

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 32378

MAY 14 1938

Received at London Office

Sunderland.

Date of writing Report

When handed in at Local Office

11 May 1938 Port of

Sunderland. Date, First Survey 4 Nov. '37 Last Survey 9 May 1938

No. in Survey held at Reg. Book.

Single on the Twin Triple Quadruple Screw vessel

"LADY GLANELY"

Tons Gross 5494 Net 3232.

Built at

Sunderland

By whom built

Wm. Barford & Sons Ltd

Yard No. 640 When built 1938.

Engines made at

Sunderland

By whom made

Wm. Barford & Sons Ltd

Engine No. 640 When made 1938.

Donkey Boilers made at

Stockton

By whom made

Stockton Chem. Eng. & Ship. Rep. Co. Ltd

Boiler No. 13832 When made 1938.

Brake Horse Power

2500

Owners

The Rt. Hon. Lord Glanville

Port belonging to

Nom. Horse Power as per Rule

516.

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &c.

Type of Engines

Opposed piston, airless injection 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders

540 lbs/sq. in.

Diameter of cylinders

600 mm.

Length of stroke

Upper 980 mm.

No. of cylinders

3.

No. of cranks

3 (3 throws)

Mean Indicated Pressure

88 lbs/sq. in.

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

FOR 2300 mm.

Revolutions per minute

108.

Flywheel dia.

418 mm.

Weight

5 1/2 tons.

Means of ignition

Temperature

650 mm.

Kind of fuel used

Is there a bearing between each crank

Between each

3 throws.

Crank Shaft, dia. of journals

as per Rule

418 mm.

Crank pin dia.

450 mm.

Crank Webs

Mid. length breadth

650 mm.

Mid. length thickness

255 mm.

Thrust Shaft, diameter at collars

as per Rule

418 mm.

as fitted

450 mm.

Flywheel Shaft, diameter

as per Rule

418 mm.

Intermediate Shafts, diameter

as per Rule

341 mm.

Is the

screw

shaft fitted with a continuous liner

Yes.

Tube Shaft, diameter

as per Rule

18 mm.

as fitted

392 mm.

Bronze Liners, thickness in way of bushes

as per Rule

18 mm.

as fitted

2 1/2 mm.

Thickness between bushes

as per Rule

13 1/2 mm.

as fitted

16 3/4 mm.

Is the after end of the liner made watertight in the

one length.

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

Yes.

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

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 tube

5' 5"

Length of Bearing in Stern Bush next to and supporting propeller

90

sq. feet

Total Developed Surface

90

Propeller, dia.

15' 9"

Pitch

11' 9"

No. of blades

4.

Material

Brass

whether Moveable

Yes.

Means of lubrication

Yes.

Method of reversing Engines

Hand lever

Is a governor or other arrangement fitted to prevent racing of the engine when decelerated

Hand forced

Thickness of cylinder liners

25 mm.

Are the cylinders fitted with safety valves

Yes.

Are the exhaust pipes and silencers water cooled or lagged with

Yes.

non-conducting material

Yes.

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Yes.

Cooling Water Pumps, No.

one engine driven

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.

none

Diameter

Stroke

Can one be overhauled while the other is at work

Yes.

Pumps connected to the Main Bilge Line

No. and Size

Two

5' 1/2" x 6" x 15" Simplex

How driven

Steam.

Is the cooling water led to the bilges

Yes.

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements

Yes.

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size

1 @ 10' 1/2" x 12" x 24"

Simplex

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Yes.

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

Yes.

Pumps, No. and size:—In Machinery Spaces

4 @ 3" in E.R.

1 @ 3" in Tunnel well.

In Pump Room

1

1 @ 3 1/2" Deep Tank. 3 1/2" prs.

In Holds, &c.

Nº.1. 3" prs.

Nº.2. 3 1/2" prs.

Nº.3. 3" prs.

Nº.4. 1 @ 3 1/2" Deep Tank. 3 1/2" prs.

1 @ 8" (Ballast pump)

1 @ 5" (Gen. Ser. pump)

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Yes.

Are the Bilge Suctions in the Machinery Spaces

Yes.

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

Yes.

Are they fitted with Valves or Cocks

Both.

Are all Sea Connections fitted direct on the skin of the ship

Yes.

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plate

Yes.

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.

How are they protected

Yes.

Have they been tested as per Rule

Yes.

What pipes pass through the bunkers

Yes.

What pipes pass through the deep tanks

Yes.

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

E.R. top

plating.

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

Yes.

Main Air Compressors, No.

Two

Auxiliary Air Compressors, No.

None

No. of stages

3

Diameters

Stroke

Driven by

Steam 11 1/2" dia x 6 1/2"

Small Auxiliary Air Compressors, No.

One

No. of stages

Diameters

Stroke

Driven by

Lever from main engine

Scavenging Air Pumps, No.

