

REPORT ON MACHINERY

No. 29327.

THUR. 29 SEP 1910

Rate of writing Report 10 When handed in at Local Office 12857 010 Received at London Office 10

No. in Survey held at Glasgow Port of Glasgow
 Reg. Book. on the T. S. S. "Kursk" Date, First Survey 27th January Last Survey 1st Sept. 1910
 (Number of Visits)

Master Built at Glasgow By whom built Baird & C. Ltd (No. 482) Tons { Gross 7858
 Net 4718
 Engines made at Glasgow By whom made Baird & C. Ltd (No. 482) when built 1910
 Boilers made at do By whom made do (No. 482) when made 1910
 Registered Horse Power 1020 Owners Russian East Asiatic Co. Ltd. Port belonging to Libau
 Nom. Horse Power as per Section 28 1020 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Quadruple Expansion No. of Cylinders 8 No. of Cranks 8
 Dia. of Cylinders 33", 33", 47", 68" Length of Stroke 48" Revs. per minute as per rule Dia. of Screw shaft as per rule Material of screw shaft Steel
 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 4-8 1/2"
 Dia. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule Dia. of Crank pin 13 1/2" Size of Crank webs 9 1/4 x 2 1/2" Dia. of thrust shaft under collars 13 1/2" Dia. of screw 16.6 Pitch of Screw 19.6" No. of Blades 3 State whether moceable Yes Total surface 69.5 sq ft
 No. of Feed pumps 2 Diameter of ditto 10" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 4 Diameter of ditto 4" Stroke 21" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 5 Duplex Sizes of Pumps 10 1/4 x 10, 8 x 10, 5 x 6, 4 x 6, 5 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 @ 3 1/2, 3 @ 4, 2 @ 3 1/2, 3 @ 4, 3 @ 4 In Holds, &c. 911-2 @ 3 1/2, 912-2 @ 3 1/2, 913-2 @ 3 1/2, 914-2 @ 3 1/2, 915-1 @ 3 1/2, Tunnel 8 @ 1-3"
 No. of Bilge Injections 2 sizes 8" Connected to condenser, or to circulating pump ump Is a separate Donkey Suction fitted in Engine room & size 1 1/2 @ 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 ✓
 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 all above deep water line
 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 4.7.10 of Stern Tube 4.7.10 Screw shaft and Propeller 4.7.10
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top 3 R. Platform

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

Total Heating Surface of Boilers 15114 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 6 Single ended
 Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 31.5.10 No. of Certificate 10413
 Can each boiler be worked separately Yes Area of fire grate in each boiler 60.5 sq ft No. and Description of Safety Valves 10
 each boiler 2 Double Spring Area of each valve 829 sq in Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2.0" Mean dia. of boilers 15.2" Length 11.6" Material of shell plates Steel
 Thickness 1 7/8" Range of tensile strength 29/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams O. Riv.
 long. seams T. R. D. B. S. Diameter of rivet holes in long. seams 1 7/8" Pitch of rivets 10" Lap of plates or width of butt straps 2 1/8"
 Per centages of strength of longitudinal joint 83.75% Working pressure of shell by rules 251 lbs Size of manhole in shell 16" x 15"
 Size of compensating ring 2' 10" x 2' 6" x 1 1/8" No. and Description of Furnaces in each boiler 3 Dighton Material Steel Outside diameter 4' 0 1/4"
 Length of plain part top 4.5" Thickness of plates bottom 6.4" Description of longitudinal joint weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 241 Combustion chamber plates: Material Steel Thickness: Sides 1 1/8" Back 1 1/8" Top 1 1/8" Bottom 1"
 Pitch of stays to ditto: Sides 9" x 8" Back 8 1/2" x 8 1/2" Top 9" x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 225
 Material of stays Steel Diameter at smallest part 2.03" Area supported by each stay 72 sq in Working pressure by rules 253 End plates in steam space:
 Material Steel Thickness 1 1/2" Pitch of stays 18 1/4" x 15 1/8" How are stays secured Fore and Aft Working pressure by rules 250 Material of stays Steel
 Diameter at smallest part 7.24" Area supported by each stay 297.6 sq in Working pressure by rules 253 Material of Front plates at bottom Steel
 Thickness 3 1/2" Material of Lower back plate Steel Thickness 1 7/8" Greatest pitch of stays 14 1/4" x 8 1/2" Working pressure of plate by rules 220
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 3 1/32" Back 2 5/32" Mean pitch of stays 9 1/2"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 224 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10" x 2" @ 2 1/2" Length as per rule 2.932 Distance apart 9" Number and pitch of stays in each 3 @ 8"
 Working pressure by rules 224 Superheater or Steam chest; how connected to boiler ✓ 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 holes ✓
 Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓
 If 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 ✓

