

# REPORT ON MACHINERY.

Port of Newcastle on Tyne Received at London Office **FRL 16 APL 1909**

No. in Survey held at North Shields Date, first Survey Jan. 6 Last Survey Apr. 5 1909  
Reg. Book. on the Steel Screw "Chira" (Number of Vests 15)

Master Built at North Shields By whom built Smiths Dock Co. Ltd (403) Tons <sup>Gross</sup> 108 <sub>Net</sub> 46 When built 1909  
Engines made at North Shields By whom made Shields Engineering & Dry Dock Co. Ltd when made 1909  
Boilers made at South Shields By whom made J. T. Eltringham & Co when made 1909  
Registered Horse Power \_\_\_\_\_ Owners W. Keswick Port belonging to London  
Nom. Horse Power as per Section 28 38 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

**ENGINES, &c.**—Description of Engines Compound No. of Cylinders two No. of Cranks two  
Dia. of Cylinders 12" 27" Length of Stroke 16" Revs. per minute 180 Dia. of Screw shaft 5.48 Material of screw shaft 10 J  
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 2'-1"  
Dia. of Tunnel shaft 5/8 as per rule 5/8 Thrust shaft 5/8 as per rule 5/8 Dia. of Crank shaft journals 5.355 as per rule 5.355 Dia. of Crank pin 5 1/2 Size of Crank webs 3 1/2 Dia. of thrust shaft under collars 5 1/2 Dia. of screw 6'-3" Pitch of Screw 6-0 mean No. of Blades 4 State whether moveable no Total surface 16.5 sq ft  
No. of Feed pumps 1 Diameter of ditto 2" Stroke 8 1/2" Can one be overhauled while the other is at work yes  
No. of Bilge pumps 1 Diameter of ditto 2" Stroke 8 1/2" Can one be overhauled while the other is at work yes  
No. of Donkey Engines 1 Sizes of Pumps 6x4x6 Duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2 of 2" In Holds, &c. 1 of 2"  
Shafting See as per instructions contained in Secretary's letter of 26 October 1907.  
No. of Bilge Injections 1 sizes 2 3/4 Connected to condenser, or to circulating pump CP Is a separate Donkey Suction fitted in Engine room & size yes 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 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 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 24. 3. 09 of Stern Tube 24. 3. 09 Screw shaft and Propeller 24. 3. 09  
Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from yes

**BOILERS, &c.**—(Letter for record \_\_\_\_\_) Manufacturers of Steel \_\_\_\_\_  
Total Heating Surface of Boilers 745 sq ft Is Forced Draft fitted no No. and Description of Boilers 1 S.E. Cyl. Multitubular  
Working Pressure 140 lb Tested by hydraulic pressure to 280 lb Date of test 25-2-09 No. of Certificate 7832  
Can each boiler be worked separately yes Area of fire grate in each boiler oil fuel No. and Description of Safety Valves to each boiler two direct spring Area of each valve 3.976 sq in Pressure to which they are adjusted 145 lb Are they fitted with easing gear yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 14" Mean dia. of boilers particulars appended Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_  
Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_ long. seams \_\_\_\_\_ Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_  
Per centages of strength of longitudinal joint \_\_\_\_\_ rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_ plate \_\_\_\_\_  
Size of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_  
Length of plain part \_\_\_\_\_ top \_\_\_\_\_ Thickness of plates \_\_\_\_\_ crown \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_ bottom \_\_\_\_\_  
Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_  
Pitch of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_  
Material of stays \_\_\_\_\_ Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space: \_\_\_\_\_  
Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_  
Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_  
Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_  
Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_  
Pitch across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and thickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_  
Working pressure by rules \_\_\_\_\_ 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 \_\_\_\_\_

**VERTICAL DONKEY BOILER—** Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Values \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description \_\_\_\_\_  
 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:— *two top end bolts and nuts, two bottom end bolts & nuts two main bearing bolts & nuts, spare coupling bolts & nuts, spare feed & Bilge pump Valves, assorted view bolts, spare bottom end, spare top end, & spare main bearing.*

The foregoing is a correct description,

Manufacturer. *J.R. Richardson*

Dates of Survey while building  
 During progress of work in shops - - - - - 1909  
 During erection on board vessel - - - - - Jan 6. Feb 11. 15. Mar 24. 28. 11. 15. 17. 18. 19. 20. Apr 1. 5  
 Total No. of visits \_\_\_\_\_ 15

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *15.2.09* Slides *11.2.09* Covers *11.2.09* Pistons *15.2.09* Rods *15.2.09*  
 Connecting rods *15.2.09* Crank shaft *11.2.09* Thrust shaft *17.3.09* Tunnel shafts ✓ Screw shaft *8.3.09* Propeller *8.3.09*  
 Stern tube *8.3.09* Steam pipes tested *18.3.09* Engine and boiler seatings *8.3.09* Engines holding down bolts *17.3.09*  
 Completion of pumping arrangements *19.3.09* Boilers fixed *19.3.09* Engines tried under steam *19.3.09 + 1.4.09*  
 Main boiler safety valves adjusted *19.3.09* Thickness of adjusting washers *PVR 5/16. SVR 1/4*  
 Material of Crank shaft *1.2* Identification Mark on Do. *2202 ATC* Material of Thrust shaft *6.2* Identification Mark on Do. *2202*  
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *6.2* Identification Marks on Do. *2202*  
 Material of Steam Pipes *Seamless Copper* Test pressure *280 lbs. at Belton Graham's works N. Sh.*

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

*The machinery built under special survey the material & workmanship found good and efficient—  
 The machinery fitted up on board. tested under steam and found satisfactory—  
 In our opinion this vessel is eligible for the notification of L.M.C. 4.09 to be made in the Register Book. (Meyer liquid fuel system fitted.) Fitted for liquid fuel, and electric light,*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 4.09. Elec. light. Fitted for liquid fuel.

*J.W.D. J.R.S.K. 16/4/09. 16.4.09*

The amount of Entry Fee..	£ 1 : 0 :	When applied for,
Special .. .. .	£ 8 : 0 :	15 APR 1909
Donkey Boiler Fee .. .. .	£ : : :	When received,
Travelling Expenses (if any) £	: : :	20/4/09

*Leonard S. Halliwell*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute

TUES. 20 APR 1909

Assigned

*+ home 4.09*

MACHINERY CERTIFICATE WRITTEN.

*Fitted for liquid fuel 4.09*



© 2021 Lloyd's Register Foundation

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