

## REPORT ON MACHINERY.

No. 3369

Received at London Office

MON 29 MAY 1911

Date of writing Report 27<sup>th</sup> May 1911 When handed in at Local Office 10 Port of Copenhagen  
No. in Survey held at Copenhagen Date, First Survey 24<sup>th</sup> October 10 Last Survey 27<sup>th</sup> May 1911  
Reg. Book. 44 in S. S. "St. Petersburg" (Number of Visits 46)  
Master E. Klingenberg Built at Copenhagen By whom built A. L. Højenhøns Flydedok og Skibsværft When built 1911  
Engines made at Copenhagen By whom made A. L. Højenhøns Flydedok og Skibsværft when made 1911  
Boilers made at Copenhagen By whom made A. L. Højenhøns Flydedok og Skibsværft when made 1911  
Registered Horse Power 138 Owners Russian East Asiatic Steamship Co. Port belonging to Liban  
Nom. Horse Power as per Section 28 138 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 16 1/2", 27" & 44" Length of Stroke 30" Revs. per minute 95 Dia. of Screw shaft as per rule 9.54" Material of S.M. 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 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 yes Length of stern bush 3'-9"  
Dia. of Tunnel shaft as per rule 8.2" Dia. of Crank shaft journals as per rule 8.6" Dia. of Crank pin 8 7/8" Size of Crank webs 5 1/2" x 16 1/2" Dia. of thrust shaft under  
collars 8 7/8" Dia. of screw 12'-0" Pitch of Screw 11'-9" No. of Blades 4 State whether moveable no Total surface 46 sq ft  
No. of Feed pumps 2 Diameter of ditto 4" Stroke 7 1/2" Can one be overhauled while the other is at work yes  
No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 14" Can one be overhauled while the other is at work yes  
No. of Donkey Engines 3 Sizes of Pumps Ballast - 6" x 8" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 1 off 2 1/2", 3 off 2" In Holds, &c. After hold 2 off 2", Fore hold 2 off 2", Tunnel 1 off 2 1/2"  
No. 1 Tank 1 off 3 1/2" No. 2 Tank 4 off 3 1/2" Engine Tank 2 off 3 1/2" No. 4 Tank 1 off 4 1/2" After Peak Tank 1 off 2 1/2"  
No. of Bilge Injections one sizes 5" Connected to condenser, or to circulating pump no 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 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 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  
Dates of examination of completion of fitting of Sea Connections 30/3-11 of Stern Tube 30/3-11 Screw shaft and Propeller 7/4-11  
Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from upper deck

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Wm. Beardmore & Co. Ltd. & David Colville & Sons  
Total Heating Surface of Boilers 2445 Is Forced Draft fitted no No. and Description of Boilers Two single ended multitubular  
Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 23<sup>rd</sup> March 1911 No. of Certificate 318 & 319  
Can each boiler be worked separately yes Area of fire grate in each boiler 34.2 sq ft No. and Description of Safety Valves to  
each boiler Two patent spring loaded Area of each valve 4.85 sq in Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 11'-7" Length 10'-9" Material of shell plates S.M. Steel  
Thickness 1" Range of tensile strength 28-32 Tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double riv. lap  
long. seams double riv. double butt Diameter of rivet holes in long. seams 1" Pitch of rivets 6 1/2" Lap of plates or width of butt straps 15"  
Per centages of strength of longitudinal joint 90 Working pressure of shell by rules 187 lbs. Size of manhole in shell 12" x 16"  
Size of compensating ring 24" x 28" x 1" No. and Description of Furnaces in each boiler 2 off Deighton type Material S.M. Steel Outside diameter 3'-9 1/4"  
Length of plain part top 1' 6" Thickness of plates bottom 9/16" + 3/32" Description of longitudinal joint welded No. of strengthening rings 1  
Working pressure of furnace by the rules 208 lbs. Combustion chamber plates: Material S.M. Steel Thickness: Sides 7/16" 5/8" Back 5/8" Top 9/16" + 3/32" Bottom 7/16" 5/8"  
Pitch of stays to ditto: Sides 10 1/16" x 7 3/4" Back 8 1/2" x 8 1/2" Top 7 1/4" x 8 1/2" If stays are fitted with nuts or riveted heads both outside Working pressure by rules 184 lbs. Material of stays S.M. Steel  
Material of stays S.M. Steel Diameter at smallest part 1 1/2" Area supported by each stay 78 sq in Working pressure by rules 183 lbs. End plates in steam space:  
Material S.M. Steel Thickness 7/8" Pitch of stays 16 3/8" x 14 1/2" How are stays secured nuts & riv. washers Working pressure by rules 184 lbs. Material of stays S.M. Steel  
Diameter at smallest part 2 7/2" Area supported by each stay 232 sq in Working pressure by rules 222 lbs. Material of Front plates at bottom S.M. Steel  
Thickness 7/8" Material of Lower back plate S.M. Steel Thickness 13/16" Greatest pitch of stays 13 1/4" x 8 1/2" Working pressure of plate by rules 184 lbs.  
Diameter of tubes 3 1/4" Pitch of tubes 4 7/16" x 4 1/2" Material of tube plates S.M. Steel Thickness: Front 7/8" Back 13/16" Mean pitch of stays 11 3/16"  
Pitch across wide water spaces 13 3/4" Working pressures by rules 267 lbs. Girders to Chamber tops: Material Steel Depth and  
thickness of girder at centre 7 3/4" x 1 1/4" Length as per rule 7'-1 1/2" Distance apart 7 3/4" Number and pitch of stays in each 2 off 8 1/16"  
Working pressure by rules 230 lbs. Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked  
separately yes Diameter 1' 6" Length 1' 6" Thickness of shell plates 7/8" Material S.M. Steel Description of longitudinal joint double riv. lap Diam. of rivet  
holes 1" Pitch of rivets 6 1/2" Working pressure of shell by rules 184 lbs. Diameter of flue 1' 6" Material of flue plates S.M. Steel Thickness 7/8"  
If stiffened with rings yes Distance between rings 1' 6" Working pressure by rules 184 lbs. End plates: Thickness 7/8" How stayed yes  
Working pressure of end plates 184 lbs. Area of safety valves to superheater 184 lbs. Are they fitted with easing gear yes