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VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

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:— 2 connecting rod top end bolts & nuts: 2 connecting rod bottom end bolts & nuts: 2 main bearing bolts: 1 set of coupling bolts: 1 set of feed and bilge pump valves: a quantity of assorted bolts & nuts: iron of various sizes: 1 propeller shaft: 2 propeller blades: etc.

The foregoing is a correct description,

FOR BARCLAY, CURLE & CO., LTD.

Manufacturer. Chas Randolph Smith Director

Dates of Survey while building	During progress of work in shops	1910. Jan 27 Feb 2 4 14 22 Mar 9 10 14 17 18 21 Apr 1 6 7 12 13 14 15 19 21 22 25 27
	During erection on board vessel	May 2 3 9 11 12 23 31 June 3 6 9 14 16 21 27 July 1 4 5 11 14 28 Aug 3 8 9 17 18 24 30 Sept 1
	Total No. of visits	52

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 14.3.10 Slides 25.4.10 Covers 2.5.10 Pistons 7.4.10 Rods 1.4.10

Connecting rods 25.4.10 Crank shaft 7.4.10 Thrust shaft 25.4.10 Tunnel shafts 18.3.10 Screw shaft 31.5.10 Propeller 31.5.10

Stern tube 25.4.10 Steam pipes tested 1.7.10 Engine and boiler seatings 4.7.10 Engines holding down bolts 18.8.10

Completion of pumping arrangements 3.8.10 Boilers fixed 3.8.10 Engines tried under steam 1.9.10

Main boiler safety valves adjusted 18.8.10 Thickness of adjusting washers $S \frac{7}{16} P \frac{1}{2} S \frac{3}{8} P \frac{3}{8} S \frac{3}{8} P \frac{7}{16} S \frac{3}{8} P \frac{7}{16} S \frac{7}{16} P \frac{3}{8} S \frac{1}{2} P \frac{3}{8}$

Material of Crank shaft Steel Identification Mark on Do. 482 Material of Thrust shaft Steel Identification Mark on Do. 482

Material of Tunnel shafts Steel Identification Marks on Do. 482 Material of Screw shafts Steel Identification Marks on Do. 482

Material of Steam Pipes Wrought iron Test pressure 645 lbs per sq in

General Remarks (State quality of workmanship, opinions as to class, &c. These engines & boilers have been built under special survey in accordance with the approved plan & the workmanship & material are of good quality. The machinery is eligible in our opinion for the record of **LMC 9.10**

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.10.

JWD 30/9/10

The amount of Survey Fee..	£ 70 - 10	When applied for, 22/9/10
Special Entry	£ 3 - 0	
Donkey Boiler Fee	£ : :	When received, 25.10.10
Travelling Expenses (if any) £	: :	

A. J. Thomas & Wm Gordon Sinclair
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **GLASGOW 28 SEP. 1910**

Assigned **+ LMC 9.10 F.D.**

MACHINERY CERTIFICATE WRITTEN 29.9.10



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Certificate (if required) to be sent to Glasgow

10-9-10