

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 58570

Received at London Office

JUL 14 1937

Date of writing Report

19

When handed in at Local Office

10.7.37

Port of

Glasgow.

No. in Survey held at

Glasgow.

Date, First Survey

16.9.36

Last Survey

7/7/1937

Reg. Book.

Number of Visits

50

Single
on the ~~Triple~~
Screw vessel

"BOARDALE"

Tons

Gross 8334.22

Net 4973.31

Built at

Glasgow.

By whom built

Harland & Wolff Ltd.

Yard No. 9716

When built 1937

Engines made at

Glasgow.

By whom made

Harland & Wolff Ltd.

Engine No. 9716

When made 1937

Donkey Boilers made at

Belfast

By whom made

Harland & Wolff Ltd.

Boiler No. 971

When made 1937

Brake Horse Power 2850 @ 105 R.P.M.

Owners The Admiralty.

Port belonging to London.

Nom. 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

Oil tanker

OIL ENGINES, &c.—Type of Engines Solid injection 2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 700 lb.

Diameter of cylinders 740 mm.

Length of stroke 1500 mm.

No. of cylinders 6

No. of cranks 6

Mean Indicated Pressure 128 "

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 972 mm.

Is there a bearing between each crank

yes

Revolutions per minute 105

Flywheel dia. 2689 mm.

Weight 2540 Kp.

Means of ignition Compression

Kind of fuel used Diesel oil

Crank Shaft, dia. of journals

as per Rule 483 mm.

Crank pin dia. 505 mm.

Crank Webs Mid. length breadth 840 mm

Thickness parallel to axis 310 mm

as fitted 505 mm.

115 mm dia hole: 230 mm dia hole.

Mid. length thickness 310 "

Thickness around eye hole 222.5 "

Flywheel Shaft, diameter

as per Rule 483 mm.

Intermediate Shafts, diameter

as per Rule 13.6 "

Thrust Shaft, diameter at collars

as per Rule 14.3 "

as fitted

✓

as fitted 17 "

as fitted 15 "

Is the { tube } shaft fitted with a continuous liner {

yes.

Tube Shaft, diameter

as per Rule

Screw Shaft, diameter

as per Rule 17 "

Is the { tube } shaft fitted with a continuous liner {

yes.

as fitted

✓

as fitted 17 "

as fitted 15 "

Is the { tube } shaft fitted with a continuous liner {

yes.

Bronze Liners, thickness in way of bushes

as per Rule 7.58 "

Thickness between bushes

as per rule 11.57 "

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

Length of Bearing in Stern Bush next to and supporting propeller 5'-0"

Propeller, dia. 17'-0" Pitch 11'-6" No. of blades 4 Material My. Bronze whether Moveable no Total Developed Surface 89 sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when disengaged yes Means of lubrication forced

Thickness of cylinder liners 53 to 32 mm. 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. Three, 1 @ 150 + 2 @ 100 tons/hour. 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 1 Ballast pump 150 tons/hour. 2 Bilge & Sanitary pumps each 100 tons/hour. How driven Steam engine. (9'x10'x10') Steam engine. (7'x8'x8')

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 One 150 tons per hour. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 70 tons per hour.

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 Port drain hut 3 1/2"; Starboard drain hut 3 1/2", aft. hull 3 1/2" In Pump Room aft. " 2 @ 4"

In Holds, &c. Fore hold, one 3" port, one 3" starboard.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 6", 1 @ 4 1/2"

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. Both.

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 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 ✓ 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. 2. No. of stages 2. Diameters 120 cm train Stroke 350 mm Driven by Steam engine.

Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Scavenging Air Pumps, No. Under side of piston Diameter ✓ Stroke ✓ Driven by ✓

Auxiliary Engines crank shafts, diameter as per Rule All auxy. machinery steam driven except 30 K.W. Generator driven as fitted by a Diesel Engine. For lighting only.

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 *yes* Is a drain fitted at the lowest part of each receiver *yes*

High Pressure Air Receivers, No. *✓* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*

Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure by Rules *✓* Actual *✓*

Starting Air Receivers, No. *Two* Total cubic capacity *900 cu. ft.* Internal diameter *6-0 5/16* thickness *Shell 1", Ends 1 1/2"*

Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Steel* Range of tensile strength *26/30 lnds* Working pressure by Rules *356 lb.* Actual *356 "*

IS A DONKEY BOILER FITTED?

Is the donkey boiler intended to be used for domestic purposes only *no*

PLANS. Are approved plans forwarded herewith for Shafting *yes* (If not, state date of approval)

Donkey Boilers *yes* General Pumping Arrangements *yes* Receivers *yes* Separate Fuel Tanks *yes*

Oil Fuel Burning Arrangements *yes* Pumping Arrangements in Machinery Space *yes*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*

State the principal additional spare gear supplied *As per attached list.*

The foregoing is a correct description,
For HARLAND AND WOLFF, LIMITED.

Wm. J. Wright.

Manufacturer.

Dates of Survey while building { During progress of work in shops-- *Flinnlestone Secretary 1936 Sep: 16 Oct: 12.26 Nov: 9.12.24 Dec: 2.18 (1937) Jan: 15*
During erection on board vessel-- *19.26.27 Feb: 2.9.12.18 Mar: 2.9.10.17.18.22.23.26.30 Apr: 2.5.7.8.9.21.22.23.27*
Total No. of visits *51 May: 3.7.10.17.24.31 June: 7.10.11.18.23.29 July: 1.5.7*

Dates of Examination of principal parts—Cylinders *2-4-37* Covers *2-4-37* Pistons *2-4-37* Rods *2-4-37* Connecting rods *5-4-37*

Crank shaft *18-3-37* Flywheel shaft *✓* Thrust shaft *23-3-37* Intermediate shafts *23-3-37* Tube shaft *✓*

Screw shaft *23-3-37* Propeller *23-3-37* Stern tube *23-3-37* Engine seatings *15-3-37* Engines holding down bolts *7-6-37*

Completion of fitting sea connections *21-4-37* Completion of pumping arrangements *1-7-37* Engines tried under working conditions *7-7-37*

Crank shaft, Material *Steel* Identification Mark *971 P.7 + 6 marks.* Flywheel shaft, Material *✓* Identification Mark *✓*

Thrust shaft, Material *Steel* Identification Mark *5941 P.7.* Intermediate shafts, Material *Steel* Identification Marks *6076 P.7*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Mark *5996 P.7*

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*

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 *"BRITISH POWER" Glasgow Rpt 57800*

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

The machinery of this vessel has been built under Special Survey and in accordance with the approved plans and the Rules of this Society.

The materials and workmanship are good.

The machinery has been efficiently secured in position on board the vessel, and afterwards tried under full working condition with satisfactory results.

The machinery is eligible in my opinion to be classed in the Register Book with notation of *1 LMC 7.37 C.L. 2 DB. 150 lb.*

10/7/37

The amount of Entry Fee *£ 5 : -* When applied for, *13 JUL 1937*
Special ... *£ 98 : 10*
Donkey Boiler Fee ... *£ :* When received, *12.8 1937/148*
Travelling Expenses (if any) *£ :*

Committee's Minute *GLASGOW 13 JUL 1937*

Assigned *+ L.M.C. 7.37 2 DB - 150 lb.*

P. Fitzgerald.
Engineer Surveyor to Lloyd's Register of Shipping.

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Foundation