

REPORT ON MACHINERY.

No. 38837

WED. 18 JUN. 1919

Received at London Office

Date of writing Report

19

When handed in at Local Office

16-6-19 Port of

Glasgow

No. in Survey held at
Reg. Book.

GLASGOW

Date, First Survey

3-3-16.

(Number of Visits)

10th

June

1919

on the

T.S. MASULA

Tons

Gross 7261.

Net 4454.

Master

Built at

Glasgow

By whom built

Barclay Curle & Co Ltd

When built

1919

Engines made at

Glasgow

By whom made

Barclay Curle & Co Ltd 516 when made 1919

Boilers made at

Do

By whom made

Do

20516 when made 1919

Registered Horse Power

Owners British India Steam Navigation Co

Port belonging to Glasgow

Nom. Horse Power as per Section 28

830

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Twin Triple Expansion

No. of Cylinders

6

No. of Cranks

6

Dia. of Cylinders 21"-35½"-61"

Length of Stroke 45"

Revs. per minute 84

Dia. of Screw shaft

as per rule 13.29"
as fitted 13.34"

Material of screw shaft

Steel

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 is in more than one length are the joints burned

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

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush 4-8"

Dia. of Tunnel shaft

as per rule 11.8"

as fitted 12.6"

Dia. of Crank shaft journals

as per rule 12.4"

as fitted 12.8"

Dia. of Crank pin

12.5"

Size of Crank webs 8½" x 18"

Dia. of thrust shaft under

collars 12.5"

Dia. of screw 16-3"

Pitch of Screw 18.9"

No. of Blades 3

State whether moveable

Yes

Total surface 6874

No. of Feed pumps 4

Diameter of ditto 4½"

Stroke 22½"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps 4

Diameter of ditto 4½"

Stroke 22½"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines 3

Sizes of Pumps

5x12-11x10-6½x10

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

In Engine Room (4) 3½" (1) 4" Stokehold (2) 3½"

In Holds, &c. No 1-2-3-4-5-6-7 two in each

3½" Tunnel well (1) 2½"

No. of Bilge Injections 2

size 8"

Connected to condenser, or to circulating pump

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

None

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

Below

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

None

How are they protected

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

Dates of examination of completion of fitting of Sea Connections 25.3.19

of Stern Tube 25.3.19

Screw shaft and Propeller 25.3.19

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from upper deck

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Steel Co. of Scotland & Co. of Glasgow & Sons Ltd

Total Heating Surface of Boilers 126284

Is Forced Draft fitted

Yes

No. and Description of Boilers

4 Single ended

Working Pressure 215 lb

Tested by hydraulic pressure to

430 lb

Date of test 4.4.19. 16.4.19

No. of Certificate 4681. 14690

Can each boiler be worked separately

Yes

Area of fire grate in each boiler 75.16 ft

No. and Description of Safety Valves to

each boiler 2 Spring loaded

Area of each valve 9.6 ft

Pressure to which they are adjusted 220

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 15"

Mean dia. of boilers 16.6"

Length 12.0"

Material of shell plates

Steel

Thickness 4½"

Range of tensile strength 31-35 lb

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

T Ld

long. seams

TRDBS

Diameter of rivet holes in long. seams 13½"

Pitch of rivets 10½"

Lap of plates or width of butt straps 23.16"

Per centages of strength of longitudinal joint

rivets 92.8

plate 84.3

Working pressure of shell by rules 257

Size of manhole in shell 16 x 12

Size of compensating ring 10½ x 18½"

No. and Description of Furnaces in each boiler

4 Corrugated

Material

Steel

Outside diameter 3.9½"

Length of plain part

top

Thickness of plates

crown 2.1"

bottom 3.2"

Description of longitudinal joint

Welded

No. of strengthening rings

Working pressure of furnace by the rules 236

Combustion chamber plates: Material

Steel

Thickness: Sides

11"

Back 11"

Top 11"

Bottom 1"

Pitch of stays to ditto: Sides 7½ x 8½"

Back 7½ x 9"

Top 8 x 9"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules 219

Material of stays

Steel

Diameter at smallest part 2.03"

Area supported by each stay 75

Working pressure by rules 253

End plates in steam space:

Material

Steel

Thickness 1½"

Pitch of stays 20 x 16"

How are stays secured

2 Nuts

Working pressure by rules 219

Material of stays

Steel

Diameter at smallest part

7.86"

