

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 Mar. 1919
Reg. Book. on the Machinery for the S.S. "Striver" (Number of Volls 30) Gross 590.08
Master H. H. Hester Built at Aberdeen By whom built The John Duthie & Co. Ltd. No. 453 Tons Net 293.30
Engines made at Middlesbrough By whom made Richardson, Westgate & Co. Ltd. when made 1896.
Boilers made at do By whom made Wilson, Gopeley & Co. Ltd. (No. 108) when made 1919
Registered Horse Power Owners Shipping & Merchants Ltd. (H. H. Hester) 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" x 39" Length of Stroke 24" Revs. per minute 125 Dia. of Screw shaft 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" 7" x 5" 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 *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 *None* Is it fitted with a watertight door *Yes* worked from *Yes*

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
bottom 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 Working pressure of plate by rules
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 Valves Pressure to which each is adjusted Is Easing Gear fitted

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

SPARE GEAR. State the articles supplied:— 2 top and 2 bottom end bolts & nuts, 2 main bearing and 1 set coupling bolts & nuts, 1 set 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 --	1917. Nov. 29. Dec. 11. Jan. 25-29. Feb. 5-12-18. Mar. 21. Apr. 11-29. Feb. 13. Mar. 27. Apr. 30. May 21. Jun. 16-24. Jul. 4-22.
	During erection on board vessel --	Aug. 28. Sep. 9-25. Oct. 10-27-29-31. Nov. 1-3-4-6-11. 1919. Oct. 25. Nov. 27-28. Dec. 8-15-24. 1920. Jan. 16-20-27-28. Feb. 4-7-10-19.
	Total No. of visits	30
	Is the approved plan of main boiler forwarded herewith yes	

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" " " *donkey* " " ✓

Dates of Examination of principal parts—Cylinders 12.2.18 Slides 24.3.19 Covers 24.3.19 Pistons _____ Rods 18.2.18

Connecting rods 18.2.18 Crank shaft 26.1.18 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 20-9-19 Engines holding down bolts 8-12-10

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 6 in. 5/16" Stud 3/8"

Material of Crank shaft ? Identification Mark on Do. Material of Thrust shaft S Identification Mark on Do. 2201-2

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

Material of Steam Pipes Copper, 4" Bore No. 6 B.W.G. Test pressure 37 1/2 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.....Yes ✓ 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 reversing gear, pumps, shafting &c. The cylinders, pistons, slide valves, crank shaft & bedplate have been examined, and found & put in good order. The material & workmanship of the additional parts now fitted are sound & good.

As it is proposed to use a 'hot' 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 boilers) 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 Secretary's letters & correspondence for the information of the Surveyor at Aberdeen)

The amount of Entry Fee	£	:	:	When applied for,
Special	£	:	:	19
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	19

When applied for,
3/31 1900

When received,
10/3/1920

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

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

FRIDAY - MAY 1904
L. MC. 2. 20

N.E. 96 refilled 20

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

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