

REPORT ON MACHINERY.

No. 27346

Received at London Office

MON. 7-OCT. 1918

Date of writing Report

19

When handed in at Local Office - 4 OCT 1918

Port of SUNDERLAND

No. in Survey held at Sunderland

Date, First Survey 28 Jan'y

Last Survey 27 Oct'r 1918

Reg. Book. Vol 95 "WAR JEMADAR"

Number of Visits 3.5

Gross 5563

Master Jackson Built at Sunderland

By whom built Jas. Laing & Sons Ltd

Tons Net 3476
When built 1918

Engines made at Sunderland

By whom made G. Clark Ltd

when made 1918

Boilers made at Sunderland

By whom made G. Clark Ltd

when made 1918

Registered Horse Power

Owners Shipping Controller (Hunting & Son)

Port belonging to London

Nom. Horse Power as per Section 28 517

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple

No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 27, 44, 73 Length of Stroke 48 Revs. per minute 78 Dia. of Screw shaft as per rule 14.69 as fitted 15.5 Material of screw shaft Iron

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 Yes Length of stern bush 5'-0 1/2"

Dia. of Tunnel shaft as per rule 13-32 as fitted 13-3/4 Dia. of Crank shaft journals as per rule 14 as fitted 14 1/2 Dia. of Crank pin 14 1/2 Size of Crank webs 22 1/2 x 9 Dia. of thrust shaft under collars 14 3/4

Dia. of screw 17-6" Pitch of Screw 16-6" No. of Blades 4 State whether moveable No Total surface 98.29

No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 10 1/2 x 14 x 24 9 1/2 x 7 x 18 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 @ 3 1/2" In Holds, &c. 1 8" in each oil tank, 2 @ 2 1/2" in aft hold

on tunnel flat, 1 @ 2 1/2" in tunnel well, 2 @ 3 1/2" in fore dry cargo hold to bilge pump in fore pump room

No. of Bilge Injections 1 sizes 9 Connected to condenser 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 No

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 -

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 No worked from access by trunk

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spenser Sims

Total Heating Surface of Boilers 7668 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 23.8.18 No. of Certificate 3493

Can each boiler be worked separately Yes Area of fire grate in each boiler 63 sq ft No. and Description of Safety Valves to each boiler 2 Spring valves

Area of each valve 9.64" Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork No limit in Mean dia. of boilers 15-6 Length 11-7 Material of shell plates S

Thickness 1/4 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap dt.

long. seams A 1/2 1/2 riv. Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 9/8 Top of plates on width of butt straps 19 1/2

Per centages of strength of longitudinal joint rivets 85.3 plate 85.6 Working pressure of shell by rules 182 Size of manhole in shell 16 x 12

Size of compensating ring Hinged No. and Description of Furnaces in each boiler 3 Single tubes Material S Outside diameter 4-2 3/16

Length of plain part top - bottom - Thickness of plates crown 1/2 bottom 3/32 Description of longitudinal joint welded No. of strengthening rings -

Working pressure of furnace by the rules 187 Combustion chamber plates: Material S Thickness: Sides 23/32 Back 1/16 Top 23/32 Bottom 23/32

Pitch of stays to ditto: Sides 10 5/8 x 9 1/4 Back 8 3/4 x 10 1/4 Top 10 5/8 x 9 1/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180

Material of stays S Area at smallest part 2.36 sq ft Area supported by each stay 98.2 sq ft Working pressure by rules 216 End plates in steam space:

Material S Thickness 1 1/32 Pitch of stays 21 3/4 x 20 1/2 How are stays secured A, B, C, D Working pressure by rules 190 Material of stays S

Area at smallest part 8.29 sq ft Area supported by each stay 432 sq ft Working pressure by rules 186 Material of Front plates at bottom S

Thickness 3/32 Material of Lower back plate S Thickness 27/32 Greatest pitch of stays 13 5/8 x 8 3/4 Working pressure of plate by rules 183