Area supported by each stay

320

Working pressure by rules

256

Material of Front plates at bottom

Steel

Thickness

32"

Material of Lower back plate

Steel

Thickness 32"

Greatest pitch of stays 4½"

Working pressure of plate by rules 216

Diameter of tubes 2½"

Pitch of tubes 3½ x 3½"

Material of tube plates

Steel

Thickness: Front

31"

Back 13"

Mean pitch of stays 7½"

Pitch across wide water spaces 13½"

Working pressures by rules 224

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre 10 x 32"

Length as per rule 2.10"

Distance apart 9"

Number and pitch of stays in each

(3) 8"

Working pressure by rules 215

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Lloyd's Register

002094-002100-042100

Rpt. 5a.
Date of writing
No. in Reg. Book.
Master
Engines m
Boilers m
Registered
MULTI
Letter for
Boilers
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Safety val
Are they
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Working
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If stiffen
Working
Dates
of Survey
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building
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Assign

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description	none	When made	Where fixed
Made at	By whom made			
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment
If fitted with casing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length	
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams	
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by	
Diameter of uptake	Thickness of uptake plates	Thickness of water-tubes	Dates of survey	

SPARE GEAR. State the articles supplied:— Two top end bolts and nuts. two bottom end bolts and nuts 1 set of Coupling bolts and nuts 2 main bearing bolts and nuts feed and budge Pump Valves, Iron, bolts and nuts of various sizes

The foregoing is a correct description,
For BARCLAY, CURLE & CO., LTD.
A Benjamin Lewis Manufacturer.

Dates of Survey while building
During progress of work in shops -- Assistant Manager 1916. Feb 3. June 25 Sept 6. Oct 4. Nov 2. 3. 9. 13. 20. Dec. 6.
During erection on board vessel -- Oct 1. 7. 9. 10. 11. 14. 15. 17. 24. 27. Nov 15. 29. Dec. 4. 5. 6. 11. 15. 19. 20. 22. 24. 26. 27. 1918 Apr 5. July 24. Aug 15. Sept 4. 20. 26. 27. 1919 Jan 8. 10. 20. 29. Feb. 11. 12. 17. 26. 1919 June 2. 6. 10.
Total No. of visits 84.

Dates of Examination of principal parts—Cylinders 25.6.19 Slides 10.1.19 Covers 15.1.19 Pistons 10.1.19 Rods 10.1.19
Connecting rods 10.1.19 Crank shaft 3.4.19 Thrust shaft 27.12.18 Tunnel shafts 5.12.18 Screw shaft 27.12.18 Propeller 1.4.19
Stern tube 25.3.19 Steam pipes tested 30.11.16 20.5.19 Engine and boiler seatings 25.3.19 Engines holding down bolts 14.4.19
Completion of pumping arrangements 6.6.19 Boilers fixed 3.6.19 Engines tried under steam 23.5.19 - 10.6.19
Main boiler safety valves adjusted 23.5.19 Thickness of adjusting washers P 2 5 16 P 7 4 13 P 12 5 16 P 12 5 16 P 7 4 13 P 7 4 13
Material of Crank shafts Steel Identification Mark on Do. 34.19 JE Material of Thrust shafts Steel Identification Mark on Do. 27.12.18 TM
Material of Tunnel shafts Steel Identification Marks on Do. 9368 J.D. Material of Screw shafts Steel Identification Marks on Do. 9368. 516 TM
Material of Steam Pipes Iron Test pressure 645 lb ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been constructed under special survey in accordance with the Rules and approved Plans and has been seen satisfactorily working under steam, materials and workmanship are good.
Installation for burning oil fuel fitted, requirements of Sec 49 have been complied with

The machinery is eligible in our opinion to be Classed + LMC-6-19 & to have record of Fitted for oil fuel 6.19 FP above 150° F. F.D.

It is submitted that this vessel is eligible for THE RECORD. + LMC 6.19 F.D.
Fitted for oil fuel 6.19 FP above 150° F. Bell.
20.6.19.

The amount of Entry Fee	£ 3 : -	When applied for,	16.6.19
Special	£ 65 -		
Donkey Boiler Fee	£ :	When received,	29.6.19
Travelling Expenses (if any)	£ :		

Committee's Minute GLASGOW 17 JUN. 1919
Assigned + LMC 6.19

as & as the fe. H. Fraser.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Fitted for oil fuel 6.19 F.D. above 150° F.



Glasgow

HC.
16.6.19

Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)