

# REPORT ON MACHINERY.

No. 55700

Port of Newcastle

Received at London Office **12 NOV 1908**

No. in Survey held at Newcastle Date, first Survey Nov 18 Last Survey 4 Nov 1908  
 Reg. Book. on the 1/5 "Engineer" (Number of Visits 20)  
 Master W. Lewdlyn Built at Newcastle. By whom built Swan Hunter & Co. Ltd Tons 588  
 Engines made at Newcastle. By whom made N & M Eng Co Ltd when made 1908  
 Boilers made at " By whom made " when made 1908  
 Registered Horse Power Owners J. of Harrison Port belonging to Liverpool  
 Nom. Horse Power as per Section 28 491 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines In Cp'd. No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 25.41.68 Length of Stroke 54 Revs. per minute 67 Dia. of Screw shaft as per rule 14.8 Material of screw shaft IS  
 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 5' 8 1/2"  
 Dia. of Tunnel shaft as per rule 13.48 Dia. of Crank shaft journals as per rule 14.15 Dia. of Crank pin 15" Size of Crank webs 98x24 Dia. of thrust shaft under collars 14 1/2 Dia. of screw 17.6 Pitch of Screw 18' 6" No. of Blades 4 State whether moveable N. Total surface 93 sq.  
 No. of Feed pumps 2 Diameter of ditto 4 Stroke 26 Can one be overhauled while the other is at work Yes.  
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 26 Can one be overhauled while the other is at work Yes.  
 No. of Donkey Engines 5 Sizes of Pumps 9x10x10; 5x5x6; 8x10x18 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room two: 4 1/2; four: 3 1/2; one: 3' In Holds, &c. two of 3 1/2 in each hold; A Hold  
 No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size 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 ✓  
 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 —  
 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 21.9.08 of Stern Tube 26.9.08 Screw shaft and Propeller 25.9.08  
 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. Ltd.  
 Total Heating Surface of Boilers 7814 sq. Is Forced Draft fitted No. No. and Description of Boilers (two main) & one Auxiliary  
 Working Pressure 190 Tested by hydraulic pressure to 380 Date of test 15.5.08 No. of Certificate 7714  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 50 sq. No. and Description of Safety Valves to each boiler 4.9" Spring Area of each valve 4.9" Pressure to which they are adjusted 195 Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 22" Mean dia. of boilers 15.5 1/2 Length 17.5 Material of shell plates S.  
 Thickness 1 1/8 Range of tensile strength 28 1/2. 33 Are the shell plates webbed or flanged Ends Descrip. of riveting: cir. seams 2.77 riv long. seams d. butts Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 10 Lap of plates or width of butt straps 21 3/4  
 Per centages of strength of longitudinal joint rivets 91.4 Working pressure of shell by rules 220 Size of manhole in shell 16x12 plate 85  
 Size of compensating ring In Cul. No. and Description of Furnaces in each boiler 36 Monitors Material S Outside diameter 3.8 1/2  
 Length of plain part top ✓ Thickness of plates crown 19 1/2 Description of longitudinal joint weld No. of strengthening rings ✓ bottom 32  
 Working pressure of furnace by the rules 212 Combustion chamber plates: Material S. Thickness: Sides 3/4 Back ✓ Top 3/4 Bottom 1"  
 Pitch of stays to ditto: Sides 10 1/2 x 9 Back ✓ Top 10 1/2 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 203  
 Material of stays S Diameter at smallest part 2.03 Area supported by each stay 94 1/2 Working pressure by rules 193 End plates in steam space: Material S Thickness 1 1/8 Pitch of stays 23.14 1/2 How are stays secured d nut Working pressure by rules 197 Material of stays S  
 Diameter at smallest part 8.48 Area supported by each stay 399 1/2 Working pressure by rules 220 Material of Front plates at bottom S  
 Thickness 1" Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓  
 Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates S Thickness: Front 1" Back 25/32 Mean pitch of stays 9 1/4  
 Pitch across wide water spaces 14 1/2 Working pressures by rules 194 Girders to Chamber tops: Material S Depth and thickness of girder at centre 10 1/2 x 2 1/4 Length as per rule 39 Distance apart 103 Number and pitch of stays in each 3 @ 9"  
 Working pressure by rules 190 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

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship? Im. 46.-T.



