

REPORT ON MACHINERY.

No. 12574.

Received at London Office

THUR. 18 MAR 1909

Date of writing Report 11th Feb 1909. When handed in at Local Office 17th Feb 1909. Port of Leith
 No. in Survey held at Lith Date, First Survey 12th Aug. 1908 Last Survey 15th March 1909.
 Reg. Book. Supp on the 1st order (Number of Visits 28)
 Master Lith Built at Lith By whom built Ramsey & Ferguson Tons { Gross 964.5
 Engines made at Lith By whom made Ramsey & Ferguson when made 1909 Net 549.5
 Boilers made at Lith By whom made Ramsey & Ferguson when made 1909
 Registered Horse Power 132 Owners James Currie & Co Port belonging to Lith
 Nom. Horse Power as per Section 28 132 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple 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 9.6 Material of 2mm
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no Is the after end of the liner made water tight
 the propeller boss no If the liner is in more than one length are the joints burned no 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 no Length of stern bush 39
 Dia. of Tunnel shaft as per rule 8.17 Dia. of Crank shaft journals as per rule 8.57 Dia. of Crank pin 8 1/2 Size of Crank webs 13 1/2 x 6 Dia. of thrust shaft under
 collars 8 1/2 Dia. of screw 11-3 Pitch of Screw 11-3 No. of Blades 4 State whether moveable no Total surface 38 1/2
 No. of Feed pumps 2 Diameter of ditto 2 3/4 Stroke 15 Can one be overhauled while the other is at work no
 No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 15 Can one be overhauled while the other is at work no
 No. of Donkey Engines 2 Sizes of Pumps 6x4x6 1/2 7x8x12 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 2" on 2 1/2" In Holds, &c. In No. 1 & 2 holds, Two 2" in each.
 No. of Bilge Injections 1 sizes 4" Connected no to circulating pump no Is a separate Donkey Suction fitted in Engine room & size no 2 1/2"
 Are all the bilge suction pipes fitted with roses no Are the roses in Engine room always accessible no Are the sluices on Engine room bulkheads always accessible no
 Are all connections with the sea direct on the skin of the ship no Are they Valves or Cocks both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates no 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 no Are the Blow Off Cocks fitted with a spigot and brass covering plate no
 What pipes are carried through the bunkers no How are they protected no
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times no
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges no
 Dates of examination of completion of fitting of Sea Connections 19/12/08 of Stern Tube 19/12/08 Screw shaft and Propeller 19/12/08
 Is the Screw Shaft Tunnel watertight no Is it fitted with a watertight door no worked from upper platform

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Colwith & Co
 Total Heating Surface of Boilers 23036 Is Forced Draft fitted no No. and Description of Boilers Two simple end
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 14/1/09 No. of Certificate 652
 Can each boiler be worked separately no Area of fire grate in each boiler 409 No. and Description of Safety Valves to
 each boiler Two spring valves Area of each valve 3.97 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear no
 Smallest distance between boilers or uptakes and bunkers or woodwork 10" Mean dia. of boilers 11-3 Length 10-3 Material of shell plates S
 Thickness 1" Range of tensile strength 27-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap 2H
 long. seams A. H. fit riv. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 8 1/2 Lap of plates or width of butt straps 17 1/2"
 Per centages of strength of longitudinal joint 87 Working pressure of shell by rules 189 Size of manhole in shell 12x16
 Size of compensating ring 9 1/2" dia No. and Description of Furnaces in each boiler 2 Morrison's Material S Outside diameter 44 1/4
 Length of plain part top 3 1/2 Thickness of plates bottom 3 1/2 Description of longitudinal joint welded No. of strengthening rings no
 Working pressure of furnace by the rules 186 Combustion chamber plates: Material S Thickness: Sides 1 1/2 Back 5/8 Top 1 1/2 Bottom 1 1/2
 Pitch of stays to ditto: Sides 7x9 Back 8 1/2 x 8 1/2 Top 8x8 If stays are fitted with nuts or riveted heads no Working pressure by rules 187
 Material of stays S Diameter at smallest part 1.45 Area supported by each stay 63 Working pressure by rules 184 End plates in steam space:
 Material S Thickness 1" Pitch of stays 15 1/2 x 16 How are stays secured A. H. fit Working pressure by rules 180 Material of stays S
 Diameter at smallest part 5.05 Area supported by each stay 248 Working pressure by rules 183 Material of Front plates at bottom S
 Thickness 1 1/2 Material of Lower back plate S Thickness 3/2 Greatest pitch of stays 14" Working pressure of plate by rules 186
 Diameter of tubes 3 1/4 Pitch of tubes 4 3/4 Material of tube plates S Thickness: Front 1 1/2 Back 1 1/2 Mean pitch of stays 8 1/2 x 18 1/2
 Pitch across wide water spaces 14" A. H. Working pressures by rules 231 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 7 1/4 x 1 1/2 Length as per rule 27" Distance apart 8" Number and pitch of stays in each 2, 8"
 Working pressure by rules 188 Superheater or Steam chest; how connected to boiler no Can the superheater be shut off and the boiler worked
 separately no Diameter no Length no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet
 holes no Pitch of rivets no Working pressure of shell by rules no Diameter of flue no Material of flue plates no Thickness no
 If stiffened with rings no Distance between rings no Working pressure by rules no End plates: Thickness no How stayed no
 Working pressure of end plates no Area of safety valves to superheater no Are they fitted with easing gear no

