

Rpt. 4.

REPORT ON MACHINERY.

SUNDERLAND RPT. No. 27511

No. 10317

Received at London Office

Date of writing Report

10

When handed in at Local Office

25/2/19

Port of

Middlesbrough

Sld. 2nd May 1919

No. in Survey held at
Reg. Book.

Stockton-on-Tees

Date, First Survey

9th July 18. Last Survey

29th Jan 1919

on the

Steel screw steamer WAR BALSAM

(Number of Vistas)

65

Master

Built at

Sunderland

By whom built

Messrs Duxford & Sons Ltd

Tons

Gross 5292

Engines made at

Stockton

By whom made

Messrs Blair & Co Ltd (No 1898)

when made

1919

Boilers made at

Sunderland

By whom made

Messrs Duxford & Sons Ltd

when made

1919

Registered Horse Power

Owners

British India Steam Navigation Co

Port belonging to

Glasgow

Nom. Horse Power as per Section 28

517

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Tri compound

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

27-44-73

Length of Stroke

48

Revs. per minute

77

Dia. of Screw shaft

as per rule 14.7

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 in one

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

light fit

If two

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

yes

Length of stern bush

5'-15"

Dia. of Tunnel shaft

as per rule 13.33

as fitted 13.5

Dia. of Crank shaft journals

as per rule 14.0

as fitted 14.2

Dia. of Crank pin

14.5

Size of Crank webs

collars

14.5

Dia. of screw

17'-6"

Pitch of Screw

16'-6"

No. of Blades

4

State whether moveable

No. of Feed pumps

2

Diameter of ditto

4

Stroke

24

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4

Stroke

24

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

3

Sizes of Pumps

10 1/2 x 14 1/2, 9 1/2 x 7 1/2

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

In Engine Room

4 @ 3 1/2"

In Holds, &c.

Two in each hold 3 1/2" on in tunnel

No. of Bilge Injections

1

sizes

13"

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

4 1/2 @ 3 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

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 & 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

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

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

BOILERS, &c.—(Letter for record

5)

Manufacturers of Steel

Spirax & Sons

Total Heating Surface of Boilers

7668 sq ft

Is Forced Draft fitted

yes

No. and Description of Boilers

Three Single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

17.2, 24.2, 3.3.19 No. of Certificate

Can each boiler be worked separately

yes

Area of fire grate in each boiler

63 sq ft

No. and Description of Safety Valves to

each boiler

2 Spring valves

Area of each valve

9.6 sq ft

Pressure to which they are adjusted

180 lbs

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

no timber in way

Mean dia. of boilers

15'-6"

Length

11'-6"

Material of shell plates

Thickness

1/4"

Range of tensile strength

28.32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

long. seams

A 1/4" dia. rivets

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

9"

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets 88.3

Working pressure of shell by rules

182

Size of manhole in shell

16 x 12

Size of compensating ring

flange

No. and Description of Furnaces in each boiler

3 Dighton

Material

S

Outside diameter

Length of plain part

top 3'-10"

Thickness of plates

crown 3/32"

Description of longitudinal joint

weld

No. of strengthening rings

Working pressure of furnace by the rules

187

Combustion chamber plates: Material

S

Thickness: Sides

23/32"

Back 1/4"

Pitch of stays to ditto: Sides

10 1/2 x 9 1/2"

Back

8 1/4 x 10 1/4"

Top

10 1/2 x 9 1/2"

If stays are fitted with nuts or riveted heads

Material of stays

S

Area at smallest part

2.36 sq ft

Area supported by each stay

98.2 sq ft

Working pressure by rules

216

End plates in steam space:

Material

S

Thickness

1 1/32"

Pitch of stays

21 3/4 x 20 1/2"

How are stays secured

Area at smallest part

8.29 sq ft

Area supported by each stay

432 sq ft

Working pressure by rules

186

Material of Front plates at bottom

Thickness

3/32"

Material of Lower back plate

S

Thickness

27/32"

Greatest pitch of stays

Diameter of tubes

2 3/4"

Pitch of tubes

4 x 3 3/8"

Material of tube plates

S

Thickness: Front

3/32"

Back 3/4"

Pitch across wide water spaces

13 5/8"

Working pressures by rules

181

Girders to Chamber tops: Material

thickness of girder at centre

10 x 1 3/4"

Length as per rule

2-11 9/16"

Distance apart

10 5/8"

Number and pitch of stays in each

Working pressure by rules

187

Steam dome: description of joint to shell

none

% 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

Pressure to which each is adjusted

Is Easing Gear fitted

Diameter of Safety Valve

Sent Sld. 26/2/1919

Lloyd's Register

Foundation

IS A DONKEY BOILER FITTED?