One

Diameter

1700 mm.

Stroke

610 mm.

Driven by

Yes.

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

Position

Yes.

Lloyd's Register

Foundation

Im. 3.35. T.

W 983-0109

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes. On discharge from Compressor* Rpt. 5a.

Can the internal surfaces of the receivers be examined and cleared *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* *✓*

Starting Air Receivers, No. *Two* Total cubic capacity *220 cuft.* Internal diameter *3'-6"* thickness *1"* *603.*

Seamless, lap welded or riveted longitudinal joint *Riveted* Material *M. Steel* Range of tensile strength *28/32* Working pressure *by Rules* *600 lbs.*

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 *Yes.* (If not, state date of approval)

Receivers *Yes.*

Separate Fuel Tanks *Yes.*

Donkey Boilers *Yes.*

General Pumping Arrangements *Yes.*

Pumping Arrangements in Machinery Space *Yes.*

Oil Fuel Burning Arrangements *Yes.*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes (To latest requirements).*

State the principal additional spare gear supplied

One C.I. Propeller, one Screw Shaft, one Cylinder Liner & Jacket Complete, 1 main piston head, 5 main piston rings, 4 Dual valves Complete, 8 Spray Plugs, 2 (each) top & bottom end bolts for Centre & side Cam. rods, 1 Centre & side Cam. rod & pin & bearings, 2 Centre & side Cam. rod top end bearings, 1 Starting air valve Complete, 1 cyl. relief valve Complete, 4 Scavenge pump valve discs, 4 Dual pump bodies Complete, 1 set each Size of valves for Eng. & main & side pumps, 1 set of rods & trunnion block, 1 roller Chain for Camshaft drive.

The foregoing is a correct description.

WILLIAM DOXFORD & SONS, Limited.

Manufacturer.

Dates of Survey while building
During progress of work in shops - *1937. 7.04.4.9.12.15.16.18.19.22.23.24.29.30. Dec. 1.7.15.21.23.29.31. 1938. Jan. 1.6.7.10.11.13.14.17.18.19.2*
During erection on board vessel - *24.25.26.27.28.31. Feb. 1.2.3.4.7.8.9.22.23.24.28. March. 1.2.7.8.10.11.16.17.21. May. 4.5.9.*
Total No. of visits *59*

Dates of Examination of principal parts—Cylinders *12/11/37, 9/11/37* Covers *✓* Pistons *23/12/37* Rods *23/12/37* Connecting rods *11/1/38.*

Crank shaft *8/12/37 (G.L.S.)* Flywheel shaft *as crank.* Thrust shaft *as crank.* Intermediate shafts *31/1/38.* Tube shaft *✓*

Screw shaft *1/2/38, 9/2/38* Propeller *1/2/38* Stern tube *3/2/38.* Engine seatings *(Tank top)* Engines holding down bolts *8/3/38.*

Completion of fitting sea connections *28/1/38.* Completion of pumping arrangements *11/3/38.* Engines tried under working conditions *9/5/38.*

Crank shaft, Material *Ingot Steel* Identification Mark *640 504411* Flywheel shaft, Material *as crank* Identification Mark *as crank.*

Thrust shaft, Material *as crank* Identification Mark *as crank.* Intermediate shafts, Material *Ingot Steel* Identification Marks *N^os 3904, 3905, 3906*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Ingot Steel* Identification Marks *3907, 3908, 3909*

Is the flash point of the oil to be used over 150° F. *Yes.* Identification Mark *3910, 3914 WHF*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes.* Identification Mark *31/1/38.*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *no.* Identification Mark *N^o 3900 WHF 9/2/38.*

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *not desired.*

Is this machinery duplicate of a previous case *no.* If so, state name of vessel *✓*

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

The machinery of this vessel has been built under Special Survey in accordance with the approved Plans & the Rules of the Society & the Secretary's letter E 25/4/34. The materials & workmanship are good. The machinery has been securely fitted on board the vessel & tried under full working conditions at sea, including rule requirements for starting, with satisfactory results. The two donkey boilers have also been securely fixed on board, fitted to burn oil fuel (F.P. above 150° F) Section 20 of the Rules has been complied with, Safety valves of boilers adjusted under steam to rule requirements.

The machinery is eligible in my opinion to have notation

180 L.M.C. 5.38 Oil Eng. T.S. (C.L.) 2 DB 120 lbs.

The amount of Entry Fee *£ 6 : - : When applied for,*

Special *£ 100 : 16 : 13 MAY 1938*

Donkey Boiler Fee *£ 12 : 12 : When received,*

Travelling Expenses (if any) *£ : : 21.5 19.38*

Committee's Minute *FRI 20 MAY 1938*

Assigned *+ Lmc 5.38 Oil Eng C.L.*

2 DB 120 lb

Engine Surveyor to Lloyd's Register of Shipping.



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