W1430-0024



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
Radius of do.	Stayed by
Diameter of uptake	Thickness of uptake plates
Thickness of water tubes	Dates of survey

SPARE GEAR. State the articles supplied:—2 conn. rod top end & 2 do bottom end bolts with nuts 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed and bilge pump valves. A quantity of assorted bolts and nuts from of various sizes. 1 propeller, 1 propeller shaft, 1/2 set air pump valves, 1 set circ. pump valves. 2 springs for safety valves, assorted springs for cyl. & pump escape valves. 12 cond. tube 1 set crosshead brasses, 1 set crank pin brasses, 1 check valve for each boiler, 6 water gauge glasses, 12 boiler tubes, 1/2 set fire bars.

The foregoing is a correct description,

26-5-1911. AKTIESELSKABET

KJØBENHAVNS FLYDEDOK OG SKIBSVÆRFT

A. Høggeløse.

Dates	During progress of work in shops—	24/10, 25/10, 2/11, 3/11, 4/11, 7/11, 8/11, 9/11, 10/11, 12/11, 15/11, 16/11, 18/11, 22/11, 26/11, 7/12, 9/12, 15/12, 28/12-1910. 9/1, 16/1, 6/2, 17/2, 20/2, 21/2, 3/3, 6/3, 13/3, 22/3
of Survey	During erection on board vessel—	23/3, 30/3, 1/4, 5/4, 7/4, 8/4, 10/4, 19/4, 27/4, 5/5, 8/5, 16/5, 19/5, 22/5, 24/5, 26/5 + 27/5-1911
while building	Total No. of visits	46

Is the approved plan of main boiler forwarded herewith ☒ yes

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders	6/3	Slides	21/2	Covers	17/2	Pistons	3/3	Rods	7/2
Connecting rods	7/2	Crank shaft	1/4	Thrust shaft	1/4	Tunnel shafts	1/4	Screw shaft	30/3
Propeller	5/4	Stern tube	23/3	Steam pipes tested	6/5	Engine and boiler seatings	7/4	Engines holding down bolts	10/4
Completion of pumping arrangements	27/4	Boilers fixed	19/4	Engines tried under steam	27/5	Thickness of adjusting washers	Starboard Boiler 15 1/2 Port 15 7/8	Starboard 16 Port 16 1/8	
Main boiler safety valves adjusted	27/5	Material of Crank shaft	L.M.S. Steel	Identification Mark on Do.	No. 1680 H.L.O.H.S.	Material of Thrust shaft	L.M.S. Steel	Identification Mark on Do.	No. 1732 H.L.O.A.T.P.
Material of Tunnel shafts	L.M.S. Steel	Identification Marks on Do.	No. 1697, 1698, 1699 H.L.O.A.T.P.	Material of Screw shafts	L.M.S. Steel	Identification Marks on Do.	No. 1705, 1704 H.L.O.A.T.P.		
Material of Steam Pipes	Steel	Test pressure	360 lbs						

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

In accordance with the rules for Special Survey we have examined the material and workmanship from the commencement until the final trial under steam, and found it good in every respect. The dimensions are as specified and in accordance with the rules and the approved plans.

On the trial the engines and boilers worked satisfactorily.

Recommend the vessel's machinery to have notation of **LMC 5.11**

It is submitted that this vessel is eligible for THE RECORD + LMC 5.11.

The amount of Entry Fee	£ 36 : 36	When applied for,	
Special	£ 376 : 33	27/5-1911	
Donkey Boiler Fee	£ :	When received,	
Each Light Installation	£ 90 : 90	29/5-1911	
Travelling Expenses (if any)	£ :		

Committee's Minute

Assigned

TUE. 30 MAY 1911

Thme 5.11

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

FRI. 2 JUN 1911

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