NO

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:— Two top end, two bottom end connecting rod bolts and nuts, two main bearing bolts, one set coupling bolt, one set pin and like pump valves assorted bolts and nuts. Iron of various size on propeller.

The foregoing is a correct description,

FOR BLAIR & CO., LIMITED.

WILLIAM DOXFORD & SONS, Limited

Geo. Wattship

W. Doxford

Manufacturer.

Machinery only.

Boilers only.

Dates of Survey while building { During progress of work in shops - - 1918. July 9. Aug 14. Oct 9. 11. 14. 16. 18. 23. 25. 28. 30. Nov 1. 4. 6. 8. 11. 14. 18. 19. 20. 22. 27. During erection on board vessel - - 28. Dec 2. 3. 4. 5. 6. 9. 10. 11. 13. 17. 19. 20. 23. 30. 1919. Jan 6. 8. 10. 17. 20. 24. 27. 29.

Total No. of visits (45 + 20)

Old: Aug 20. Sep 5. 23. Oct 25. Nov 11. Dec 3. 13. Jan 9. 29. 31. Feb 11. 17. 24. Mar. 3. 11. 19. Apr 1. 2. 10. May 2

Is the approved plan of main boiler forwarded herewith

Yes.

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 6. 11. 18 Slides 8. 11. 18 Covers 6. 11. 18 Pistons 19. 11. 18 Rods 19. 11. 18

Connecting rods 19. 11. 18 Crank shaft 27. 11. 18 Thrust shaft 4. 11. 18 Tunnel shafts { 27. 11. 18 to 17. 12. 18 Screw shaft 30. 12. 18 Propeller 29. 1. 19

Stern tube 19. 12. 19 Steam pipes tested 1. 4. 19 Engine and boiler seatings 2. 4. 19 Engines holding down bolts 11. 3. 19

Completion of pumping arrangements 10. 4. 19 Boilers fixed 10. 4. 19 Engines tried under steam 10. 4. 19

Completion of fitting sea connections 31. 1. 19 Stern tube 11. 3. 19 Screw shaft and propeller 11. 3. 19

Main boiler safety valves adjusted 10. 4. 19 + 2. 5. 19 Thickness of adjusting washers P.W. 13 1/4 P. 5 5/32 L.W. 15 1/4 P. 15 5/32 S.W. 15 1/4 P. 23 5/32 S. 15 5/32

Material of Crank shaft Ing Steel Identification Mark on Do. 7165 Material of Thrust shaft Ing Steel Identification Mark on Do. 7165

Material of Tunnel shafts Ing Steel Identification Marks on Do. 7165 Material of Screw shafts Ing Steel Identification Marks on Do. 7165

Material of Steam Pipes Copper 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 A Type ✓

General Remarks (State quality of workmanship, opinions as to class, &c. These engines have been built under special survey in accordance with the Rules and the specification. The materials and workmanship are sound and good. The engines have been forwarded to Sunderland where, it is stated, they will be fitted on board.

The Boilers for this vessel have been built under special survey, the materials and workmanship are sound and good. The engines and boilers have been fitted & fixed on board in a satisfactory manner and under the vessel's skipper in the opinion to have need of + L.M.C. 5. 19.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 5. 19. F.D.

The amount of Entry Fee £ 58: 16: 0 When applied for, 8. 5. 19/19
Special ... £ 58: 16: 0 When received, 10. 5. 19/19
Donkey Boiler Fee ... £ 58: 16: 0
Travelling Expenses (if any) £ 58: 16: 0

Committee's Minute

Assigned

FRI. 16 MAY. 1919

+ L.M.C. 5. 19 F.D.

Wm Morrison & Co. Ltd
Engineer Surveyor to Lloyd's Register of Shipping.



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