

## REPORT ON MACHINERY.

No. 11630

Received at London Office

FRI JUN 29 1923

Date of writing Report

When handed in at Local Office

19

Port of

MIDDLESBRO

No. in Survey held at

Glasgow and Middlesbrough Date, First Survey 1<sup>st</sup> May 1923 Last Survey 20<sup>th</sup> June 1923

Reg. Book.

on the Steel Iron Steamer BISHOPSTON. (S.S. No. 42)

(Number of Plates 11)

Tons

Gross

Net

Master

Built at Haverhill By whom built Furness S.B. &amp; Co. Ltd

When built

Engines made at

Glasgow

By whom made

Ross &amp; Duncan No. 1112

when made 1923

Boilers made at

do

By whom made

do

No. 1676-7

when made 1923

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28 156

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

## ENGINES, &amp;c.—Description of Engines

Triple Expansion (See Plate No. 42)

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 17"-27½"-45"

Length of Stroke 33"

Revs. per minute

Dia. of Screw shaft

as per rule 9.84 9.25

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 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 Yes

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

Length of stern bush 40½"

Dia. of Tunnel shaft

as per rule 8.62

Dia. of Crank shaft journals

as per rule 9.25

Dia. of Crank pin 9¼"

Size of Crank webs 17½" x 6"

Dia. of thrust shaft under collars 9½"

Dia. of screw 12"-3"

Pitch of Screw 12"-6"

No. of Blades 4

State whether moveable No

Total surface 504

No. of Feed pumps 2

Diameter of ditto 2¾"

Stroke 16½"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 3"

Stroke 16½"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2

Sizes of Pumps 6" x 8"

Ballast

6" x 4½" x 6"

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

In Engine Room 3 @ 2½"

In Holds, &amp;c. 2 @ 3" in forehold, 3 @ 3" in aft hold

Tunnel well one @ 2½"

No. of Bilge Injections 1

sizes 4"

Connected to condenser, or to circulating pump Yes

Is a separate Donkey Suction fitted in Engine room &amp; size Yes 3½"

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

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 Suctions to fore hold

How are they protected Wood ceiling

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 17-5-23

of Stern Tube 31-5-23

Screw shaft and Propeller 31-5-23

7-6-23

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Top platform

BOILERS, &amp;c.—(Letter for record S)

Manufacturers of Steel Colvilles

Total Heating Surface of Boilers 14036

Is Forced Draft fitted No

No. and Description of Boilers Two Single ended

Working Pressure 180 lbs

Tested by hydraulic pressure to 320

Date of test 17-5-23

No. of Certificate 16256

16257

Can each boiler be worked separately Yes

Area of fire grate in each boiler 39.5 sq ft

No. and Description of Safety Valves to each boiler Pair spring loaded

Area of each valve 4.9 sq in

Pressure to which they are adjusted 182 lbs

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-6"

Mean dia. of boilers 12'-0"

Length 10'-6"

Material of shell plates S

Thickness 1"

Range of tensile strength 28-32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams D.R.

long. seams T.R.A.B.S.

Diameter of rivet holes in long. seams 1"

Pitch of rivets 7"

Lap of plates or width of butt straps 14 7/8"

Per centages of strength of longitudinal joint

rivets 86.4

plate 85.7

Working-pressure of shell by rules 182

Size of manhole in shell 16" x 12"

Size of compensating ring 30½" x 26½"

No. and Description of Furnaces in each boiler 2 Morrisons

Material S

Outside diameter 3'-7½"

Length of plain part

top

Thickness of plates

crown 9/16"

Description of longitudinal joint Weld

No. of strengthening rings

Working pressure of furnace by the rules 189

Combustion chamber plates: Material S

Thickness: Sides 1/16"

Back 5/8"

Top 1/16"

Bottom 1/16"

Pitch of stays to ditto: Sides 9½" x 9"

Back 8½" x 8½"

Top 9½" x 9"

If stays are fitted with nuts or riveted heads nuts

Material of stays S

Diameter at smallest part 2.07"

Area supported by each stay 85.5 sq in

Working pressure by rules 195

End plates in steam space

Material S

Thickness 1"

Pitch of stays 16" x 17"

How are stays secured D.N. 4 W

Working pressure by rules 197

Material of stays S

Diameter at smallest part 4.57"

Area supported by each stay 272 sq in

Working pressure by rules 182

Material of Front plates at bottom S

Thickness 7/8"

Material of Lower back plate S

Thickness 27/32"

Greatest pitch of stays 14" x 8½"

Working pressure of plate by rules 216

Diameter of tubes 3¼"

Pitch of tubes 4½" x 4½"

Material of tube plates S

Thickness: Front 7/8"

Back 3/4"

Mean pitch of stays 10"

Pitch across wide water spaces 14"

