

# REPORT ON MACHINERY

No. 24189

Received at London Office

WED. 18 AUG 1909

Date of writing Report 17. 8. 1909 When handed in at Local Office 14. 8. 1909 Port of Sunderland  
 No. in Survey held at Sunderland Date, First Survey 24th Oct. 1908 Last Survey 12th Aug. 1909  
 Reg. Book. on the 4/s. Monitoria (Number of Visits 75)  
 Master G. Robson Built at Sunderland By whom built Wm. & Robert Graham When built 1909  
 Engines made at Sunderland By whom made North Eastern Marine Eng<sup>g</sup> Co L<sup>d</sup> when made 1909  
 Boilers made at Sunderland By whom made ditto when made 1909  
 Registered Horse Power Owners The Ericsson Shipping Co L<sup>d</sup> Port belonging to Newcastle  
 Nom. Horse Power as per Section 28 197 Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted no.

Tons { Gross 1904.24  
 Net 1165.58

**ENGINES, &c.**—Description of Engines Inverted triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 21, 33, 56" Length of Stroke 36" Revs. per minute 66 Dia. of Screw shaft as per rule 11.8" Material of screw shaft Bron  
 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 10.16" Dia. of Crank shaft journals as per rule 10.67" Dia. of Crank pin 10 7/8" Size of Crank webs 16 1/2 x 6 1/2" Dia. of thrust shaft under  
 collars 10 7/8" Dia. of screw 16.0" Pitch of Screw 15.6" No. of Blades 4 State whether moveable no Total surface 714  
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 18" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 2 Sizes of Pumps Ballwin 7 x 9 Feild 5 1/2 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 3 of 3 In Holds, &c. 2 of 3 Man hold 2 of 2 aft hold  
3 hold + tunnel well.  
 No. of Bilge Injections 1 sizes 5 Connected to condenser, or to circulating pump no 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 yes  
 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 no  
 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 18.6.09 of Stern Tube 18.6.09 Screw shaft and Propeller 9.8.09  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel J. Spencer & Sons  
 Total Heating Surface of Boilers 2940 Is Forced Draft fitted no No. and Description of Boilers 2 S.E. Cyl<sup>d</sup> Multi<sup>ple</sup>  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 7.5.09 No. of Certificate 2763  
 Can each boiler be worked separately yes Area of fire grate in each boiler 35 No. and Description of Safety Valves to  
 each boiler 2 spring Area of each valve 3.9 ft<sup>2</sup> 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 12.9 1/8" Length 10.0" Material of shell plates steel  
 Thickness 1 1/2" Range of tensile strength 28 3/4/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams dr. lap.  
 long. seams cr. d. & s. Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 2 3/4" Lap of plates or width of butt straps 18 3/8"  
 Per centages of strength of longitudinal joint rivets 90.6 Working pressure of shell by rules 183.7 lbs Size of manhole in shell 16 x 12"  
 plate 86.4  
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 2 Seighten Material steel Outside diameter 45 3/8"  
 Length of plain part top 17/32 Thickness of plates crown 17/32 Description of longitudinal joint weld No. of strengthening rings yes  
 bottom 17/32  
 Working pressure of furnace by the rules 180.3 lbs Combustion chamber plates: Material steel Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 13/16"  
 Pitch of stays to ditto: Sides 11 3/4 x 8 1/2" Back 10 3/4 x 9 1/2" Top 11 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 192.7 lbs  
 Material of stays steel Diameter at smallest part 2 1/4" Area supported by each stay 101.15 Working pressure by rules 186.8 lbs End plates in steam space:  
 Material steel Thickness 1 1/4" Pitch of stays 23 x 17" How are stays secured dr. nut & wash Working pressure by rules 180.9 lbs Material of stays steel  
 Diameter at smallest part 7.24 Area supported by each stay 391 Working pressure by rules 192.5 lbs Material of Front plates at bottom steel  
 Thickness 13/16" Material of Lower back plate steel Thickness 15/16" Greatest pitch of stays 14 1/4 x 9 3/4" Working pressure of plate by rules 203.7 lbs  
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/4 x 4 1/2" Material of tube plates steel Thickness: Front 13/16" Back 13/16" Mean pitch of stays 11 1/4 x 9 1/2"  
 Pitch across wide water spaces 14 1/2" Working pressures by rules 184.9 lbs Girders to Chamber tops: Material steel Depth and  
 thickness of girder at centre 8 3/4 x 1 3/4" Length as per rule 2.6" Distance apart 11" Number and pitch of stays in each 2-8 1/2"  
 Working pressure by rules 184.4 lbs 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

