

## REPORT ON OIL ENGINE MACHINERY.

29 JUN 1955

No. 82805.

105

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Date of writing Report 11. 11. 1954. When handed in at Local Office 12. 11. 1954 Port of Glasgow.

No. in Survey held at Glasgow. Date, First Survey 9th Nov: 1951. Last Survey 24th Sept. 1954.

Reg. Book. Number of Visits 69.

Single on the Twin Triple Screw vessel. M.V. "WOOLWICH". Tons Gross 7669. Net 4145.

Built at Dundee By whom built Caledon S & F Co Yard No. 491 When built 1955.

Engines made at Luthouse Glasgow By whom made Alex. Stephen & Sons Ltd Engine No. 108E When made 1954.

Donkey Boilers made at By whom made Boiler No. When made.

Brake Horse Power Maximum 4,700 Service 4,400 Owners. Port belonging to.

M.N. as per Rule 4760 Is Refrigerating Machinery fitted for cargo purposes. Is Electric Light fitted.

Trade for which vessel is intended Open sea service

OIL ENGINES, &c. — Type of Engines Stephen - Delford 2 or 4 stroke cycle 2 Single or double acting opposed

Maximum pressure in cylinders 640 lb/sq. in. Diameter of cylinders 648 in. Length of stroke 23.20 No. of cylinders 4 No. of cranks 12

Mean Indicated Pressure 88 lb/sq. in. Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 2006 in. Is there a bearing between each crank No. Revolutions per minute Maximum 118 Service 115

Flywheel dia. 5.61 ft. Weight 3.22 Ton Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) 25000 Means of ignition Compression and of fuel used Diesel

Crank Shaft, Solid forged Semi built dia. of journals 5.00 in. Crank pin dia. 5.00 in. Crank webs Mid. length breadth 4.10 in. Mid. length thickness 2.85 in. Thickness parallel to axis 2.85 in. Thickness around eyehole 2.20 in.

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

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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 fitted at the after end of stern tube.

If so, state type Length of bearing in Stern Bush next to and supporting propeller.

Propeller, dia. Pitch No. of blades Material whether moveable Total developed surface sq. feet

Moment of inertia of propeller including entrained water (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) Kind of damper, if fitted Delford-Billy Distance

Method of reversing Engines Diesel Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of lubrication Pressure Thickness of cylinder liners 25 in. Are the cylinders fitted with safety valves Yes 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. and how driven Two-Engine Driven Working F.W.

S.W. Spare F.W. S.W. Is the sea suction provided with an efficient strainer which can be cleared within the vessel.

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

Pumps connected to the Main Bilge Line No. and capacity of each How driven

Is the cooling water led to the bilges. 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 capacity Power Driven Lubricating Oil Pumps, including spare pump, No. and size One-Engine driven

Are two independent means arranged for circulating water through the Oil Cooler Branch Bilge Suctions

No. and size:—In machinery spaces In pump room

In holds, &c.

Direct Bilge Suctions to the engine room bilges, No. and size

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes 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.

Are all Sea Connections fitted direct on the skin of the Ship Are they fitted with valves or cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates.

Are the overboard discharges above or below the deep water line.

Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate.

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.

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 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. No. of stages diameters stroke driven by

What provision is made for first charging the air receivers.

Scavenging Air Pumps or Blowers, No. 2. How driven Lever driven from No. 3 & 4 Engine Driven.

Auxiliary Engines Have they been made under survey Engine Nos. Position of each in engine room Report No.

Makers name

AIR RECEIVERS:—Have they been made under survey.....State No. of report or certificate.....

State full details of safety devices.....

Can the internal surfaces of the receivers be examined and cleaned.....Is a drain fitted at the lowest part of each receiver.....

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

Seamless, welded or riveted longitudinal joint.....Material.....Range of tensile strength.....Working pressure.....

Starting Air Receivers, No.....Total cubic capacity.....Internal diameter.....thickness.....

Seamless, welded or riveted longitudinal joint.....Material.....Range of tensile strength.....Working pressure.....

IS A DONKEY BOILER FITTED.....If so, is a report now forwarded.....

Is the donkey boiler intended to be used for domestic purposes only.....

PLANS. Are approved plans forwarded herewith for shafting.....Receivers.....Separate fuel tanks.....

Donkey boilers.....General pumping arrangements.....Pumping arrangements in machinery space.....

Oil fuel burning arrangements.....

Have Torsional Vibration characteristics been approved.....Date and particulars of approval.....

SPARE GEAR.

Has the spare gear required by the Rules been supplied.....State if for "short voyages" only.....

State the principal additional spare gear supplied.....

FOR: ALEXANDER STEPHEN & SONS, LIMITED,

N. I. Capton

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

69

Dates of examination of principal parts—Cylinders.....Pistons.....Connecting rods.....

Crank shaft.....Flywheel shaft.....Thrust shaft.....Intermediate shafts.....Tube shaft.....

Screw shaft.....Propeller.....Stern tube.....Engine seatings.....Engine holding down bolts.....

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.....

Identification marks on air receivers.....

Welded receivers, state Makers' Name.....

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.....

Full description of fire extinguishing apparatus fitted in machinery spaces.....

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.....

What is the special notation desired.....

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.....If so, state name of vessel.....

General Remarks (State quality of workmanship, opinions as to class, Speed restrictions, &c.....)

Built under special survey of tested materials in accordance with the Secretary's letters, approved plans & the requirements of the Rules & satisfactory test-bed trials were witnessed. In my opinion this engine is eligible to be fitted on board a vessel classed with this Register.

The amount of Entry Fee ... £ 204 : 0 0

Special ... £ 17 : 12 6

Donkey Boiler Fee... £ :

Travelling Expenses (if any) £ 2 : 11

Committee's Minute

Assigned

James C. Hurmay  
Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation