

# REPORT ON MACHINERY.

Received at London Office

Date of writing Report

19

When handed in at Local Office

22. 7. 1919, Port of

SUNDERLAND.

WED. 23 JUL, 1919

No. in Survey held at Sunderland  
Reg. Book.

Date, First Survey 8. 1. 19

Last Survey 15-7-1919

(Number of Visits 24)

Gross 2162.41

on the S/S "HORNCHURCH"

Master

Built at Sunderland

By whom built Misses Mace & Parnock

When built 1919

Engines made at Sunderland

By whom made Misses Mace & Parnock (299)

when made 1919

Boilers made at Sunderland

By whom made Misses Mace & Parnock (299)

when made 1919

Registered Horse Power

Owners John Hudson & Co. Ltd.

Port belonging to London

Nom. Horse Power as per Section 28 231

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes

## ENGINES, &c.—Description of Engines

Irish

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 21. 35. 58

Length of Stroke 39

Revs. per minute 77

Dia. of Screw shaft as per rule 12.05

Material of screw shaft 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 no

If two

liners are fitted, is the shaft lapped or protected between the liners no

Length of stern bush

Dia. of Tunnel shaft as per rule 10.57

Dia. of Crank shaft journals as per rule 11.10

Dia. of Crank pin 11 3/8

Size of Crank webs 16 1/2 x 7 1/2

collars 11 3/8

Dia. of screw 15-0

Pitch of Screw 16-0

No. of Blades 4

State whether moveable no

Total surface 75.5

No. of Feed pumps 2

Diameter of ditto 3 1/2

Stroke 20

Can one be overhauled while the other is at work yes

No. of Bilge pumps 2

Diameter of ditto 3 1/2

Stroke 20

Can one be overhauled while the other is at work yes

No. of Donkey Engines 2

Sizes of Pumps 6 1/2 x 8 1/2 x 8, 6 x 4 x 6

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

In Engine Room 3, 3"

In Holds, &c. 2 in hold 2 3/4, 2 in main, 2 in after hold

No. of Bilge Injections 1

sizes 5 1/2

Connected to condenser or to circulating pump yes

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 yes

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 none

How are they protected no

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 upper platform

## BOILERS, &c.—(Letter for record 5)

Manufacturers of Steel Spencer & Sons

Total Heating Surface of Boilers 3616

Is Forced Draft fitted no

No. and Description of Boilers Two single end

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Date of test 16.5.19, 23.5.19

No. of Certificate 3562, 3567

Can each boiler be worked separately yes

Area of fire grate in each boiler 59 1/2

No. and Description of Safety Valves to

each boiler Two spring valves

Area of each valve 5.9

Pressure to which they are adjusted 185

Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 15"

Mean dia. of boilers 14.5

Length 10-6

Material of shell plates S

Thickness 1/8

Range of tensile strength 29 3/4 - 33 3/4

Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams Lap Riv.

long. seams 6. 1 1/2 in.

Diameter of rivet holes in long. seams 1 3/16

Pitch of rivets 8 1/2

Lap of plates on width of butt straps 17 5/8

Per centages of strength of longitudinal joint

rivets 88.7

Working pressure of shell by rules 184

Size of manhole in shell 12 x 16

Size of compensating ring 7 1/2 x 1 1/8

No. and Description of Furnaces in each boiler 3 Plain

Material S

Outside diameter 3-8"

Length of plain part

top 6-4

bottom 5-9

Thickness of plates

crown 5/16

bottom 3/4

Description of longitudinal joint Welded

No. of strengthening rings no

Working pressure of furnace by the rules 185

Combustion chamber plates: Material S

Thickness: Sides 1/8

Back 1/8

Top 1/8

Bottom 1/8

Pitch of stays to ditto: Sides 9 3/4 x 8 5/8

Back 11 x 8 5/8

Top 10 3/4 x 8 1/2

If stays are fitted with nuts or riveted heads nuts & riv. heads

Working pressure by rules 182

Material of stays S

Area at smallest part 2.10

Area supported by each stay 9.5

Working pressure by rules 192

End plates in steam space:

Material S

Thickness 1/4

Pitch of stays 15 x 23

How are stays secured As in rule

Working pressure by rules 185

Material of stays S

Area at smallest part 6.1

Area supported by each stay 34.5

Working pressure by rules 183

Material of Front plates at bottom S

Thickness 1"

Material of Lower back plate S

Thickness 3/16

Greatest pitch of stays 13 1/4

Working pressure of plate by rules 185

Diameter of tubes 3 1/4

Pitch of tubes 4 3/4 x 4 1/2

Material of tube plates S

Thickness: Front 1"

Back 3/16

Mean pitch of stays 14 1/4 x 9

Pitch across wide water spaces 14 1/2

Working pressures by rules 182

Girders to Chamber tops: Material S

thickness of girder at centre 7 3/4 x 2 1/2

Length as per rule 28"

Distance apart 10 3/8

Number and pitch of stays in each 2, 8 1/2

Working pressure by rules 187

Steam dome: description of joint to shell

% 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

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

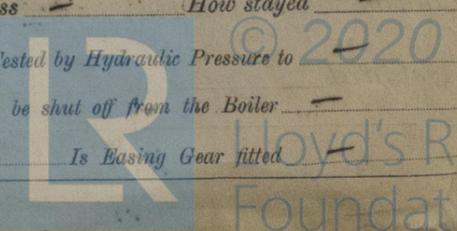
Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

W403-0163



IS A DONKEY BOILER FITTED?

NO

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:— Two top end, two bottom and connecting rod bolts and nuts, two main bearing bolts, one set coupling bolts, one set fuel and bilge pump valves, assorted bolts and nuts iron of various sizes.

The foregoing is a correct description,

MACCOLL & POLLOCK, LTD.

*J. D. MacColl*

Manufacturer.

Dates of Survey while building: During progress of work in shops - - 1919 Jan. 8, 13, 22, Feb. 19, 25, March 7, 12, 25, April 4, 7, 9, 25, May 5, 13, 14, 16, 22, 23, 29, 31, June 5, July 19, 15. During erection on board vessel - - - Total No. of visits 24

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 4-4-19 Slides 5-3-19 Covers 25-4-19 Pistons 25-4-19 Rods 18-3-19 Connecting rods 18-3-19 Crank shaft 4-4-19 Thrust shaft 4-4-19 Tunnel shafts 4-4-19 Screw shaft 4-4-19 Propeller 14-5-19 Stern tube 25-4-19 Steam pipes tested 25-3-19, 31-5-19 Engine and boiler seatings 13-5-19 Engines holding down bolts 29-5-19 Completion of pumping arrangements 29-5-19 Boilers fixed 5-6-19 Engines tried under steam 9-7-19 Completion of fitting sea connections 13-5-19 Stern tube 13-5-19 Screw shaft and propeller 22-5-19 Main boiler safety valves adjusted 9-7-19 Thickness of adjusting washers 20 lbs P 3/4" S 1 1/2". Std. bl. - both 1 1/2" Material of Crank shaft Steel Identification Mark on Do. 4559 JRW Material of Thrust shaft Steel Identification Mark on Do. 299 GAH Material of Tunnel shafts Steel Identification Marks on Do. 299 GAH Material of Screw shafts Steel Identification Marks on Do. 299 GAH Material of Steam Pipes Copper Test pressure 36 lbs A"

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 If so, state name of vessel C.S. Tyne

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been built under special survey, the materials and workmanship are sound and good and under the vessel's title in my opinion to have record of L.M.C. 7. 19

It is submitted that this vessel is eligible for THE RECORD + LMC 7. 19.

The amount of Entry Fee ... £ : : When applied for, 14 JUL 1919 Special ... £ 48 : 1 : 1 : When received, 1/24 1919 Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ : :

Committee's Minute TUE. 29 JUL. 1919

Assigned + Lmb 7. 19

*J. D. MacColl* 24/7/19  
*W. H. St. John*  
*S. C. Davis*  
Engineer Surveyor to Lloyd's Register of Shipping.

MACHINERY CERTIFICATE WRITTEN



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