

REPORT ON MACHINERY. No. 27791

Received at London Office

Date of writing Report

19

When handed in at Local Office

26 APR 1920

Port of

Sunderland

No. in Survey held at

Sunderland

Date, First Survey

4 April 19

Last Survey

17 April 1920

Reg. Book.

(Number of Visits)

34

32773 on the new steel S/S "LAHORE"

Gross 5252

Net 3143

Master

P. B. Hallam

Built at

Sunderland

By whom built

R. Thompson & Sons Ltd

S/N 312

When built

1920

Engines made at

Sunderland

By whom made

North Eastern Marine Eng Co Ltd (N° 2368)

when made

1920

Boilers made at

Sunderland

By whom made

North Eastern Marine Eng Co Ltd (N° 2368)

when made

1920

Registered Horse Power

Owners P & O Steam Navigation Co

Port belonging to

Sunderland

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

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

27" 44" 73"

Length of Stroke

48"

Revs. per minute

65

Dia. of Screw shaft

as per rule 1.33"

Material of

Ingr 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

yes

If two

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

Length of stern bush

Dia. of Tunnel shaft

as per rule 1.33"

as fitted 1.15"

Dia. of Crank shaft journals

as per rule 1.4"

as fitted 1.25"

Dia. of Crank pin

1.25"

Size of Crank webs

22 1/2" x 9"

Dia. of thrust shaft under

collars

1.25"

Dia. of screw

17.6"

Pitch of Screw

16.6"

No. of Blades

4

State whether moceable

yes

Total surface

No. of Feed pumps

2

Diameter of ditto

4"

Stroke

2.0"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

2.0"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

10 1/2" x 14" x 24"

9 1/2" x 7" x 18"

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

In Engine Room

4 @ 3 1/2"

In Holds, &c.

N° 1 hold - 2 @ 3 1/2"

N° 2 hold - 2 @ 3 1/2"

N° 3 hold - 2 @ 3 1/2"

N° 4 hold - 1 @ 3 1/2"

No. of Bilge Injections

1

sizes

13"

Connected to condenser, or to circulating pump

b.p.

Is a separate Donkey Suction fitted in Engine room & size

yes 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

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

forward hold suction

How are they protected

under timber boards

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 Ltd

S.S.B.

Total Heating Surface of Boilers

76680

Is Forced Draft fitted

yes

No. and Description of Boilers

Three single ended marine

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

11-9-19, 17-9-19, 24-9-19

No. of Certificate

3607, 3610, 3612

Can each boiler be worked separately

yes

Area of fire grate in each boiler

63.30 sq ft

No. and Description of Safety Valves to

each boiler

Two direct spring

Area of each valve

9.60"

Pressure to which they are adjusted

185

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

1.8"

Mean dia. of boilers

15.6"

Length

11.8 1/2"

Material of shell plates

Thickness

1 1/4"

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

long. seams

DBS. TR

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

9 1/8"

Lap of plates or width of butt straps

1.8 1/2"

end

Size of manhole in shell

16" x 12"

Per centages of strength of longitudinal joint

rivets 85.5

plate 86.4

Working pressure of shell by rules

181

Size of manhole in shell

16" x 12"

Size of compensating ring

flange

No. and Description of Furnaces in each boiler

3 Brighton

Material

steel

Outside diameter

4.2 3/16"

Length of plain part

top

bottom

Thickness of plates

crown 1.9"

bottom 1.32"

Description of longitudinal joint

welded

No. of strengthening rings

yes

Working pressure of furnace by the rules

188

Combustion chamber plates: Material

steel

Thickness: Sides

25 1/2"

Back

25 1/2"

Top

25 1/2"

Bottom

Pitch of stays to ditto: Sides

10 3/8" x 10 3/8"

Back

11 1/8" x 9 1/2"

Top

10 3/8" x 10 3/8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

Material of stays

steel

Area at smallest part

2.360"

Area supported by each stay

112.60"

Working pressure by rules

187

End plates in steam space:

Material

steel

Thickness

1 1/2"