W180-0208

VERTICAL DONKEY BOILER—

Manufacturers of Steel *No donkey boiler*

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
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment
If fitted with casing 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
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 connecting rods bolts & nuts, two main bearing bolts, one set emptying bolts, one set fuel & bilge pump valves, assorted bolts & nuts, 2 ton of various sizes, one Propeller.*

The foregoing is a correct description,

Manufacturer.

John I. Ramsay
ENGINEERING MANAGER

Dates of Survey while building
During progress of work in shops— 1908 Aug 12-19 Sept 2-7 18-28 Oct 2-5 12-29 Nov 3-10 13-27 30 Dec 1-1909 Jan 7-12 14-19
During erection on board vessel— 1909 Feb 18-25 March 4-15
Total No. of visits 24

Is the approved plan of main boiler forwarded herewith *no retained for sister vessel.*

Dates of Examination of principal parts—Cylinders *2/11/08* Slides *6/11/08* Covers *12/10* Pistons *3/11/08* Rods *19/8/08*
Connecting rods *19/8/08* Crank shaft *19/8, 18/9, 2/10* Thrust shaft *12/10, 13/11* Tunnel shafts *6/11, 13/11* Screw shaft *2/10, 13/11, 30/11/08* Propeller *19/12/08*
Stern tube *13/11, 4/12/08* Steam pipes tested *25/2/09* Engine and boiler seatings *18/2/09* Engines holding down bolts *18/2/09*
Completion of pumping arrangements *4/3/09* Boilers fixed *18/2/09* Engines tried under steam *4/3/09*
Main boiler safety valves adjusted *4/3/09* Thickness of adjusting washers *3 1/2" 5 3/2" 5 3/2" 5 3/2" 5 3/2"*
Material of Crank shaft *Steel* Identification Mark on Do. *154 GAH* Material of Thrust shaft *Steel* Identification Mark on Do. *154 GAH*
Material of Tunnel shafts *Steel* Identification Marks on Do. *154 GAH* Material of Screw shafts *2 ton* Identification Marks on Do. *154 GAH*
Material of Steam Pipes *Copper* Test pressure *360 lbs.*

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

The machinery of this vessel has been built under special survey, the materials and workmanship are sound and good and under the vessel slipth in my opinion to have the work of L.M.C. 3.09.

It is submitted that this vessel is eligible for THE RECORD + LMC 3.09.

Elec. light. *DRR JWD*
19.3.09 *19/3/09*

The amount of Entry Fee .. £ 2 : :
Special .. £ 19 16 : :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, *17/3/1909*
When received, *19/3/09*

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

Committee's Minute FRI. 19 MAR 1909

Assigned

MACHINERY CERTIFICATE
WRITTEN.



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Foundation