**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:— 1 Set Connecting rod bolts and nuts, 1 Set Coupling bolts & nuts, 1 Set main bearing bolts & nuts, feed & bilge pump valves, propeller shaft, propeller, nuts bolts, &c.

The foregoing is a correct description,  
**NORTH EASTERN MARINE ENGINEERING CO., LTD.**

*J. J. J. J.* Manufacturer.  
 Secretary. *J. J. J. J.*  
 Dates of Survey while building: During progress of work in shops - - - - -  
 During erection on board vessel - - - - -  
 Total No. of visits *36*

Dates of Examination of principal parts—Cylinders *17.2.08*. Slides *17.2.08*. Covers *24.2.08*. Pistons *24.2.08*. Rods *21.9.08*  
 Connecting rods *21.9.08*. Crank shaft *21.9.08*. Thrust shaft *21.9.08*. Tunnel shafts *25.9.08*. Screw shaft *25.9.08*. Propeller *25.9.08*  
 Stern tube *25.9.08*. Steam pipes tested *24.3.08*. Engine and boiler seatings *2.10.08*. Engines holding down bolts *19.10.08*  
 Completion of pumping arrangements *19.10.08*. Boilers fixed *19.10.08*. Engines tried under steam *19.10.08*  
 Main boiler safety valves adjusted *19.10.08*. Thickness of adjusting washers *PB. p. 2. 32. SB. p. 32. S. 32. Ann. 1/16 S. 2*  
 Material of Crank shaft *J.* Identification Mark on Do. *B.J.T.F.* Material of Thrust shaft *J.* Identification Mark on Do. *B.J.T.F.*  
 Material of Tunnel shafts *J.* Identification Marks on Do. *B.J.T.F.* Material of Screw shafts *M.S.* Identification Marks on Do. *B.J.T.F.*  
 Material of Steam Pipes *M.S.* Test pressure *24 1/2 March 1908 570 lb*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery and boilers of this vessel have been constructed under Special Survey. Materials and workmanship good. Engines and boilers examined under full steam & found satisfactory. It is submitted that this vessel is eligible for the record of L.M.C 11.08*

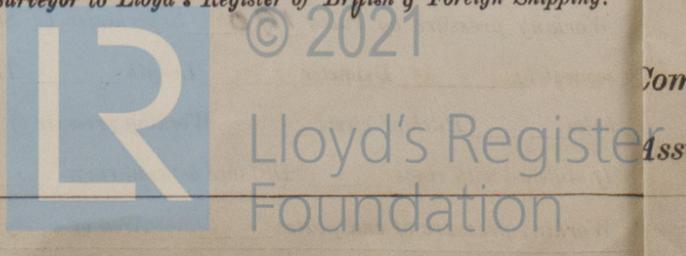
It is submitted that this vessel is eligible for THE RECORD. + L.M.C 11.08 Electric Light.

*J. J. J. J.* H.E.D.  
 13.11.08 13/11/08

The amount of Entry Fee.	£ 3 : .. :	When applied for, 11 NOV 1908
Special	£ 44 : 11 :	
Donkey Boiler Fee	£ : : :	When received, 22.11.08
Travelling Expenses (if any)	£ : : :	

Committee's Minute TUES. 17 NOV 1908  
 Assigned + L.M.C 11.08 Electric Light.

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



MACHINERY CERTIFICATE WRITTEN

Newcastle-on-Tyne

Certificate (if required) to be written on or below the space for Committee's Minute.