

REPORT ON MACHINERY.

Abn. Rpt. No. 12394

No. 105214

Received at London Office

Date of writing Report 12. 11. 1919 When handed in at Local Office 12. 11. 1919 Port of MIDDLESBRO

No. in Survey held at Middlesbrough Date, First Survey 29th Nov. 1917 Last Survey 11th Dec. 1919
Reg. Book. on the Machinery for the S.S. "Striver" (Number of Visits 30)

Master H. Webster Built at Aberdeen By whom built The John Duthie & Co. Ltd. No. 455 Tons Gross 590.08 Net 293.30 When built 1919

Engines made at Middlesbrough By whom made Richardsons, Westgate & Co. Ltd. when made 1896.
Boilers made at do By whom made Wilson, Gopelley & Co. Ltd. (No. 108) when made 1919
(Selskabet af Maskiner Co. Ltd.)

Registered Horse Power Owners Shipping & Investment Co. Ltd. (H. Pile Mgr.) Port belonging to London

Nom. Horse Power as per Section 28 87.47 88. Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

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

Dia. of Cylinders 14 1/4, 23 1/2 & 39 Length of Stroke 24 Revs. per minute 125 Dia. of Screw shaft 8 1/8 as per rule 8 1/8 Material of screw shaft 8

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 Length of stern bush 32

Dia. of Tunnel shaft as per rule 6.92 as fitted 6.99 Dia. of Crank shaft journals as per rule 7.26 as fitted 7.34 Dia. of Crank pin 4 3/8 Size of Crank webs 14 x 5 1/8 Dia. of thrust shaft under collars 7 1/2 Dia. of screw 10.6 Pitch of Screw 11.0 No. of Blades 4 State whether moveable No Total surface 34

No. of Feed pumps 2 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 1/8 Stroke 12 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 6 x 6 x 6 Ballast (Tangye) Feed (Weir) 7 x 5 1/2 x 15 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room One of 2 1/2 In Holds, &c. One of 2 1/2

No. of Bilge Injections 1 sizes 5 Connected to condenser, or to circulating pump O.P. Is a separate Donkey Suction fitted in Engine room & size Yes 2 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 None

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves & Cocks

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

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 None Is it fitted with a watertight door worked from

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

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

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

Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules End plates in steam space:

Material of stays Area at smallest part Area supported by each stay Working pressure by rules Material of stays

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom

Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules Steam dome: description of joint to shell % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

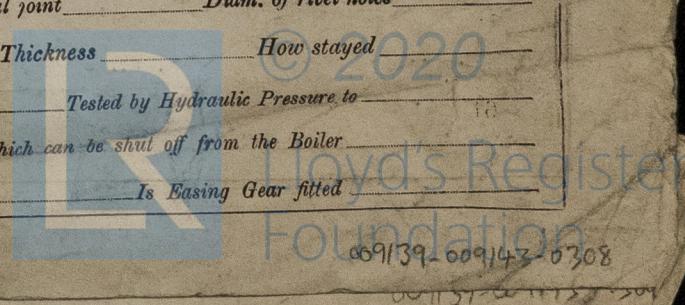
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

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

Detailed Particulars of Machinery



009139 009143 0308

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two top and 2 bottom end bolts & nuts, 2 main bearing and 1 pet coupling bolts & nuts, 1 pet each, air, circulating, feed & bilge pump valves, 1 each main and donkey check valves, 1 safety valve spring, bolts and nuts assorted and iron of various sizes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	{ During progress of work in shops -- } { During erection on board vessel -- } { Total No. of visits }	1917: <u>Nov. 29. Dec 11</u>	1918: <u>Jan 25-29 Feb 5-12-18 Mar 21 Apr 11-29</u>	1919: <u>Feb 13 Mar 27 Apr 30 May 21 Jun 16-24 Jul 14-22</u>	1920: <u>Jan 16-20-27-28 Feb 4-7-10-10</u>	
		<u>Aug 28. Sep 9. 25. Oct 10. 27-29. 31. Nov. 1-3-4-6-11</u>	<u>Nov 27-28 Dec 9-15-24</u>	<u>Jan 16-20-27-28 Feb 4-7-10-10</u>	<u>21-15</u>	
		<u>30</u>				

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 12-2-18 Slides 24-3-19 Covers 24-3-19 Pistons 18-2-18 Rods 18-2-18

Connecting rods 18-2-18 Crank shaft 25-1-18 Thrust shaft 28-7-19 Tunnel shafts ✓ Screw shaft 28-7-19 Propeller 23-10-19

Stern tube 28-8-19 Steam pipes tested 27-1-20 Engine and boiler seatings 29-9-19 Engines holding down bolts 8-12-19

Completion of pumping arrangements 28-1-20 Boilers fixed 20-1-20 Engines tried under steam 7-2-20

Completion of fitting sea connections 23-10-19 Stern tube 23-10-19 Screw shaft and propeller 23-10-19

Main boiler safety valves adjusted 7-2-20 Thickness of adjusting washers port 5/16" Starb. 3/8"

Material of Crank shaft ? Identification Mark on Do. ✓ Material of Thrust shaft S Identification Mark on Do. 2201-20

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts S Identification Marks on Do. 4202-20

Material of Steam Pipes Copper, 4" Bore No. 6 B.W.G. Test pressure 374 lbs

Is an installation fitted for burning oil fuel 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 No If so, state name of vessel

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

These engines have been converted under special Survey into Marine Type by Messrs Wilson Copely of this Port; by the addition of blurring gear, pump, shafting &c. The cylinders, pistons, slide valves, crank shaft & bedplate have been examined, and found to put in good order. The material & workmanship of the additional parts now fitted are sound & good.

As it is proposed to use a boiler pressure not exceeding 180 lbs. it will be necessary that the propeller shall not exceed 10'-2" dia.

To complete—Proportional number of fitting bolts to be put in column heads, and efficient controls fitted to engine stop valve and throttle. Two fitted bolts have now been put in each column head, and efficient geared control shafts fitted to engine stop valve & throttle. These engines (with the boiler) have now been properly fitted in the vessel and tried under steam with satisfactory results, and are eligible in my opinion to have the record of

LMC 2-20 in the Register Book (please see Surveyor's letter & correspondence for the information of the Surveyor at Aberdeen 13-8-19)

The amount of Entry Fee	£ 44.4	When applied for,	3/2/19
Special	£ 8.8	When received,	10/3/19
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

Godfray & Thomas Miller
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

FRI. 10 MAR 1920

LMC 2-20

A.E. 96 refitted 20

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

CERTIFICATE



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