK Date, First Survey 8<sup>th</sup> JANUARY 1945 Last Survey 15<sup>th</sup> Dec. 1945 Number of Visits 6

Single on the Turret Triple Screw vessel EMPIRE TRINIDAD Tons Gross 8217.08 Net 4766

By whom built BLYTHSWOOD SHIP CO LTD Yard No. 80 When built 1945

By whom made JOHN G. KINCAID & CO LTD Engine No. 4166 When made 1945

Boilers made at GREENOCK By whom made JOHN G. KINCAID & CO LTD Boiler No. 4170 When made 1945

Owners M.O.W.T. Port belonging to

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES

which vessel is intended OPEN SEA SERVICE

GINES, &c. Type of Engines Diesel Airless injection Bucki Super 2 or 4 stroke cycle 4 Single or double acting S.A.

pressure in cylinders 650 lbs Diameter of cylinders 740 1/2 Length of stroke 1500 1/2 No. of cylinders 6 No. of cranks 6

indicated Pressure 8.725 kg/cm<sup>2</sup> bearings, adjacent to the crank, measured from inner edge to inner edge 1022 7/8 Is there a bearing between each crank YES

Revolutions per minute 114 Flywheel dia. 2489 7/8 Weight 2.5 tons Means of ignition Compression Kind of fuel used Heavy Oil

Solid forged dia. of journals as per Rule 505 7/8 Crank pin dia. 505 7/8 Crank webs Mid. length thickness 310 7/8 shrunk Thickness parallel to axis 310 7/8

All built as fitted 505 7/8 Mid. length thickness 310 7/8 Thickness around eye-hole 222.5 7/8

Propeller Shaft, diameter as per Rule 13.074 Intermediate Shafts, diameter as per Rule 17 Thrust Shaft, diameter at collars as fitted 17

Propeller Shaft, diameter as fitted 14.37 Screw Shaft, diameter as per Rule 16 Is the shaft fitted with a continuous liner YES

Liners, thickness in way of bushes as per Rule 738 Thickness between bushes as per Rule 553 Is the after end of the liner made watertight in the stern 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

Does 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-volatile 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 propeller shaft NO

If so, state type Length of bearing in Stern Bush next to and supporting propeller 5'-0"

Propeller, dia. 15'-6" Pitch 12'-0" No. of blades 4 Material M.B. whether moveable NO Total developed surface 75 sq. feet

Means of reversing Engines Compressed Air Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of starting forced

Thickness of cylinder liners 53 7/8 top 32 7/8 bot Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled

and lined with non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

the engine YES Cooling Water Pumps, No. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES

Can one be overhauled while the other is at work YES

connected to the Main Bilge Line No. and size Two (1 @ 120 tons/hr & 1 @ 100 tons/hr) How driven Steam

Is 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

Power Driven Lubricating Oil Pumps, including spare pump, No. and size Two 1 - Main eng 10" x 10" 1 - Steam 100 tons/hr

Independent means arranged for circulating water through the Oil Cooler YES Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size:—In machinery spaces 3 @ 3 1/2" and 4 @ 2 1/2" In pump room

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 @ 5"

Are 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

Sea Connections fitted direct on the skin of the Ship YES Are they fitted with valves or cocks BOTH Are they fixed

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

Do pipes pass through the bunkers YES How are they protected YES

Do pipes pass through the deep tanks YES Have they been tested as per Rule YES

Are pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times YES

Is 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

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

Number of Auxiliary Air Compressors, No. Two No. of stages Two diameters 120 cu ft / min stroke driven by Steam

Is provision made for first charging the air receivers Steam compressor as above

Number of Ventilating Air Pumps, No. Two diameter stroke driven by

Number of Auxiliary Engines crank shafts, diameter as per Rule No. Position

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

20910-51500-10602



"EMPIRE TRINIDAD".

This vessel was taken over by the M.O.W.T. on 23rd November, 1945.

As the vessel was preparing to proceed on her voyage on 28th November the Chief Engineer found that the lubricating oil for the main engine was contaminated with salt water.

The crank case sump was tested and it was found that some welding at the aft end of the sump was faulty and that when the bilge was full water leakage entered the crank sump.

This welding has now been made good and the sump tested and found tight.

All main bearings, bottom ends and crossheads, panel bearings and crankshaft bearings opened up and examined. All the journals, pins and bearings were found discoloured and dry. The lubricating oil pipes and the piston cooling pipes contained some grit probably a mixture of brackish water and oil.

The foregoing parts have now been cleaned. Lubricating oil tanks and pipes cleaned out. The engine crank casing was cleaned down. New oil supplied.

The engine has again been tested out on a 4 hour sea trial with satisfactory results, after which one main bearing, one bottom end and one crosshead opened up and examined. These parts were all found in good condition.

The propeller developed singing characteristics at certain revolutions (please see attached copy of report 10 C.

The propeller is to Harland & Wolff design approved by the M.O.W.T.

Chas. J. Hunter

The main engines have been approved for Cassinal & Coriograph records taken 21-11-45 found satisfactory.

This will serve also for Kincaid's Eng. K167 in MV "British Process"

In MV "Terwentale" (Kincaid's Eng. K170) intermediate shaft is 24" & propeller also differs.

L.J. 11/1/46

AIR RECEIVERS: Have they been made under survey... State No. of report or certificate... Can the internal surfaces of the receivers be examined and cleaned... 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... Starting Air Receivers, No... Total cubic capacity... Internal diameter... thickness... Seamless, lap welded or riveted longitudinal joint... Material... Range of tensile strength... Working pressure... IS A DONKEY BOILER FITTED... If so, is a report now forwarded... Are approved plans forwarded herewith for shafting... Donkey boilers... General pumping arrangements... Pumping arrangements in machinery space... Oil fuel burning arrangements...

SPARE GEAR.

Has the spare gear required by the Rules been supplied... State the principal additional spare gear supplied...

See separate list

The foregoing is a correct description For JOHN G. KINCAID & CO. LIMITED. Director.

Table with 2 columns: Dates of Survey while building, Total No. of visits. Includes dates from Jan 8 to Dec 15 and a total of 61 visits.

Table with 2 columns: Dates of examination of principal parts, Identification marks. Lists parts like Cylinder, Crank shaft, Flywheel shaft, Thrust shaft, Intermediate shafts, Tube shaft, Completion of fitting sea connections, Completion of pumping arrangements, Engines tried under working conditions, Crank shaft, material, Identification mark, Flywheel shaft, material, Identification mark, Thrust shaft, material, Identification mark, Intermediate shafts, material, Identification marks, Tube shaft, material, Identification mark, Screw shaft, material, Identification mark.

Is the flash point of the oil to be used over 150°F... Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with... Description of fire extinguishing apparatus fitted... Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... 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...

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been constructed under special survey in accordance with Rules & approved plans & M.O.W.T. Specification. The materials & workmanship are sound & good. It has been efficiently installed in the vessel & tested under full working conditions during sea trials, and in my opinion to be classed in the Society's Register Book with notation + L.M.C. 11-45 and Notation Screw shaft C.L. 2 D.B. 150 lb. fitted for fuel F.P. above 150°F. Certificates common to this engine and K167 will be forwarded on completion of the latter.

The amount of Entry Fee... 25% Spec... Donkey Boiler Fee... Travelling Expenses... Committee's Minute... Assigned... GLASGOW 28 DEC 1945... L.M.C. 11/45... 2 D.B. 150 lb. oil Eng.

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

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