

Rpt. 4.

REPORT ON MACHINERY

Sld. No. 281516B 10 1922

New No. 75361

Received at London Office

WFD. 22 MAR. 1922

Date of writing Report

19

When handed in at Local Office

21. 3. 1922 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Newcastle

Date, First Survey 28 June 1920 Last Survey 9 March 1922

Reg. Book.

on the

S. Age

(Number of Visits 98102

Gross 4718
Net 2864

Master

Built at

Sunderland

By whom built

J. L. Thompson & Sons

Engines made at

Newcastle

By whom made

Armstrong Whitworth & Co. Ltd. when made 1922

Boilers made at

do

By whom made

do

when made 1922

Registered Horse Power

Owners

Howard Smith & Co. Ltd.

Port belonging to

Melbourne

Nom. Horse Power as per Section 28

347

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

23½ - 38 - 64

Length of Stroke

42

Revs. per minute

69

Dia. of Screw shaft

as per rule 13.15

Material of

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

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

5' - 0"

Dia. of Tunnel shaft

as per rule 11.6

Dia. of Crank shaft journals

as per rule 12.18

Dia. of Crank pin

12½

Size of Crank webs

17 x 8

Dia. of thrust shaft under

collars

12½

Dia. of screw

16 - 3

Pitch of Screw

16 - 0

No. of Blades

4

State whether moveable

yes

Total surface

84 f

No. of Feed pumps

2

Diameter of ditto

3½

Stroke

21

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3½

Stroke

21

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

3

Sizes of Pumps

one 10 x 14 x 15, two 9 x 5¼ x 10

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

In Engine Room

Three

3½

In Holds, &c.

Two in each hold

3½

one in

Lunnel Well

3½

No. of Bilge Injections

1

sizes

6½

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & 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

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

Both

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

Hold suction

How are they protected

Wood casing

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 platform

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

John

Spencer & Sons

Total Heating Surface of Boilers

6156 f

Is Forced Draft fitted

no

No. and Description of Boilers

Three, single-ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

7. 4. 21

No. of Certificate

9551

Can each boiler be worked separately

yes

Area of fire grate in each boiler

63 f

No. and Description of Safety Valves to

each boiler

Two, Spring

Area of each valve

7.07

Pressure to which they are adjusted

180 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

do

Mean dia. of boilers

15 - 3

Length

10 - 6

Material of shell plates

Steel

Thickness

1¼

Range of tensile strength

28 - 32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

Lap

long. seams

BS. 3. 9. Rivet

Diameter of rivet holes in long. seams

1¼

Pitch of rivets

8¾

Lap of plates or width of butt straps

18¾

Per centages of strength of longitudinal joint

rivets 87.17

plate 85.07

Working pressure of shell by rules

185 lbs

Size of manhole in shell

16 x 12

Size of compensating ring

37 x 33 x 1½

No. and Description of Furnaces in each boiler

3 - Morrison

Material Steel

Outside diameter 45¾

Length of plain part

top

Thickness of plates

crown 9

bottom 7½

Description of longitudinal joint

Welded

No. of strengthening rings

yes

Working pressure of furnace by the rules

192 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

11/16

Back

5/8

Top 11/16

Bottom 1

Pitch of stays to ditto: Sides

9½ x 9

Back

9½ x 8

Top

9½ x 9

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

190 lbs

Material of stays

Steel

Area at smallest part

1.73

Area supported by each stay

74

Working pressure by rules

186 lbs

End plates in steam space:

Material

Steel

Thickness

1¼

Pitch of stays

2¼ x 19¼

How are stays secured

Sn & W

Working pressure by rules

180 lbs

Material of stays

Steel

Area at smallest part

7.24

Area supported by each stay

373

Working pressure by rules

201 lbs

Material of Front plates at bottom

Steel

Thickness

1½

Material of Lower back plate

Steel

Thickness

7/8

Greatest pitch of stays

15½

Working pressure of plate by rules

180 lbs

Diameter of tubes

3½

Pitch of tubes

4¾ x 4¾

Material of tube plates

Steel

Thickness: Front

1½

Back

49/64

Mean pitch of stays

10 11/16

Pitch across wide water spaces

14½

Working pressures by rules

181 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8 x 1¼

Length as per rule

31¾

Distance apart

9½

Number and pitch of stays in each

2-9

Working pressure by rules

185 lbs

Steam dome: description of joint to shell

none

% of strength of joint

yes

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

none

Date of Approval of Plan

yes

Tested by Hydraulic Pressure to

yes

Date of Test

yes

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

yes

Diameter of Safety Valve

yes

No ✓

If so, is a report now forwarded?

