

REPORT ON OIL ENGINE MACHINERY.

No. 108319

20 JAN 1937

Received at London Office

Date of writing Report

19

When handed in at Local Office

19

Port of

LIVERPOOL

No. in Survey held at
Reg. Book.

Birkenhead

Date, First Survey

10th March/36

Last Survey

8th Jan 1937

Number of Visits

88

87479 on the ^{Single}
Twin
^{Triple}
Screw vessel

Brisbane Star

Tons Gross 11975
Net 6789

Built at

Birkenhead

By whom built

Cammell Laird & Co Ltd

Yard No.

1016

When built

1936

Engines made at

Winterthur

By whom made

Sulzer Bros

Engine No.

6581

When made

1936

Donkey Boilers made at

Renfrew

By whom made

Babcock Wilcox Ltd

Boiler No.

1016

When made

1936

Brake Horse Power

13500

Owners

Blue Star Line Ltd

Port belonging to

London

Nom. Horse Power as per Rule

2800

Is Refrigerating Machinery fitted for cargo purposes

Yes

Is Electric Light fitted

Yes

Trade for which vessel is intended

28 3/8 — 49 3/16

OIL ENGINES, &c.—Type of Engines

Sulzer solid Injection

2 or 4 stroke cycle

2

Single or double acting

Single

Maximum pressure in cylinders

850 lb/sq in

Diameter of cylinders

720 mm

Length of stroke

1250 mm

No. of cylinders

20

No. of cranks

20 (2 Engines)

Mean Indicated Pressure

83 lb/sq in

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

930 mm

Is there a bearing between each crank

Yes

Revolutions per minute

120

Flywheel dia

2350

Weight

2000 kg

Kind of fuel used

Heavy fuel oil

Crank Shaft, dia. of journals

as per Rule 483 mm

Crank pin dia.

1190 mm

Mid. length breadth

1190 mm

Thrust Shaft, diameter at collars

as per Rule 412 mm

Flywheel Shaft, diameter

as per Rule 483 mm

Intermediate Shafts, diameter

as per Rule 392 mm

Thrust Shaft, diameter at collars

as fitted 490 mm

Tube Shaft, diameter

as per Rule 16.8"

Screw Shaft, diameter

as per Rule 18"

Is the shaft fitted with a continuous liner

Yes

Bronze Liners, thickness in way of bushes

as per Rule 13/16"

Thickness between bushes

as per Rule 29/32"

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

one length

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

tight

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

Length of Bearing in Stern Bush next to and supporting propeller

6'8"

Propeller, dia.

17'6"

Pitch

16'0"

No. of blades

3

Material

Brize

whether Moveable

No

Total Developed Surface

89.8 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

Thickness of cylinder liners

45 mm

Are the cylinders fitted with safety valves

Yes

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material

Cooling Water Pumps, No. 2

Bilge Pumps worked from the Main Engines, No. 1

Pumps connected to the Main Bilge Line

Is the cooling water led to the bilges

Ballast Pumps, No. and size

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

Pumps, No. and size:—In Machinery Spaces

Independent Power Pump Direct 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 all Sea Connections fitted direct on the skin of the ship

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

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

What pipes pass through the bunkers

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

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.

Auxiliary Air Compressors, No.

Small Auxiliary Air Compressors, No.

Scavenging Air Pumps, No.

Auxiliary Engines crank shafts, diameter

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

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 *Rpt N740* Internal diameter *thickness*
Seamless, lap welded or riveted longitudinal joint *See below* Range of tensile strength *by Rules* Working pressure *Actual*
Starting Air Receivers, No. *2* Total cubic capacity *39 cu metres* Internal diameter *thickness*
Seamless, lap welded or riveted longitudinal joint *Material* Range of tensile strength *by Rules* Working pressure *Actual*

IS A DONKEY BOILER FITTED? *Yes two* If so, is a report now forwarded? *Yes*
Is the donkey boiler intended to be used for domestic purposes only *Cabin heating etc / See also letter to Lon office dated 5/2/36*

PLANS. Are approved plans forwarded herewith for Shafting *Receivers* Separate Fuel Tanks
(If not, state date of approval)
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 *Yes*
State the principal additional spare gear supplied *See separate list herewith.*

The foregoing is a correct description,

Cammell Laird & Co. Limited
SECRETARY Manufacturer.

Dates of Survey while building
During progress of work in shops: *Mar 10, 11, 19, 23, 25, 30, Apr 17, 20, 30, May 5, 11, 16, 18, 21, 22, 25, 27, June 2, 10, 12, 16, 17, 23, 24, 26, July 1, 2, 6, 7, 8, 9, 10, 13, 15, 17, 22, 23, 28, 30*
During erection on board vessel: *Aug 12, 17, 21, 22, 24, 25, Sept 4, 9, 10, 11, 15, 16, 17, 18, 23, Oct 1, 7, 15, 16, 20, 27, 28, 29, Nov 2, 5, 6, 9, 10, 14, 24, 30, Dec 2, 3, 4, 5, 8, 9, 11, 12, 14, 15, 17, 21, 22*
Total No. of visits *88*

Dates of Examination of principal parts—Cylinders *Covers* *Pistons* *Rods* *Connecting rods*
Crank shaft *Flywheel shaft* *Thrust shaft* *Intermediate shafts* *Tube shaft*
Screw shaft *Propeller* *Stern tube* *Engine seatings* *Engines 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 *See below* *Identification Mark* *Intermediate shafts, Material* *Identification Marks* *2503 PTB*
Tube shaft, Material *Identification Mark* *Screw shaft, Material* *Identification Mark* *2501 PTB* *2502 PTB*

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 *No* 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 *Melbourne Star*
General Remarks (State quality of workmanship, opinions as to class, &c.) *The Machinery of this vessel has been satisfactorily installed on board vis in accordance with the Rules and the approved plans. The workmanship is good throughout. It has been examined under full working conditions during sea trials and found satisfactory and is eligible in my opinion for classification in Register book with records of 4LMC1-37 and 20B 10000's*

Note. The governing of Diesel generating Engines was found to be somewhat erratic and arrangements have been made for this to be rectified on Vessel's return from present voyage (see also Elec. Rpt on vessel)

The amount of Entry Fee *1578* £ *34 : 0 : 0* When applied for, *31/12/30*
Special ... £ : : When received, *2/1/31*
Donkey Boiler Fee ... £ : : *6/1/37*
Travelling Expenses (if any) £ : : *19 JAN 1937*

Committee's Minute *LIVERPOOL*
Assigned *+ 4 M.C. 1-37*
Ch. Elec. Dept

J. S. Melton
Engineer Surveyor to Lloyd's Register of Shipping.

FRI 30 APR 1937
WED 4 AUG 1937
TUE 24 AUG 1937
TUE 14 SEP 1937

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