

REPORT ON MACHINERY.

No. 27619

Received at London Office

Date of writing Report 19-9-19 When handed in at Local Office 20-9-19 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 2-4-19 Last Survey 19-9-19
 Reg. Book. on the Machinery of the new Steel S.S. WESTERN COAST. (Number of Visits 35)
 Master James Built at Sunderland By whom built James Hunter & Wigham Richardson, Ltd. When built 1919
 Engines made at Sunderland By whom made Richardsons Westgarth & Co. Ltd. (No. 2153) when made 1919
 Boilers made at do By whom made do do do do (No. 2153) when made 1919
 Registered Horse Power 324 Owners Coast Lines, Ltd. Port belonging to Liverpool
 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 22-36-59 Length of Stroke 39 Revs. per minute 70 Dia. of Screw shaft as per rule 12 1/2 Material of screw shaft Iron
 as fitted 12 3/8
 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
 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 4-3
 Dia. of Tunnel shaft as per rule 10 8/5 Dia. of Crank shaft journals as per rule 11 3/9 Dia. of Crank pin 12 Size of Crank webs 22 1/2 x 7 1/4 Dia. of thrust shaft under
 as fitted 11 as fitted 11 7/5
 Bars 12 Dia. of screw 14-9 Pitch of Screw 15-6 No. of Blades 4 State whether moveable No Total surface 71 sq
 No. of Feed pumps 2 Diameter of ditto 3 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 6x4 1/4 x 6, 8x6 x 15, 8x9 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 3 @ 3 In Holds, &c. No. 1 - 2 @ 2 3/4; No. 2 - 2 @ 2 3/4;
No. 3 (aft) 2 @ 2 3/4; No. 4 2 @ 2 3/4; T.W. 1 @ 2 3/4
 No. of Bilge Injections 1 sizes 9 1/2 Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes; 3"
 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 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 Yes
 What pipes are carried through the bunkers None How are they protected Yes
 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 S) Manufacturers of Steel John Spencer Sons, Ltd.
 Total Heating Surface of Boilers 4960 sq 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 25-7-19; 2-8-19 No. of Certificates 3588; 3595
 Can each boiler be worked separately Yes Area of fire grate in each boiler 41 sq No. and Description of Safety Valves to
 each boiler Two direct spring Area of each valve 8.29 sq Pressure to which they are adjusted 185 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 1-9 Mean dia. of boilers 12-6 Length 11-6 Material of shell plates Steel
 Thickness 1 1/32 Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.
 Longitudinal seams T.R.; D.B.S. Diameter of rivet holes in long. seams 1 3/32 Pitch of rivets 7 3/4 Lap of plates or width of butt straps 14 1/2
 Percentages of strength of longitudinal joint rivets 87.4 Working pressure of shell by rules 183 Size of manhole in end 16x12
 plate 85.9
 No. of compensating ring flanged No. and Description of Furnaces in each boiler Two Brighton Material Steel Outside diameter 3-11 7/8
 Length of plain part top 9 1/16 Thickness of plates crown 9 1/16 Description of longitudinal joint welded No. of strengthening rings 1
 bottom 9 1/16
 Working pressure of furnace by the rules 184 Combustion chamber plates: Material Steel Thickness: Sides 1 1/16 Back 2 1/32 Top 1 1/16 Bottom 2 7/32
 Length of stays to ditto: Sides 10x8 1/2 Back 9x9 Top 10x8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 184
 Material of stays Steel Area at smallest part 1.73 sq Area supported by each stay 85 sq Working pressure by rules 183 End plates in steam space:
 Material Steel Thickness 1 1/16 Pitch of stays 16x17 How are stays secured Nuts & Washers Working pressure by rules 185 Material of stays Steel
 Area at smallest part 5.05 Area supported by each stay 272 sq Working pressure by rules 193 Material of Front plates at bottom Steel
 Thickness 29/32 Material of Lower back plate Steel Thickness 1 Greatest pitch of stays 13 1/2 x 9 Working pressure of plate by rules 262
 Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 3/4 Material of tube plates Steel Thickness: Front 29/32 Back 3/4 Mean pitch of stays 9 3/8
 Distance across wide water spaces 13 1/2 Working pressures by rules 185 Girders to Chamber tops: Material Steel Depth and
 Thickness of girder at centre 9x1 1/2 Length as per rule 30 1/2 Distance apart 10 Number and pitch of stays in each 2 @ 8 1/2
 Working pressure by rules 193 Steam dome: description of joint to shell None % of strength of joint
 Diameter of rivets None Thickness of shell plates None Material None Description of longitudinal joint None Diam. of rivet holes None
 How stayed None
 Working pressure of shell by rules None Crown plates None Thickness None

SUPERHEATER. Type None Date of Approval of Plan None Tested by Hydraulic Pressure to None
 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler None
 Is Easing Gear fitted None
 Diameter of Safety Valve None Pressure to which each is adjusted None

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two Connecting rod top & bottom end bolts & nuts; two main bearing bolts; one set of Coupling bolts; one set of Feed & Fudge pump valves, iron, bolts & nuts of various sizes

The foregoing is a correct description,

FOR RICHARDSONS, WESTGARTH & CO., LTD

Richard Russell

Manufacturer.

ASSISTANT MANAGER

Dates of Survey while building	During progress of work in shops --	1919 April May 2, 9, 16, 23, 30, 31	June 11, 17, 23	July 3, 4, 10, 14, 18, 23, 25, 28, 29	August 1, 2, 6, 11, 12, 18, 20
		During erection on board vessel ---	22, 26, 29	Sept. 5, 16, 17, 18, 19	
			Total No. of visits	(35)	

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 23-6-19 Slides 18-7-19 Covers 10-7-19 Pistons 18-7-19 Rods 11-6-19
 Connecting rods 18-7-19 Crank shaft 9-5-19 Thrust shaft 23-6-19 Tunnel shafts 1-8-19 Screw shaft 25-7-19 Propeller 18-7-19
 Stern tube 10-7-19 Steam pipes tested 20-8-19 Engine and boiler seatings 14-7-19 Engines holding down bolts 22-8-19

Completion of pumping arrangements 5-9-19 Boilers fixed 18-8-19 Engines tried under steam 26-8-19

Completion of fitting sea connections 14-7-19 Stern tube 23-7-19 Screw shaft and propeller 6-8-19

Main boiler safety valves adjusted 19-9-19 Thickness of adjusting washers P boiler $P \frac{1}{2}, S \frac{11}{16}$; C boiler $P \frac{1}{2}, S \frac{11}{16}$; S boiler $P \frac{3}{8}, S \frac{17}{32}$

Material of Crank shaft Ing. Steel Identification Mark on Do. A.B. 6078 Material of Thrust shaft Ing. Steel Identification Mark on Do. E.W.R. 2153

Material of Tunnel shafts Scrap Iron Identification Marks on Do. E.W.R. 2153 Material of Screw shafts Scrap Iron Identification Marks on Do. E.W.R. 2153

Material of Steam Pipes Lap welded Steel Test pressure 540 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 Standard C.S. Type

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 + LMC 9, 19

It is submitted that this vessel is eligible for THE RECORD + LMC 9.19. F.D.

J.W.D. J.R.K.
29/9/19

Ed. W. Rutter

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £	<u>3</u>	When applied for,
Special ... £	<u>36 4</u>	<u>23. 9. 19</u>
Donkey Boiler Fee ... £		When received,
Travelling Expenses (if any) £		<u>22/11/19</u>

Committee's Minute TUE. 7-OCT. 1919

Assigned + LMC 9.19

24. MACHINERY CERTIFICATE

SUNDERLAND.

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

