

REPORT ON MACHINERY

No. 27894

Received at London Office TUE. AUG. 3 1920

Date of writing Report 19 When handed in at Local Office 31 JUL 1920 Port of SUNDERLAND

No. in Survey held at SUNDERLAND Date, First Survey 21 Oct 19 Last Survey 29 July 1920

Reg. Book No. on the "KINCARDINE" (Number of Visits 33) Tons Gross 6503 Net 4088

Master E. R. Robinson Built at Sunderland By whom built Messrs Wm Doxford & Sons (519) When built 1920

Engines made at Sunderland By whom made Messrs Wm Doxford & Sons (519) when made 1920

Boilers made at Sunderland By whom made Messrs Wm Doxford & Sons (519) when made 1920

Registered Horse Power Owners G. J. Cold Port belonging to Newcastle

Com. Horse Power as per Section 28 565 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted 410

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 27, 4 1/2, 7 1/2 Length of Stroke 54 Revs. per minute 70 Dia. of Screw shaft as per rule 15.16 as fitted 15.4 Material of screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube 410 Is the after end of the liner made water tight

the propeller boss 410 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 — If two

liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 5'-10"

Dia. of Tunnel shaft as per rule 13.91 as fitted 14.6 Dia. of Crank shaft journals as per rule 14.6 as fitted 14.4 Dia. of Crank pin 14 3/4 Size of Crank webs 20 3/8 x 9 3/4 Dia. of thrust shaft under

rollers 14 3/4 Dia. of screw 18.0 Pitch of Screw 18.0 No. of Blades 4 State whether moveable No Total surface 102.9

No. of Feed pumps 2 Diameter of ditto 5" Stroke 30" Can one be overhauled while the other is at work 410

No. of Bilge pumps 2 Diameter of ditto 5" Stroke 30" Can one be overhauled while the other is at work 410

No. of Donkey Engines 4 Sizes of Pumps 11 1/2 x 11 7 1/2 x 5 x 6 6 x 8 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 4 @ 3 1/2" In Holds, &c. 2 in each hold 3 1/2" one in aft hold 4 1/2"

No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump 410 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 410 Are the roses in Engine room always accessible 410 Are the sluices on Engine room bulkheads always accessible None

Are all connections with the sea direct on the skin of the ship 410 Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates 410 Are the Discharge Pipes above or below the deep water line Below

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel 410 Are the Blow Off Cocks fitted with a spigot and brass covering plate 410

How are they protected —

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times 410

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges 410

Is the Screw Shaft Tunnel watertight 410 Is it fitted with a watertight door 410 worked from upper platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Spence & Sons

Total Heating Surface of Boilers 8271 Is Forced Draft fitted 410 No. and Description of Boilers Three single ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 16.2, 28.2, 5.3.20 No. of Certificate 3659, 3663, 3666

Can each boiler be worked separately 410 Area of fire grate in each boiler 62.9 No. and Description of Safety Valves to

each boiler Two spring Valves Area of each valve 12.56 sq. Pressure to which they are adjusted Are they fitted with easing gear 410

Smallest distance between boilers or uptakes and bunkers or woodwork 10 1/2 inches Mean dia. of boilers 15.9 1/2 Length 12.0 Material of shell plates S

Thickness 1 1/4 Range of tensile strength 28 1/2 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap & b

g. seams 1 1/4 in Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 1/2 Lap of plates or width of butt straps 18"

Percentages of strength of longitudinal joint rivets 85.3 Working pressure of shell by rules 181 Size of manhole in shell 12 x 16

Use of compensating ring None No. and Description of Furnaces in each boiler 3 Lrv. Material S Outside diameter 4-2 3/4

Length of plain part top — bottom — Thickness of plates crown 3 5/8 Description of longitudinal joint welded No. of strengthening rings —

Working pressure of furnace by the rules 198 Combustion chamber plates: Material S Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 15/16

Pitch of stays to ditto: Sides 8 x 8 3/8 Back 8 x 8 3/8 Top 8 5/8 x 7 5/8 If stays are fitted with nuts or riveted heads 410 Working pressure by rules 180