Lloyd's Register  
 Foundation  
 W850-0115

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 \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_

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:— 1 set connecting rod bolts + nuts, two main bearing bolts + nuts, 1 set coupling bolts + nuts, 1 set feed + blow-off pump valves, propeller + shaft, nuts bolts + assorted iron

NORTH EASTERN MARINE ENGINEERING CO. LTD.  
 Walter Peattie  
 J.M.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1908: Oct. 24, 30. Nov. 4, 6, 10, 13, 17, 20, 25. Dec. 2, 7, 9, 21, 31.	1909: Jan. 6, 12, 15. Feb. 5, 6, 8, 10, 12, 15, 18, 19, 22, 23, 26. Mar. 1, 2, 4, 5, 8, 11, 12, 15. Apr. 22, 25, 30. May 3, 5, 7, 11, 13, 17, 19, 21, 24, 26, 28. June 3, 10, 16, 18, 19. July 6, 9, 14, 15. Aug. 5, 9, 12.
		During erection on board vessel - -	
		Total No. of visits	

Is the approved plan of main boiler forwarded herewith  Yes  No

" " " donkey " " "  Yes  No

Dates of Examination of principal parts—Cylinders 13.5.09 Slides 11.5.09 Covers 28.4.09 Pistons 11.5.09 Rods 13.5.09

Connecting rods 13.5.09 Crank shaft 11.5.09 Thrust shaft 13.5.09 Tunnel shafts 19.5.09 Screw shaft 6.7.19 Propeller 13.5.09

Stern tube 18.6.09. Steam pipes tested 9.8.09. Engine and boiler seatings 6.8.09. Engines holding down bolts 6.8.09.

Completion of pumping arrangements 5.8.09. Boilers fixed 6.8.09. Engines tried under steam 14.8.09

Main boiler safety valves adjusted 14.8.09. Thickness of adjusting washers P.B. 1/16 a 1/16 S.B. 1/8 a 1/8

Material of Crank shaft *Iron* Identification Mark on Do. *63211* Material of Thrust shaft *Steel* Identification Mark on Do. *4423KH*

Material of Tunnel shafts *Iron* Identification Marks on Do. *5P416* Material of Screw shafts *Iron* Identification Marks on Do. *6594N*

Material of Steam Pipes *Copper* Test pressure *360 lbs*

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery and boilers built under Special Survey. Materials and workmanship good. Engines + boilers examined under steam + found satisfactory. The donkey boiler now fitted in this vessel was originally fitted in the S/S Ladywood Messrs Osborne Graham 18<sup>th</sup> N<sup>o</sup> 137. after a service of about 3 1/2 months it was removed + stored at the works of Messrs G. Clark + Co. It has now been examined, tested under steam + its safety valves adjusted to 83 lb + found satisfactory.

In our opinion this vessel is eligible for the record of L.M.C. 8.09. D.B. made 1907. fitted 1909, + subject to the D.B. being surveyed in 1911.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.09  
 NDB 04. fitted 09. - 80 lbs. HED. 18/8/09  
 J.P.R.

R.W. Coomber + J.Y. Chadlay  
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	£ 2	When applied for,	14.8.09
Special	£ 29	When received,	27.8.09
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

Committee's Minute

Assigned

FRL 20 AUG 1909

+ L.M.C. 8.09  
 D.B. 07 refitted 09.

MACHINERY CERTIFICATE WRITTEN.



© 2020 Lloyd's Register Foundation

Sunderland

Certificate (if required) to be sent to the Surveyors or Registrar, not to be sent to the space for Committee's Minute.