Working pressures by rules 183

Girders to Chamber tops: Material S

Depth and thickness of girder at centre 7" x 1½"

Working pressure by rules 214

Superheater or Steam chest; how connected to boiler

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Lloyd's Register

Foundation

W703-0070



IS A DONKEY BOILER FITTED? *No*If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:— *One cast iron propeller, two each of connecting rod top and bottom end and main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed and bilge pump valves, one set of Main & donkey check valves, one safety valve spring, crank shaft gauge, a quantity of bolts and nuts and repairing iron, tubes and stoppers and minor gear.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *1920 May 2, 11, 19, 26, 29, 31, Oct 11, 19, 1921 Feb 2, Apr 13, 20, 28, May 10, Aug 11, 1922 Dec 1, 26, 28, 1923 Jan 9, 12*  
 { During erection on board vessel - - - } *15, 18, 22, 24, 26, 31, Feb 1, 6, 12, 14, 19, 21, Mar 1-5, 7, 14, 19, 22, 26, Apr 5-9, 16, 18, 23, 26, 30, May 7, 11, 15, 17*  
 Total No. of visits *49* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *26-4-23* Slides *26-4-23* Covers *26-4-23* Pistons *26-4-23* Rods *26-4-23*  
 Connecting rods *26-4-23* Crank shaft *1-3-23* Thrust shaft *11-5-23* Tunnel shafts *11-5-23* Screw shaft *15-5-23* Propeller *11-5-23*  
 Stern tube *15-5-23* Steam pipes tested *8, 9-6-23* Engine and boiler seatings *17-5-23* Engines holding down bolts *12-6-23*  
 Completion of pumping arrangements *16-6-23* Boilers fixed *7-6-23* Engines tried under steam *16-6-23*  
 Main boiler safety valves adjusted *16-6-23* Thickness of adjusting washers *Star Boiler SV  $\frac{5}{16}$  PV  $\frac{1}{32}$  Port Boiler SV  $\frac{1}{16}$  PV  $\frac{1}{32}$*   
 Material of Crank shaft *S* Identification Mark on Do. *1112 JSC* Material of Thrust shaft *S* Identification Mark on Do. *1112 JSC*  
 Material of Tunnel shafts *S* Identification Marks on Do. *1112 J.S.C* Material of Screw shafts *S* Identification Marks on Do. *1112 J.S.C*  
 Material of Steam Pipes *Solid drawn Copper (4" N<sup>o</sup> 7 9)* Test pressure *360 lbs*  
 Is an installation fitted for burning oil fuel *No* 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 *yes* If so, state name of vessel *S.S. Atherton (See Gls rpt 42693)*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery of this vessel which was built under special survey (See Gls rpt N<sup>o</sup> 42744) has now been satisfactorily secured on board; in accordance with the rules, the safety valves adjusted, and the Engines, Boilers and auxiliaries examined under steam, and all found satisfactory*

*The Machinery is in a good and safe working condition, and renders the vessel eligible in our opinion to have the notation of +LMC 6-23 in the Register Book*

It is submitted that  
 this vessel is eligible for  
 THE RECORD. + LMC 6.23. CL.

The amount of Entry Fee. ... £ : : When applied for,  
 Special ...  $\frac{1}{5}$  ... £ 7 : 16 : 28.6.1923  
 Donkey Boiler Fee ... £ : : When received,  
 Travelling Expenses (if any) £ : : 7 : 10 : 23

Committee's Minute

Assigned

TUE. 3 JUL. 1923

+ LMC 6.23

C.L.

MACHINERY DEPT.  
WRITTEN

*Wm Morrison & Co*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



© 2020

Lloyd's Register  
Foundation

Date of writing  
 No. in Su  
 Reg. Book.  
 on  
 Master  
 Engines made  
 Boilers made  
 Registered  
 Nom. Horse  
 ENGINES  
 Dia. of Cyl  
 Is the screw  
 in the prop  
 between the  
 liners are fit  
 Dia. of Tunne  
 collars 93  
 No. of Feed  
 No. of Bilge  
 No. of Donke  
 In Engine R  
 No. of Bilge In  
 Are all the bilg  
 Are all connec  
 Are they fixed  
 Are they each  
 What pipes a  
 Are all Pipes  
 Are the Bilge  
 Is the Screw  
 BOILERS  
 Total Heating  
 Working Pr  
 Can each boile  
 each boiler  
 Smallest distan  
 Thickness 1  
 long. seams 7  
 Per centages of  
 Size of compen  
 Length of pla  
 Working press  
 Pitch of stays  
 Material of st  
 Material S  
 Area at sma  
 Thickness 7/8  
 Diameter of tu  
 Pitch across  
 thickness of g  
 Working pres  
 Diameter  
 Pitch of rivets  
 SUPERHE  
 Date of Test  
 Diameter of Sa