

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 11895
25 FEB 1937

Received at London Office

Date of writing Report 19 When handed in at Local Office 24. 2. 1937 Port of *Belfast*
No. in Survey held at *Belfast* Date, First Survey 17th April 1936 Last Survey 18th Feb. 1937
Reg. Book. 88124 on the *Single Triple Quadruple* Screw vessel *ERNEBANK* SINGLESCREW OIL ENGINE
Built at *Belfast* By whom built *Harland & Wolff Ltd* Yard No. 984 When built 1937
Engines made at *do* By whom made *do do* Engine No. 984 When made 1937
Donkey Boilers made at *do* By whom made *do do* Boiler No. 984 When made 1937
Brake Horse Power 2850 Owners *Andrew Weir & Co.* Port belonging to *Belfast*
Horse Power as per Rule 490 Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*
Trade for which vessel is intended *Ocean going*

L ENGINES, &c.—Type of Engines *How. airless injection under piston 2 or 4 stroke cycle* *Supercharging* Single or double acting *single*
Maximum pressure in cylinders 700 lb/sq. in. Diameter of cylinders 740 $\frac{1}{2}$ Length of stroke 1500 $\frac{1}{2}$ No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 128 lb/sq. in. Is there a bearing between each crank *Yes*
No. of bearings, adjacent to the Crank, measured from inner edge to inner edge 972 $\frac{1}{2}$
Revolutions per minute 95 Flywheel dia. 2489 $\frac{1}{2}$ Weight 2400 kgs Means of ignition *Compression* Kind of fuel used *Diesel oil*
Crank Shaft, dia. of journals as per Rule 505 $\frac{1}{2}$ as fitted 505 $\frac{1}{2}$ Crank pin dia. 505 $\frac{1}{2}$ Crank Webs Mid. length breadth 840 $\frac{1}{2}$ Thickness parallel to axis 310 $\frac{1}{2}$
Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted 13 $\frac{7}{8}$ Thrust Shaft, diameter at collars as per Rule as fitted 454 $\frac{1}{2}$
Screw Shaft, diameter as per Rule as fitted 15 $\frac{1}{2}$ Is the *main* shaft fitted with a continuous liner *Yes*
Bronze Liners, thickness in way of bushes as per Rule as fitted 13 $\frac{1}{16}$ Thickness between bushes as per rule as fitted 32 Is the after end of the liner made watertight in the
propeller boss *Yes* 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 the tube
Shaft *No* If so, state type Length of Bearing in Stern Bush next to and supporting propeller 8'-5"
Propeller, dia. 17'-6" Pitch 13'-0" No. of blades 4 Material *Mangrove* Whether Moveable *Solid* Total Developed Surface 92 sq. feet
Method of reversing Engines *Hand* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *Yes* Means of lubrication
Forced Thickness of cylinder liners 53 $\frac{1}{2}$ Are the cylinders fitted with safety valves *Yes* Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material *lagged* 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. *Two* 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. Diameter Stroke Can one be overhauled while the other is at work
Pumps connected to the Main Bilge Line { No. and Size *38% Bilge 80 tons/hr. Ballast 200 tons/hr. General Service 140 tons/hr.*
How driven *Steam*
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 *1-200 and 1-140 tons/hr.* Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size *Two 60 tons/hr.*
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 *Two 3 $\frac{1}{2}$ " One 2 $\frac{1}{2}$ " One 2 $\frac{1}{2}$ " engine comp. One 2 $\frac{1}{2}$ " off-endam* In Pump Room
In Holds, &c. *Four 2 $\frac{1}{2}$ " deep tanks Six 3" for holds Four 3" off holds One 3 $\frac{1}{2}$ " tunnel well.*
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *Two 5"*
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes *Yes* Are the Bilge Suctions 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 sized 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 *above*
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 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 *Yes* Is it fitted with a watertight door *Yes* worked from *Duck*
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. *Two* No. of stages *Two* Diameters *8 $\frac{7}{8}$ " 4 $\frac{1}{8}$ "* Stroke *6 $\frac{1}{4}$ "* Driven by *Steam*
Auxiliary Air Compressors, No. *✓* No. of stages Diameters Stroke Driven by
Small Auxiliary Air Compressors, No. *✓* No. of stages Diameters Stroke Driven by
Scavenging Air Pumps, No. *✓* Diameter Stroke Driven by
Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule.

Can the internal surfaces of the receivers be examined and cleaned.

High Pressure Air Receivers, No.

Cubic capacity of each

Is a drain fitted at the lowest part of each receiver

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Internal diameter

thickness

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

Working pressure by Rules

Actual

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

thickness

by Rules

Actual

IS A DONKEY BOILER FITTED?

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

If so, is a report now forwarded?

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

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

The foregoing is a correct description.

FOR HARLAND AND WOLFF, LIMITED.

See attached list

1936
Dates of Survey while building
During progress of work in shops—
During erection on board vessel—
Total No. of visits

Dates of Examination of principal parts—Cylinders
Crank shaft
Screw shaft
Completion of fitting sea connections
Crank shaft, Material
Thrust shaft, Material
Tube shaft, Material
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
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

The Machinery of this vessel has been constructed under special survey and in accordance with the Rules. The workmanship & materials are good. The engines & auxiliaries have been efficiently installed and tried out under working conditions with satisfactory results. In our opinion the vessel is eligible for Notation in the Society's Register Book.

+ LMC 2-37 CL 2DB 120 lb / 1"

The amount of Entry Fee
Special
Donkey Boiler Fee
Travelling Expenses (if any)
Committee's Minute

TUE 2 MAR 1937

Assigned + Lmc 2.37

LDB 120 lb: CL

Charles J. Hunter, R. Lee Armes
Engineer Surveyor to Lloyd's Register of Shipping.



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