Diameter of tubes 2 3/4 Pitch of tubes 4 x 3 3/8 Material of tube plates S Thickness: Front 31/32 Back 3/4 Mean pitch of stays 9 7/8

Pitch across wide water spaces 13 5/8 Working pressures by rules 181 Girders to Chamber tops: Material S Depth and thickness of girder at centre 10 x 1 3/4

Length as per rule 2-11 9/16 Distance apart 10 5/8 Number and pitch of stays in each 3, 9 1/4

Working pressure by rules 187 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 -

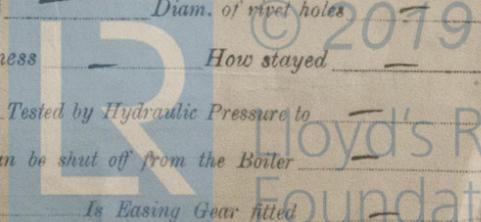
SUPERHEATER. Type - Date of Approval of Plan -

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



497-0333

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 rod bolts & nuts, two main bearing bolts, one set of coupling bolts, one set fuel & bilge pumps valves assorted bolts and nuts, Iron of various sizes, one propeller.

The foregoing is a correct description, FOR GEORGE CLARK LIMITED.

James C. Clark Manufacturer.

Dates of Survey while building: During progress of work in shops - - 1918 Jan 28 Apr 4, 9, 15, 18, 22, 25 May 6, 14, 27 Jun 3, 6, 9, 13, 14, 24 Jul 5, 8, 10, 16, 20, 29 Aug 1, 2, 19, 23. During erection on board vessel - - 26 Sep 6, 13, 14, 21, 24, 26, 27. Total No. of visits 33. Is the approved plan of main boiler forwarded herewith YES

Dates of Examination of principal parts—Cylinders 29.7.18 Slides 29.7.18 Covers 29.7.18 Pistons 29.7.18 Rods 16.7.18 Connecting rods 29.7.18 Crank shaft 6.7.18 Thrust shaft 24.6.18 Tunnel shafts 26.8.18 Screw shaft 26.8.18 Propeller 24.6.18 Stern tube 16.7.18 Steam pipes tested 4.9.18 Engine and boiler seatings 13.9.18 Engines holding down bolts 13.9.18 Completion of pumping arrangements 21.9.18 Boilers fixed 13.9.18 Engines tried under steam 21.9.18 Completion of fitting sea connections 14.8.18 Stern tube 6.9.18 Screw shaft and propeller 6.9.18 Main boiler safety valves adjusted 21.9.18 Thickness of adjusting washers 2 1/8, 1 7/8, 5 7/8, 1 7/8, 5 7/8, 1 7/8, 1 3/8, 5 3/8. Material of Crank shaft Iron Identification Mark on Do. 1074 L.D. Material of Thrust shaft Iron Identification Mark on Do. 8499 G.H.B. Material of Tunnel shafts Iron Identification Marks on Do. 3192 W.C. Material of Screw shafts Iron Identification Marks on Do. 1024 D.D.W. Material of Steam Pipes Iron Test pressure 540 lbs. Is an installation fitted for burning oil fuel yes Is the flash point of the oil to be used over 150°F. yes Have the requirements of Section 49 of the Rules been complied with yes Is this machinery duplicate of a previous case - If so, state name of vessel A. Type

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 eligible to have record of + L.M.C. 9.18 "Fitted for oil fuel F.P. above 150°F"

It is submitted that this vessel is eligible for THE RECORD. + L.M.C 9.18 F.D. FITTED FOR OIL FUEL 9.18 F.P. ABOVE 150°F.

Handwritten signature and date: J.C. Clark 10/10/18

Table with columns: The amount of Entry Fee, Special, Donkey Boiler Fee, Travelling Expenses (if any); and When applied for, When received.

Handwritten signature: J.C. Clark Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 8 - OCT. 1918 Assigned + L.M.C. 9.18. F.D. Fitted for oil fuel 9.18 F.P. above 150°F.

MACHINERY CERTIFICATE WRITTEN



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SUNDERLAND

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