Pitch of stays

21" x 21 3/4"

How are stays secured

DN & W

Working pressure by rules

187

Material of stays

Area at smallest part

7.980"

Area supported by each stay

4560"

Working pressure by rules

181

Material of Front plates at bottom

steel

Thickness

3 1/2"

Material of Lower back plate

steel

Thickness

7/8"

Greatest pitch of stays

13 3/4" x 9 1/2"

Working pressure of plate by rules

189

Diameter of tubes

2 3/4"

Pitch of tubes

4" x 3 1/8"

Material of tube plates

steel

Thickness: Front

3 1/2"

Back

3"

Mean pitch of stays

Pitch across wide water spaces

13 5/8"

Working pressures by rules

181

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

9 1/2" x 1 3/4"

Length as per rule

35.5"

Distance apart

10 3/8"

Number and pitch of stays in each

2 @ 10 3/8"

% of strength of joint

Working pressure by rules

180

Steam dome: description of joint to shell

none

Diam. of rivet holes

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

Is

IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— Two connecting rod top and bottom end bolts and nuts. Two main bearing bolts. one set of coupling bolts. one set of feed and bilge pump valves. iron and bolts of various sizes. one screw shaft. two large propeller blades. a set of studs and nuts for one blade.

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD

Geo. & W. W. W.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1919 Apr 4-28 May 20-26 Jun 6-12 Jul 1-7 16-18 23-24 Aug 1-12 15-26 28-29 Sept 4-11 17-23
During erection on board vessel -- 24-26 Oct 13-14 16-18 20-24 28 Nov 11-12 24 Dec 8-16 17-21 Jan 21 Feb 3-13 17-18 19-20 27 Mar 23-4
Total No. of visits 16. 18. 25 Apr 7. (54) Is the approved plan of main boiler forwarded herewith yes
" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders 26-9-19 Slides 13-10-19 Covers 26-9-19 Pistons 13-10-19 Rods 29-8-19

Connecting rods 1-7-19 Crank shaft 4-9-19 Thrust shaft 4-9-19 Tunnel shafts 23-9-19 Screw shaft 17-12-19 Propeller 14-10-19

Stern tube 22-1-20 Steam pipes tested 20-2-20 Engine and boiler seatings 3-2-20 Engines holding down bolts 27-2-20

Completion of pumping arrangements 16-4-20 Boilers fixed 19-2-20 Engines tried under steam 5-3-20

Completion of fitting sea connections 3-2-20 Stern tube 3-2-20 Screw shaft and propeller 13-2-20

Main boiler safety valves adjusted 5-3-20 Thickness of adjusting washers Port 1 1/2" 5 1/2" Centre 1 1/2" 5 1/2" Star 1 1/2" 5 1/2"

Material of Crank shaft 1. Steel Identification Mark on Do. 2368 L.C.D. Material of Thrust shaft 1. Steel Identification Mark on Do. 2368 L.C.D.

Material of Tunnel shafts 1. Steel Identification Marks on Do. 2368 L.C.D. Material of Screw shafts one 1. Steel Identification Marks on Do. 2368 L.C.D.

Material of Steam Pipes Lap welded wrought iron Test pressure 540 lbs per sq. in.

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 Standard type "B".

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

The materials and workmanship are good.
The machinery has been constructed under special survey and is eligible in my opinion for classification and the Record + L.M.C. 4.20.

It is submitted that this vessel is eligible for

THE RECORD. + L.M.C. 4.20 F.D.

J.W.D.

6/5/20

J.W.D.

The amount of Entry Fee ... £ : : When applied for, 1919-20
Special ... £ 116-14-2 : :
Donkey Boiler Fee ... £ : : When received, 20/5/21
Travelling Expenses (if any) £ : : 21

Committee's Minute FRI. MAY. 7 1920

Assigned + L.M.C. 4.20 F.D.

L.C. Davis

Engineer Surveyor to Lloyd's Register of Shipping.



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CERTIFICATE WRITTEN

SUNDERLAND.

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