Water Capacity material of stays S Area at smallest part 1.73 Area supported by each stay 67.0 Working pressure by rules 206 End plates in steam space:

109 material S Thickness 1 1/4 Pitch of stays 16 x 18 How are stays secured 410 Working pressure by rules 184 Material of stays S

123 Area at smallest part 5.05 Area supported by each stay 288 Working pressure by rules 182 Material of Front plates at bottom S

Thickness 7/8 Material of Lower back plate S Thickness 13/16 Greatest pitch of stays 13 1/2 x 8 Working pressure of plate by rules 185

Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 3/4 Material of tube plates S Thickness: Front 15/16 Back 3/4 Mean pitch of stays 9 3/8

Pitch across wide water spaces 13 1/2 Working pressures by rules 185 Girders to Chamber tops: Material S Depth and

Thickness of girder at centre 9 1/4 x 1 3/4 Length as per rule 35 Distance apart 8 5/8 Number and pitch of stays in each 3. 7 5/8

Working pressure by rules 192 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 —

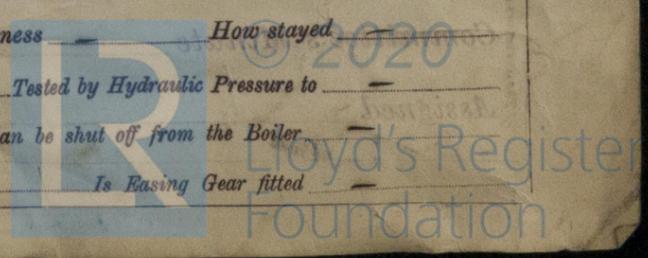
Pitch of rivets — Working pressure of shell by rules — Crown plates — Thickness — How stayed —

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 —

Diameter of Safety Valve — Pressure to which each is adjusted — Is Easing Gear fitted —

W333-0122



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 rods bolts & nuts, two main bearing bolts, one set coupling bolts one set fuel and bilge pump valves, assorted bolts and nuts, two of various sizes, one propeller

The foregoing is a correct description,

WILLIAM DOXFORD & SONS, Limited

W. Doxford

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1919 Oct 21.30 Nov 11.25 Dec 23.31 Jan 6.19 22.26 27 Feb 5.16 22 Mar 5.25 Apr 7.12 21.28 May 7.19 June 6.27.14 22.29 Jul 12.15 22.29 (33) Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 26.4.20 Slides 26.4.20 Covers 26.4.20 Pistons 26.4.20 Rods 5.2.20 Connecting rods 19.5.20 Crank shaft 7.5.20 Thrust shaft 7.5.20 Tunnel shafts 7.5.20 Screw shaft 4.6.20 Propeller 3.6.20 Stern tube 5.2.20 Steam pipes tested 7.4.20 Engine and boiler seatings 21.4.20 Engines holding down bolts 29.6.20

Completion of pumping arrangements 28.7.20 Boilers fixed 21.4.20 Engines tried under steam 28.7.20

Completion of fitting sea connections 27.1.20 Stern tube 1.6.20 Screw shaft and propeller 29.6.20

Main boiler safety valves adjusted 28.7.20 Thickness of adjusting washers: P. 5/16 I. P. 5/32 L. P. 5/16 S. P. 5/16

Material of Crank shaft: Steel Identification Mark on Do. 519 GAH Material of Thrust shaft: Steel Identification Mark on Do. 519 GAH

Material of Tunnel shafts: Steel Identification Marks on Do. 519 GAH Material of Screw shafts: Steel Identification Marks on Do. 519 GAH

Material of Steam Pipes: Copper Test pressure 36 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? — If so, state name of vessel

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 and under the vessel's class in my opinion to have need of + LMC 7.20.

It is submitted that this vessel is eligible for THE RECORD + LMC. 7.20. F.D

Rem G.R.L. 5/8/20

The amount of Entry Fee ... £ 3 : : When applied for, Special ... £ 48 : 5 : 30 III 1920 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 13 Aug 1920

Committee's Minute TUE AUG 10 1920 Assigned + L. Mc. y. 20 F.D.

MACHINERY CERT. WRITTEN.

