

Received at London Office *FRI. 22nd Aug 1919*

Date of writing Report *19* When handed in at Local Office *25. 8. 1919* Port of *Sunderland*

No. in Survey held at *Sunderland* Date, First Survey *23 Aug '18* Last Survey *22 August 1919*

Reg. Book. *on the Machinery of the new Steamer S.S. MARDINIAN.* (Number of Visits *59*) Tons { Gross *2429*
Net *1432*

Master *Laggalo* Built at *Sunderland* By whom built *Richardsons Westgarth & Co. Ltd. (N° 2147)* when made *1919*

Engines made at *Sunderland* By whom made *Richardsons Westgarth & Co. Ltd. (N° 2147)* when made *1919*

Boilers made at *"* By whom made *"* when made *1919*

Registered Horse Power *266* Owners *Ellerman Lines, Ltd.* Port belonging to *Liverpool*

Nom. Horse Power as per Section 28 *266* 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 12.45* 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 *✓* 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 *4-9"*

Dia. of Tunnel shaft *as per rule 10.85* Dia. of Crank shaft journals *as per rule 11.39* Dia. of Crank pin *12"* Size of Crank webs *22½ x 7½* Dia. of thrust shaft under collars *12"* Dia. of screw *15-9* Pitch of Screw *15-3* No. of Blades *4* State whether moveable *No* Total surface *77* *申*

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 *3½"* Stroke *24"* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *3* Sizes of Pumps *1@ 10x12½x18; 2@ 8x6x15* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *4 @ 3½"* In Holds, &c. *N° 1 - 2 @ 3; N° 2 - 2 @ 3; N° 3 (aft) 2 @ 3;*

T.W. - 1 @ 2½"

No. of Bilge Injections *1* sizes *9½"* 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 *✓*

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 *Forward hold joipes* How are they protected *Under limber boards*

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. and David Colville & Sons, Ltd.*

Total Heating Surface of Boilers *4500* Is Forced Draft fitted *No* No. and Description of Boilers *Two single ended Marine*

Working Pressure *180* Tested by hydraulic pressure to *360* Date of test *12-2-19* No. of Certificate *3534*

Can each boiler be worked separately *Yes* Area of fire grate in each boiler *62* *申* No. and Description of Safety Valves to each boiler *Two - spring loaded* Area of each valve *8-29"* Pressure to which they are adjusted *185* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *26"* Mean dia. of boilers *15-8½"* Length *10-6"* Material of shell plates *Steel*

Thickness *1½"* Range of tensile strength *28-32 tons* Are the shell plates welded or flanged *✓* Descrip. of riveting: cir. seams *D.R. laps.*

long. seams *I.R. D.B.* Diameter of rivet holes in long. seams *1½"* Pitch of rivets *9"* Lap of plates or width of butt straps *19½"*

Per centages of strength of longitudinal joint *88-59* Working pressure of shell by rules *182* Size of manhole in shell *16 x 12*

Size of compensating ring *flanged* No. and Description of Furnaces in each boiler *Three Dighton* Material *Steel* Outside diameter *4-0 15/16*

Length of plain part *top 31"* Thickness of plates *bottom 14"* Description of longitudinal joint *Welded* No. of strengthening rings *23*

Working pressure of furnace by the rules *186* Combustion chamber plates: Material *Steel* Thickness: Sides *11/16"* Back *32* *申* Top *11/16"* Bottom *11/16"*

Pitch of stays to ditto: Sides *9 x 9 3/4"* Back *9 1/2 x 9 5/8"* Top *9 x 9 3/4"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *185*

Material of stays *Steel* Area at smallest part *2-03* Area supported by each stay *91-44* Working pressure by rules *200* End plates in steam space:

Material *Steel* Thickness *1 3/8"* Pitch of stays *22 x 21"* How are stays secured *D.N. + W.* Working pressure by rules *184* Material of stays *Steel*

Area at smallest part *8-48* Area supported by each stay *462* Working pressure by rules *191* Material of Front plates at bottom *Steel*

Thickness *13/16"* Material of Lower back plate *Steel* Thickness *15/16"* Greatest pitch of stays *14 1/2 x 9 7/8"* Working pressure of plate by rules *197*

Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2 x 4 3/8"* Material of tube plates *Steel* Thickness: Front *13/16"* Back *12* *申* Mean pitch of stays *10"*

Pitch across wide water spaces *14 1/4"* Working pressures by rules *262* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *7 1/2 x 13 1/4"* Length as per rule *32"* Distance apart *9"* Number and pitch of stays in each *2 @ 9 3/4"*

Working pressure by rules *180-5* 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

Tested by Hydraulic Pressure to

SUPERHEATER. Type *✓* Date of Approval of Plan

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

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 & bilge pump valves, iron & bolts of various sizes. One Propeller.*

The foregoing is a correct description,

FOR RICHARDSONS, WESTGARTH & CO., LTD.

Richard H. Russell

Manufacturer.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel --
Total No. of visits

1918 Aug 12, Sep 2, 12, 17, 24, Oct 4, 11, 18, Nov 4, 11, 18, Dec 3, 5, 6, 9, 11, 13, 14, 17, 20, 21, 31, Jan 10, 15, 19, 20, 25, Feb 1, 5, 8, 12, 19, 20, Mar 5, 9, 14, 24, Apr 2, 9, 25, 30, May 1, 2, 25, 29, 31, Jun 2, 25, June 11, 20, July 20, Aug 14, 19, 22 (59)

Is the approved plan of main boiler forwarded herewith *Yes*

" " " donkey " " " " *✓*

Dates of Examination of principal parts—Cylinders *31-12-18* Slides *15-1-19* Covers *5-12-18* Pistons *5-12-18* Rods *13-12-18*

Connecting rods *15-1-19* Crank shaft *4-10-18* Thrust shaft *25-1-19* Tunnel shafts *5-3-19* Screw shaft *3-2-19* Propeller *13-2-19*

Stern tube *30-4-19* Steam pipes tested *13-5-19* Engine and boiler seatings *2-4-19* Engines holding down bolts *20-5-19*

Completion of pumping arrangements *21-5-19* Boilers fixed *14-5-19* Engines tried under steam *28-5-19*

Completion of fitting sea connections *2-4-19* Stern tube *2-5-19* Screw shaft and propeller *5-5-19*

Main boiler safety valves adjusted *28-5-19* Thickness of adjusting washers *Port boiler - P $\frac{7}{16}$, S $\frac{3}{8}$; S boiler - P $\frac{7}{16}$, S $\frac{3}{8}$*

Material of Crank shaft *Steel* Identification Mark on Do. *6029.A.B* Material of Thrust shaft *Steel* Identification Mark on Do. *2147.E.W.R.*

Material of Tunnel shafts *Iron* Identification Marks on Do. *2147.E.W.R.* Material of Screw shafts *Iron* Identification Marks on Do. *2147.E.W.R.*

Material of Steam Pipes *Steel-laps welded* Test pressure *540 lbs. \square*

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 "H" 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 \clubsuit L.M.C. 8, 19.

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 8.19.

The amount of Entry Fee ... £ *53 : 19 - 4*

Special ... £ : : *21.8.19*

Donkey Boiler Fee ... £ : : *When received.*

Travelling Expenses (if any) £ : : *20/9/19*

Committee's Minute

Assigned

FRI. 19 SEP. 1919

+ L.M.C. 8.19

Ed. W. Hutter
Engineer Surveyor to Lloyd's Register of Shipping.



© 2021

Lloyd's Register
Foundation