

REPORT ON MACHINERY.

No. 29167

WED. 10 AUG 1910

Port of Glasgow

Received at London Office

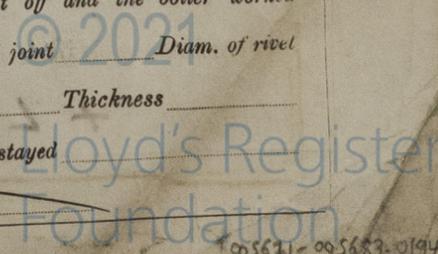
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No. in Survey held at Glasgow Date, first Survey 14 April 1910 Last Survey 5th Aug 1910
 Reg. Book. on the T. S. S. Bosphorus 2:65 (Number of Visits 23)
 Master Built at Glasgow By whom built Fairfield & B. & C. Ltd Tons } Gross 434
 Engines made at Glasgow By whom made Fairfield & B. & C. Ltd when made 1910 } Net 233
 Boilers made at do By whom made do when made 1910
 Registered Horse Power _____ Owners Chirket i Hainie Port belonging to Constantinople
 Nom. Horse Power as per Section 28 91 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Twin Screw Triple No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders 10-15-25 Length of Stroke 18 Revs. per minute 175 Dia. of Screw shaft 5.645 Material of steel
 Is the tube 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 _____ If two
 liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush Tube 24" Bracket 33"
 Dia. of Tunnel shaft as per rule 4.674 Dia. of Crank shaft journals as per rule 4.9 Dia. of Crank pin 5.4 Size of Crank webs 3.4 Dia. of thrust shaft under
 collars 5 Dia. of screw 6.9 Pitch of Screw 9.0 No. of Blades 3 State whether moveable no Total surface 12.4
 No. of Feed pumps _____ Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work Independent Pumps.
 No. of Bilge pumps _____ Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work General Service 6x4 1/2 x 6 Duplex
 No. of Donkey Engines 2 Sizes of Pumps 6x4 1/2 x 6, 4x4 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room 1-2 In Holds, &c. 1-2" each hold

No. of Bilge Injections 1 sizes 2 1/2" Connected to condenser, or to circulating pump pump 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 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 _____ 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
 Dates of examination of completion of fitting of Sea Connections _____ of Stern Tube _____ Screw shaft and Propeller 1/7/10
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top grating

MILERS, &c.—(Letter for record (S)) Manufacturers of Steel Steel Company of Scotland Ltd
 Total Heating Surface of Boilers 1940 Is Forced Draft fitted no No. and Description of Boilers One Single Ended
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 21/6/10 No. of Certificate 10458
 Can each boiler be worked separately _____ Area of fire grate in each boiler 68.25 No. and Description of Safety Valves to
 each boiler Double spring Area of each valve 6.49 Pressure to which they are adjusted 165 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 13.6 Length 11.0 Material of shell plates steel
 Thickness 1" Range of tensile strength 24/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D. R. L.
 Long. seams D. B. S. Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 7 7/8 Lap of plates or width of butt straps 1 1/2"
 Percentages of strength of longitudinal joint _____ Working pressure of shell by rules 163 lbs Size of manhole in shell 16 x 12
 Use of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 3.9
 Length of plain part _____ Thickness of plates _____ Description of longitudinal joint weld No. of strengthening rings _____
 Working pressure of furnace by the rules 178 Combustion chamber plates: Material steel Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 1/16
 Pitch of stays to ditto: Sides 7 3/4 x 8 3/8 Back 9 x 7 3/8 Top 7 3/4 x 8 3/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 163
 Material of stays steel Diameter at smallest part 1.48 Area supported by each stay 66 Working pressure by rules 179 End plates in steam space:
 Material steel Thickness 7/8 Pitch of stays 15 3/4 x 13 3/4 How are stays secured D. nuts Working pressure by rules 160 Material of stays steel
 Diameter at smallest part 3.43 Area supported by each stay 220 Working pressure by rules 162 Material of Front plates at bottom steel
 Thickness 3/4 Material of Lower back plate steel Thickness 5/8 Greatest pitch of stays 12" Working pressure of plate by rules 200
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 3/8 Material of tube plates steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 11 1/8
 Pitch across wide water spaces 13 1/2 Working pressures by rules 164 lbs Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 7 1/2 x 3/4 x 2 Length as per rule 30 Distance apart 8 5/8 Number and pitch of stays in each 3-7 3/4
 Working pressure by rules 167 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked
 separately _____ Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet
 plates _____ Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____
 Stiffened with rings _____ Distance between rings _____ Working pressure by rules _____ End plates: Thickness _____ How stayed _____
 Working pressure of end plates _____ Area of safety valves to superheater _____ Are they fitted with easing gear _____



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description None

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— Two top end two bottom end two main bearings & set of coupling bolts & nuts, 1 section crank shaft, propeller shaft, propeller, Nutrust shoe, 100 assorted bolts, 4 steel bars & 3 steel plates, 20 condenser ferrules, set of piston rings for one engine, 6 junk ring bolts, etc. For pump valves see sheets 12/8/10

The foregoing is a correct description,

FOR THE FAIRFIELD SHIPBUILDING AND ENGINEERING CO., LIMITED.

Manufacturer.

Alex. Cleghorn MANAGER

Dates of Survey while building

During progress of work in shops - -	1910. April 16. 22. May 10. 18. 21. 31. June 3. 9. 15. 18. 20. 21. 24. July 1. 2. 6. 7. 9. 13.
	Aug. 1. 2. 4. 5.
	Total No. of visits <u>23</u>

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " " "

Dates of Examination of principal parts—Cylinders 18/6/10 Slides 31/5/10 Covers 18/6/10 Pistons 31/5/10 Rods 31/5/10

Connecting rods 31/5/10 Crank shaft 15/6/10 Thrust shaft 15/6/10 Tunnel shafts 15/6/10 Screw shaft 21/6/10 Propeller 21/6/10

Stern tube 21/6/10 Steam pipes tested 7/7/10 Engine and boiler seatings 1/7/10 Engines holding down bolts 6/7/10

Completion of pumping arrangements 1/8/10 Boilers fixed 1/8/10 Engines tried under steam 4/8/10

Main boiler safety valves adjusted 1/8/10 Thickness of adjusting washers P. 1/4 5 5/32

Material of Crank shaft steel Identification Mark on Do. } H.G.S. Material of Thrust shaft steel Identification Mark on Do. } H.G.S.

Material of Tunnel shafts steel Identification Marks on Do. } H.G.S. Material of Screw shafts steel Identification Marks on Do. } H.G.S.

Material of Steam Pipes Iron & Copper Test pressure 480 lb & 320 lb

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

The engines & boilers of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.

This vessel is in my opinion eligible to have notation LMC 8.10 in the Register Book.

(at the request of the Builders & Owners this machinery with fittings, equipment & stores has been compared with the Specification & approved plans.)

It is submitted that this vessel is eligible for THE RECORD + LMC 8.10.

The amount of Entry Fee. £1	1	When applied for.	9/8/10
Special £13.13	13.13		
Donkey Boiler Fee	£	When received.	20.8
Travelling Expenses (if any)	£		10/6/10

H. Gardner-Smith
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASGOW 22 AUG. 1910

Assigned + LMC 8.10.



Certificate (if required) to be sent to Glasgow