The foregoing is a correct description,

NEW, R. ARMSTRONG, WHITWORTH & CO. LIMITED

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	<p>1920</p> <p>Jan. 28, 30, Jul. 1, 10, 19, 22, 28-29, Aug. 3, 5, 12, 16, 17, 19, 23, 27, Sep. 1, 2, 6, 7, 10, 22, 30, Oct. 4, 7, 11, 15, 20, 26, 28, Nov. 1, 2, 3, 5, 6, 10, 11, 15, 16, 19, 22, 25, Dec. 1, 7, 9, 13.</p>
	During erection on board vessel - - -	<p>1921</p> <p>Jan. 21, 25, 30, Jan. 4, 10, 14, 17, 19, 21, 25, 27, Feb. 1, 2, 7, 10, 15, 18, 21, 24, March 1, 4, 22, 30, 31, April 1, 5, 7, 8, 26, May 4, 8, 19, 26, Sep. 16, Jan. 24, 25, 27, 30, Feb. 1, 6, 8, 13, 14.</p>
	Total No. of visits	<p>16, 20, 24, 28, Mar. 1, 2, 7, 9.</p> <p>Std. 21. Mon. 7.</p> <p>98. 102</p>
Is the approved plan of main boiler forwarded herewith		yes

Dates of Examination of principal parts—Cylinders 2-3-21 Slides 20-1-22 Covers 21-2-21 Pistons 20-1-22 Rods 22-9-20
Connecting rods 22-9-20 Crank shaft 20-1-22 Thrust shaft 28-7-20 Tunnel shafts 10-2-21 Screw shaft 25-1-22 Propeller 25-1-22
Stern tube 26-4-21 Steam pipes tested 27-1-22 Engine and boiler seatings 1-2-22 Engines holding down bolts 1.3.22.
Completion of pumping arrangements 12-7-22 Boilers fixed 10-7-22 Engines tried under steam 12-7-22
Completion of fitting sea connections 7-3-21 Stern tube 7-3-21 Screw shaft and propeller 1.3.22.
Main boiler safety valves adjusted 12-7-22 Thickness of adjusting washers Port bl., $P\frac{7}{16}S\frac{1}{2}$; Center bl., $P\frac{3}{8}S\frac{1}{2}$; Star bl. $P\frac{3}{8}S\frac{1}{2}$
Material of Crank shaft Steel Identification Mark on Do. R.L. 9. 122 Material of Thrust shaft Steel Identification Mark on Do. Y. 4 7.20
Material of Tunnel shafts Steel Identification Marks on Do. Y. 4 2.21 Material of Screw shafts Steel Identification Marks on Do. R.L. 9. 122.
Material of Steam Pipes Copper Test pressure 360 lbs Spare do. —
Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes
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 "Tello" ✓

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

The machinery of this vessel has been constructed under special survey. The materials and workmanship are sound and good. The machinery was partly installed at Newcastle and the vessel returned to Sunderland. To complete the survey here remained:-

Tastings of Boilers; Testing and examination of oil fuel lines; Completion of pumping arrangements; Adjustment of safety valves and trial under steam of main & auxiliary machinery; Examination of spare parts - list attached.

Upon Completion, in our opinion, the vessel's machinery will be eligible to be
 classed in the Register Book $\frac{1}{2}$ -L.M.C with date Fitted for Oil Fuel F.P. above 150°F

SUNDERLAND 19-7-22 Survey Complete. The machinery is eligible in our opinion for classification and the records + LMC 7, 22. Fitted for oil fuel F above 150° fah 7, 22.

L. C. Davis.

The amount of Entry Fee	...	£ 5	: 0	0	When applied for,	
Special	...	£ 77	: 1	0		21.3.1922
Donkey Boiler Fee	...	£	:	:	When received,	
Travelling Expenses (if any)	£	:	:	:		6.4.1922

Committee's Minute

FRI. 16 FEB. 1923

Assigned

* Ltrb. 1.23. C.L.
Ltrb for int fuel 1.23.
D above 150°F.

Thomas Field & Rice Amear.
Engineer Surveyor to Lloyd's Register of Shipping.

© 2021

Lloyd's Register
Foundation