

Rpt. 4.

## REPORT ON MACHINERY.

No. 427444

Received at London Office

WED. MAY. 23 1923

Date of writing Report 17.5.23 When handed in at Local Office 18.5.23

Port of Glasgow

No. in Survey held at Glasgow.

Date, First Survey 2nd May 1920 Last Survey 17th May 1923.

Reg. Book.

(Number of Visits 49)

on the

s/s Bishopston

Master

Built at Middlesbrough

By whom built Furness S. B. Co. Ltd.

Tons { Gross  
Net  
When built

Engines made at

Glasgow

By whom made

Hos &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

Is Electric Light fitted

ENGINES, &amp;c.—Description of Engines Triple expansion

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 9.84" 9.25" Material of S. as per rule as fitted 10 1/16" 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 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" as fitted 8 3/4" Dia. of Crank shaft journals as per rule 9" as fitted 9 1/8"

Dia. of Crank pin 9 1/4" Size of Crank webs 17 1/8" x 6" Dia. of thrust shaft under

collars 9 3/8"

Dia. of screw 12.3" Pitch of Screw 12.6"

No. of Blades 4

State whether moveable No Total surface 50 sq. ft.

No. of Feed pumps 2

Diameter of ditto 2 3/4"

Stroke 16 1/2"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps 2

Diameter of ditto 3"

Stroke 16 1/2"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Sizes of Pumps

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

In Engine Room

In Holds, &amp;c.

No. of Bilge Injections

sizes

Connected to condenser, or to circulating pump

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

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

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

Are they Valves or Cocks

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

Are the Discharge Pipes above or below the deep water line

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

Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers

How are they protected

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

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

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

BOILERS, &amp;c.—(Letter for record S.) Manufacturers of Steel Cowiell

Total Heating Surface of Boilers 14403 sq. ft.

Is Forced Draft fitted

No

No. and Description of Boilers Two S. B.

Working Pressure 180

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

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

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 T.R.B.S.

long. seams T.R.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 85.4

Working pressure of shell by rules

182

Size of manhole in shell 16" x 12"

Size of compensating ring 30 1/2" x 26 1/2"

No. and Description of Furnaces in each boiler 2. Iron

Material S.

Outside diameter 3'7 1/8"

Length of plain part

top

bottom

Thickness of plates

crown

9 1/16"

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 1/16"

Back

5/8"

Top

1 1/16"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

9 1/2" x 9"

Back

8 1/2" x 8 1/2"

Top

9 1/2" x 9"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules 187

Material of stays S.

Area at smallest part

2.07 sq. ft.

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

T.N.L.W.

Working pressure by rules 197

Material of stays S.

Area at smallest part

4.67 sq. ft.

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 7/32"

Greatest pitch of stays

14" x 8 1/2"

Working pressure of plate by rules

216

Diameter of tubes 3 1/4"

Pitch of tubes

4 1/2" x 4 1/2"

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 1 3/4"

Length as per rule

30 5/8"

Distance apart

9"

Number and pitch of stays in each

2-9 1/2"

Working pressure by rules

214

Steam dome: description of joint to shell

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

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

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted



*If so, is a report now forwarded?*

150

Ross Duncan

*Manufacturer.*

Is the approved plan of main boiler forwarded herewith *Yes*

” ” ” *donkey* ” ” ”

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 ..... Engine and boiler seatings ..... Engines holding down bolts .....

Completion of pumping arrangements      Boilers fixed      Engines tried under steam.

Completion of fitting sea connections ..... Stern tube ..... Screw shaft and propeller .....

Main boiler safety valves adjusted	Thickness of adjusting washers
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Material of Crank shaft *S.* Identification Mark on Do. *1112 J.S.* Material of Thrust shaft *S.* Identification Mark on Do. *1112 J.S.*

Material of Tunnel shafts 8. Identification Marks on Do. 1112 J.S.C. Material of Screw shafts 8. Identification Marks on Do. 1112 J.S.C.

Material of Steam Pipes	Test pressure
Cast iron	150 lb. per sq. in.
Wrought iron	150 lb. per sq. in.
Steel	150 lb. per sq. in.
Brass	150 lb. per sq. in.
Copper	150 lb. per sq. in.
Aluminum	150 lb. per sq. in.
Lead	150 lb. per sq. in.
Concrete	150 lb. per sq. in.
Refractory	150 lb. per sq. in.
Insulating	150 lb. per sq. in.
Paint	150 lb. per sq. in.
Sealing	150 lb. per sq. in.
Flanges	150 lb. per sq. in.
Valves	150 lb. per sq. in.
Boilers	150 lb. per sq. in.
Engines	150 lb. per sq. in.
Motors	150 lb. per sq. in.
Pumps	150 lb. per sq. in.
Compressors	150 lb. per sq. in.
Exhausts	150 lb. per sq. in.
Condensers	150 lb. per sq. in.
Heaters	150 lb. per sq. in.
Coolers	150 lb. per sq. in.
Filters	150 lb. per sq. in.
Separators	150 lb. per sq. in.
Storage	150 lb. per sq. in.
Transportation	150 lb. per sq. in.
Installation	150 lb. per sq. in.
Maintenance	150 lb. per sq. in.
Operation	150 lb. per sq. in.
Shutdown	150 lb. per sq. in.
Restart	150 lb. per sq. in.
Emergency	150 lb. per sq. in.
Repairs	150 lb. per sq. in.
Overhaul	150 lb. per sq. in.
Replacement	150 lb. per sq. in.
Disposal	150 lb. per sq. in.
Recycling	150 lb. per sq. in.
Storage	150 lb. per sq. in.
Transportation	150 lb. per sq. in.
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Maintenance	150 lb. per sq. in.
Operation	150 lb. per sq. in.
Shutdown	150 lb. per sq. in.
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Emergency	150 lb. per sq. in.
Repairs	150 lb. per sq. in.
Overhaul	150 lb. per sq. in.
Replacement	150 lb. per sq. in.
Disposal	150 lb. per sq. in.
Recycling	150 lb. per sq. in.

Is an installation fitted for burning oil fuel ..... 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 5006 10/10/1941 If so, state name of vessel U.S.S. Albatross

*General Remarks (State quality of workmanship, opinions as to class, &c. These Engines and Boilers)*

have been built under special survey in accordance with the Society's Rules and approved plans, the materials and workmanship are good.

The Engines and Boilers are being shipped to Medellin where they will be shipped on board.

The machinery will be eligible in my opinion to be classed  
+ L. M. C. (with date) when satisfactorily fitted on board, and  
tried under steam.

The amount of Entry Fee	... £ 3 : 0 : 0	When applied for,	21/5/33
Special	... £ 31 : 4 : 0	When received,	21/5/33
Donkey Boiler Fee	... £ : : :		
Travelling Expenses (if any)	£ : : :		

*Jas. Cairns*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned      Deferred



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Foundation