

# REPORT ON MACHINERY.

No. 26932

Received at London Office 13 MAR. 1917

Date of writing Report 15<sup>th</sup> Feb 1917 When handed in at Local Office 3<sup>rd</sup> Mar. 1917 Port of Sunderland  
 No. in Survey held at Sunderland Date, First Survey 2<sup>nd</sup> May, 1917 Last Survey 2<sup>nd</sup> Mar 1917  
 Reg. Book. 12 Upon the Machinery of the S.S. Westminster (Number of Visits)  
 Master Gagon Built at Sunderland By whom built Osbourne Graham & Co. Tons { Gross 2176  
 Engines made at Sunderland By whom made Richardsons, Westgouth & Co. When built 1917  
 Boilers made at " By whom made " when made 1917  
 Registered Horse Power " Owners John Hudson & Co. Port belonging to London  
 Nom. Horse Power as per Section 28 215 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 21", 34", 56" Length of Stroke 39" Revs. per minute 70" Dia. of Screw shaft as per rule 11.92" Material of 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 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 4'-1 1/2"  
 Dia. of Tunnel shaft as per rule 10.49" Dia. of Crank shaft journals as per rule 11.02" Dia. of Crank pin 1 1/4" Size of Crank webs 17 X 7 Dia. of thrust shaft under  
 collars 1 1/8" Dia. of screw 1 1/4" Pitch of Screw 15'-6" No. of Blades 4 State whether moveable no Total surface 70.8  
 No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 2 Sizes of Pumps 5 1/2 X 3 1/2 X 5 2 8 X 10 X 10 No. and size of Suctions connected to both Bilge and Donkey pumps  
 in Engine Room 2 of 3" In Holds, &c. 2 of 3" in each & 1 of 3" in  
tunnel well.  
 No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 23/12/16 of Stern Tube 3/1/17 Screw shaft and Propeller 3/1/17  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

**OILERS, &c.—(Letter for record** 8) Manufacturers of Steel J. Spence & Sons  
 Total Heating Surface of Boilers 3364 Is Forced Draft fitted No No. and Description of Boilers 2 Single ended  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 29/8/16 No. of Certificate 3355  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 38.5 No. and Description of Safety Valves to  
 each boiler 2 direct spring Area of each valve 5.94 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 13'-6" Length 10'-6" Material of shell plates Steel  
 Thickness 1 3/32" Range of tensile strength 28 1/2 - 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d.t.t.  
 long. seams E. T. d. t. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7/8" Lap of plates or width of butt straps 15"  
 Per centages of strength of longitudinal joint rivets 85.82 Working pressure of shell by rules 183.6 lbs Size of manhole in shell 16" X 12"  
 plate 85.71  
 Size of compensating ring flange No. and Description of Furnaces in each boiler 2 Doughtons Material Steel Outside diameter 47 1/2"  
 Length of plain part top 9 1/16" Thickness of plates crown 9/16" Description of longitudinal joint welded No. of strengthening rings Yes  
 bottom 9 1/16"  
 Working pressure of furnace by the rules 185 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 13/16"  
 Pitch of stays to ditto: Sides 10" X 8 3/4" Back 10" X 8 3/4" Top 10" X 8 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 183 lbs  
 Material of stays Steel Diameter at smallest part 1.78 Area supported by each stay 88.75 Working pressure by rules 181 lbs End plates in steam space:  
 Material Steel Thickness 1 3/16" Pitch of stays 19" X 18 3/8" How are stays secured d.n. Working pressure by rules 181 lbs Material of stays Steel  
 Diameter at smallest part 6.08 Area supported by each stay 349 Working pressure by rules 182 lbs Material of Front plates at bottom Steel  
 Thickness 13/16" Material of Lower back plate Steel Thickness 2 1/32" Greatest pitch of stays 14" X 8" Working pressure of plate by rules 188 lbs  
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" X 6 3/8" Material of tube plates Steel Thickness: Front 13/16" Back 13/16" Mean pitch of stays 11 1/8"  
 Pitch across wide water spaces 14 1/2" Working pressures by rules 240 lbs Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 9" X 1 1/2" Length as per rule 31" Distance apart 10" Number and pitch of stays in each 2 of 8 3/4"  
 Working pressure by rules 187 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked  
 separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet  
 holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes  
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes  
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two top end & 2 bottom end bolts, 2 main bearing bolts  
1 set of coupling bolts, 1 set of feed & bilge pump valves  
a quantity of assorted bolts nuts & iron, propeller and  
minor details.

The foregoing is a correct description,  
FOR RICHARDSONS, WESTGARTH & CO., LTD

*Judith St. Russell*

ASSISTANT MANAGER

Manufacturer.

Dates of Survey while building	During progress of work in shops - - -	1916 May 2. Jan 20 Jul 7. 11. 24. 27. Aug 1. 9. 21. 24. 25. 29. Sep 8. 18. 21.	
		During erection on board vessel - - -	Dec 13. 23. 28. Jan 3. 5. 9. 10. 11. 12. 15. 18. 21. Mar 2.
		Total No. of visits	28.

Is the approved plan of main boiler forwarded herewith  Yes

Dates of Examination of principal parts—Cylinders 24/8/16 Slides 24/8/16 Covers 24/8/16 Pistons 24/7/16 Rods 1/8/16  
 Connecting rods 1/8/16 Crank shaft 21/8/16 Thrust shaft 12/1/17 Tunnel shafts 8/8/16 Screw shaft 1/8/16 Propeller 13/12/16  
 Stern tube 28/12/16 Steam pipes tested 2/10/16-10/1/17 Engine and boiler seatings 28/12/16 Engines holding down bolts 8/1/17  
 Completion of pumping arrangements 21/2/16 Boilers fixed 8/1/17 Engines tried under steam 18/1/17  
 Main boiler safety valves adjusted 18/1/17 Thickness of adjusting washers P. 3/4" P. 1/32" P. 3/4" P. 5/16"  
 Material of Crank shaft *Steel* Identification Mark on Do. <sup>5781</sup>14/1/16 AB Material of Thrust shaft *Steel* Identification Mark on Do. 12/1/17 66  
 Material of Tunnel shafts *Iron* Identification Marks on Do. 12/1/17 66 Material of Screw shafts *Iron* Identification Marks on Do. 28/12/16 66  
 Material of Steam Pipes *Steel* ✓ Test pressure 540 lbs. ✓

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  No ✓ If so, state name of vessel ✓

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

The machinery of this vessel has been built under special survey, the materials used are good, and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under steam. In my opinion this vessel is eligible for the record of L.M.C. 3,17.

It is submitted that  
this vessel is eligible for  
THE RECORD + LMC 3.17.

*J.W.*  
14/3/17

*W.R.*

The amount of Entry Fee ...	£ 2 : 0 : 0	When applied for, 12 MAR 1917
Special ...	£ 30 : 15 : 0	
Donkey Boiler Fee ...	£ : : 0	When received, 13/4/17 14/4
Travelling Expenses (if any) £	: : 0	

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

Committee's Minute FRI. 16 MAR. 1917

Assigned + L.M.C. 3.17

MACHINERY CERTIFICATE  
WRITTEN.



© 2020

Lloyd's Register  
Foundation

SUNDERLAND.

Certificate (if required) to be sent to:  
The Surveyors are requested not to write on or below the space for Committee's Minute.