

REPORT ON MACHINERY

No. 17913

Date of writing Report 7 Nov 1921

When handed in at Local Office 17 Nov 1921

Received at London Office

WED. 23 NOV. 1921

No. in Survey held at Port Glasgow

Date, First Survey 3rd September 1921

Last Survey 16 Nov 1921

Reg. Book.

on the Steamer "Windermere"

(Number of Visits 12)

1921

Master

Built at Port Glasgow

By whom built

Clyde & Co. Ltd.

Gross 2815

Net 1688

When built 1921

Engines made at

Port Glasgow

By whom made

Clyde & Co. Ltd.

when made 1921

Boilers made at

Port Glasgow

By whom made

Clyde & Co. Ltd.

when made 1921

Registered Horse Power

Owners

Vickers Ltd.

Port belonging to Barrow-in-Burness

Nom. Horse Power as per Section 28 265

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Description of Engines

Triple Compound

No. of Cylinders Three

No. of Cranks Three

Dia. of Cylinders 21-33-57

Length of Stroke 59

Revs. per minute 68

Dia. of Screw shaft

as per rule 11.83

Material of screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Yes

Is the after end of the liner made water tight

in the propeller boss

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

Length of stern bush 49

Dia. of Tunnel shaft

as per rule 10.47

Dia. of Crank shaft journals

as per rule 10.99

Dia. of Crank pin 11.4

Size of Crank webs 20.5-7

Dia. of thrust shaft under

collars 11.4

Dia. of screw 14.6

Pitch of Screw 15.6

No. of Blades 4

State whether moveable

Yes

Total surface 68 sq ft

No. of Feed pumps 1

Diameter of ditto 3

Stroke 21

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps 1

Diameter of ditto 4

Stroke 21

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines 1

Sizes of Pumps 9.8

1.5

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

In Holds, &c.

Larger 3

Smaller 2 1/2

No. of Bilge Injections 1

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

2 1/2

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

Yes

Are all connections with the sea direct on the skin of the ship

Yes

Are they Valves or Cocks

Both

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

Yes

Are the Discharge Pipes 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 are carried through the bunkers

Yes

How are they protected

Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Yes

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Top of Main

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

Clyde & Co. Ltd.

Total Heating Surface of Boilers 4695

Is Forced Draft fitted

Yes

No. and Description of Boilers

1 No. Single Ended

Working Pressure 180 lb

Tested by hydraulic pressure to

185 lb

Date of test

No. of Certificate

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

60.5 sq ft

No. and Description of Safety Valves to

each boiler

1 No. Spring

Area of each valve

Smallest distance between boilers or uptakes and bunkers or woodwork

8

Mean dia. of boilers

15.10

Length

10.6

Material of shell plates

Steel

Thickness 1 9/16

Range of tensile strength

28-32

Are the shell plates welded or flanged

Yes

Descrip. of riveting

Seams all in 1

long. seams

Diameter of rivet holes in long. seams

1 9/16

Pitch of rivets

9

Lap of plates or width of butt straps

19 1/2

Per centages of strength of longitudinal joint

rivets 85.4

plate 87.4

Working pressure of shell by rules

185 lb

Size of manhole in shell

16.12

Size of compensating ring

33.27.1 1/2

No. and Description of Furnaces in each boiler

1 Brighton

Material

Steel

Outside diameter

48 1/2

Length of plain part

top

Thickness of plates

crown 9 1/16

Description of longitudinal joint

Welded

No. of strengthening rings

Crown

Working pressure of furnace by the rules

185 lb

Combustion chamber plates: Material

Steel

Thickness: Sides

10 1/16

Back

10 1/16

Pitch of stays to ditto: Sides

9.8

Back

8 1/2

Top

9.8

If stays are fitted with nuts or riveted heads

Yes

Material of stays

Steel

Area at smallest part

1.75

Area supported by each stay

72

Working pressure by rules

192 lb

Material

Steel

Thickness

1 7/8

Pitch of stays

18 1/2

How are stays secured

All ends

Area at smallest part

5.79

Area supported by each stay

309

Working pressure by rules

195 lb

Material of Front plates at bottom

Steel

Thickness

2 7/16

Material of Lower back plate

Steel

Thickness

2 7/16

Greatest pitch of stays

13 1/4

Diameter of tubes

3 1/4

Pitch of tubes

4 1/2

Material of tube plates

Steel

Thickness: Front

1 1/8

Pitch across wide water spaces

14 1/2

Working pressures by rules

185 lb

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

10.1 1/2

Length as per rule

33 1/8

Distance apart

9

Number and pitch of stays in each

Three 8

Working pressure by rules

185 lb

Steam dome: description of joint to shell

%

of strength of joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

Tested by Hydraulic Pressure to

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Pressure to which each is adjusted

Is Easing Gear fitted

SUPERHEATER. Type

Date of Approval of Plan

Date of Test

Diameter of Safety Valve

W1281-0189

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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The top end bolts. The bottom end bolts. The main bearing bolts. One set coupling bolts. One set end pump valves. One set bridge pump valves. Ball valve. Safety valve spring. Feed escape valve spring. Insulator.

The foregoing is a correct description,

THE OLIVE SHIPBUILDING & ENGINEERING CO. LIMITED,

P. Ferguson

Director

Manufacturer.

Dates of Survey while building

During progress of work in shops - -
During erection on board vessel - - -
Total No. of visits

1921. Oct. 3. 5. 10. 11. 12. 13. 21. 26. 31. Nov. 3. 8. 16.

13.

Is the approved plan of main boiler forwarded herewith

donkey

Dates of Examination of principal parts—Cylinders 13/10/21 Slides 13/10/21 Covers 13/10/21 Pistons 13/10/21 Rods 13/10/21
Connecting rods 13/10/21 Crank shaft 13/10/21 Thrust shaft 13/10/21 Tunnel shafts 13/10/21 Screw shaft 13/10/21 Propeller 13/10/21
Stern tube 13/10/21 Steam pipes tested 13/10/21 Engine and boiler seatings 13/10/21 Engines holding down bolts 13/10/21
Completion of pumping arrangements 13/10/21 Boilers fixed 13/10/21 Engines tried under steam 24/10/21
Completion of fitting sea connections 8/9/21 Stern tube 8/9/21 Screw shaft and propeller 13/10/21
Main boiler safety valves adjusted 24/10/21 Thickness of adjusting washers P 23/64 S 23/64 . P 23/64 S 23/64
Material of Crank shaft Illus Identification Mark on Do. 630 Material of Thrust shaft Illus Identification Mark on Do. 630
Material of Tunnel shafts Illus Identification Marks on Do. 630 Material of Screw shafts Illus Identification Marks on Do. 630
Material of Steam Pipes Illus Test pressure 600 lb
Is an installation fitted for burning oil fuel In Is the flash point of the oil to be used over 150°F. —
Have the requirements of Section 49 of the Rules been complied with —
Is this machinery duplicate of a previous case In If so, state name of vessel —

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

The engines and boilers of this vessel have been constructed under the survey of the Marine Service, and were being placed on board before application was made for the Society's Classification.

The engines have been examined throughout and found good. The boilers have been examined internally and externally and found good and in accordance with the approved plan.

The fitting out of the engines and boilers is in accordance with the Society's Rules in all respects. They are now in one opinion in safe working condition and the case is respectfully submitted for the Classification L.N.C. 11.21 in the Register Book.

The amount of Entry Fee ... £ 4 : 0
60% Special ... £ 38 : 17
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :

When applied for,

18/11/1921

When received,

14/12/19

James Jones

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

22 NOV 1921

Assigned L M C 11,21.

MACHINERY CERT.
WRITTEN 17.12.21
(dated 23/11/21)



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