

REPORT ON MACHINERY.

No. 46349

Port of Newcastle-on-Tyne

Received at London Office 11th Dec 1904

No. in Survey held at South Shields

Date, first Survey May 14

Last Survey 11th Dec 1903

Reg. Book. 235

(Number of Visits 25)

Master Sanderson Built at South Shields By whom built Messrs J. Readhead & Sons

Tons { Gross 3569
Net 2300

Engines made at South Shields By whom made Messrs J. Readhead & Sons when made 1903

Boilers made at do By whom made do when made 1903

Registered Horse Power 305 Owners Steele Young & Noble Port belonging to London

Nom. Horse Power as per Section 28 247 7/8 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines

Tri-compound

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 24"-40"-65" Length of Stroke 45" Revs. per minute 60 Dia. of Screw shaft 13.44 Material of screw shaft Scraper

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 1 length 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 fits tightly If two liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 4.6"

Dia. of Tunnel shaft 12.116 Dia. of Crank shaft journals 12.72 Dia. of Crank pin 12 3/4 Size of Crank webs 17x8 1/2 Dia. of thrust shaft under collars 12 3/4 Dia. of screw 16-5 Pitch of screw 15 to 17.6 No. of blades 4 State whether moveable no Total surface 71.5 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4 3/8 Stroke 24 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 13 1/2 x 9 x 13 1/2 x 6 x 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps no

In Engine Room 3 of 3 1/2" diam. In Holds, &c. Fore hold Two of 3 1/2" diam

No. of bilge injections 1 sizes 5 1/2 Connected to condenser, or to circulating pump Pump Is a separate donkey suction fitted in Engine room & size yes

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 no sluices

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 yes &

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock New Year Is the screw shaft tunnel watertight yes

Is it fitted with a watertight door yes worked from Engine Room Top platform

BOILERS, &c.—

(Letter for record 2) Total Heating Surface of Boilers 4723.32 Is forced draft fitted no

No. and Description of Boilers Two single ended Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs

Date of test 8.10.03 Can each boiler be worked separately yes Area of fire grate in each boiler 60 sq ft No. and Description of safety valves to each boiler Two spring loaded Area of each valve 7.07 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 22" Mean dia. of boilers 15.10 Length 10-6 Material of shell plates steel

Thickness 1 3/8 Range of tensile strength 27/32 Are they welded or flanged no Descrip. of riveting: cir. seams Double lap long. seams D.B.S. triple riv.

Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 9 1/16 Lap of plates or width of butt straps 1-10 1/2

Per centages of strength of longitudinal joint 84.39 Working pressure of shell by rules 185 Size of manhole in shell 16 x 12"

Size of compensating ring 7" x 1 3/8" No. and Description of Furnaces in each boiler 3 daylight Material steel Outside diameter 3' 10"

Length of plain part top Thickness of plates bottom 9/16 Description of longitudinal joint Welded No. of strengthening rings none

Working pressure of furnace by the rules 191.5 Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 15/16

Pitch of stays to ditto: Sides 8 x 8 Back 8 x 8 1/2 Top 8 x 8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 198

Material of stays Iron Diameter at smallest part 1 9/16 Area supported by each stay 68 sq in Working pressure by rules 204 End plates in steam space: Material steel Thickness 1 5/32 Pitch of stays 17 1/4 x 17 1/4 How are stays secured D. Nuts and washers Working pressure by rules 190 Material of stays steel

Diameter at smallest part 3" Area supported by each stay 315 sq in Working pressure by rules 207 Material of Front plates at bottom steel

Thickness 3/4 Material of Lower back plate steel Thickness 1 1/16 Greatest pitch of stays 13" Working pressure of plate by rules 180

Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 x 4 3/4 Material of tube plates steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 9 1/2

Pitch across wide water spaces 14" Working pressures by rules 182 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 1/2" x 1 1/2" Length as per rule 2.4 1/8 Distance apart 8 1/2" Number and pitch of Stays in each 2-8"

Working pressure by rules 225 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 Lloyd's Register Foundation

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear W635-0206

DONKEY BOILER— No. 1 Description Vertical "Meredith Patent"
 Made at Stockton By whom made Riley Bros When made 1903 Where fixed stockhold
 Working pressure 80 tested by hydraulic pressure to 160 No. of Certificate 3051 Fire grate area 280 Description of safety valves spring loaded
 No. of safety valves 1 Area of each 15.9 Pressure to which they are adjusted 80 lbs If fitted with casing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 7.6 Length 15'-0" Material of shell plates steel Thickness 15/32 Range of tensile strength 27-32 Descrip. of riveting long. seams S.R. Lap Dia. of rivet holes 15/16 Whether punched or drilled drilled Pitch of rivets 3/4
 Lap of plating 4 1/4 Per centage of strength of joint 77 Rivets 77 Thickness of shell crown plates 15/32 Radius of do. hemis. do. No. of Stays to do. none
 Dia. of stays. 5 Diameter of furnace Top 5'-0" Bottom 6.5 Length of furnace 2'-7" Thickness of furnace plates 17/32 Description of joint S. R. Lap Thickness of furnace crown plates 17/32 Stayed by ✓ Working pressure of shell by rules 88.7
 Working pressure of furnace by rules 83 lbs Diameter of uptake 3" Thickness of uptake plates 5/16 with 1/16 doubling plate Thickness of water tubes 5/16

SPARE GEAR. State the articles supplied:— 2 Top end 2 bottom end, 2 main bearing bolts & nuts, 1 set coupling bolts & piston bolts, 1 set feed & bilge pump valves assorted iron bolts & nuts

The foregoing is a correct description,

R. M. Macpherson Manufacturer.

Dates of Survey while building
 During progress of work in shops: 1903 May 11, July 13, Aug 6, 14, 21, 27, 31, Sep 12, 17, 24, 30, Oct 4, 9, 13, 21, 27, Nov 4, 11, 23, 30, Dec 11.
 During erection on board vessel: - - - - -
 Total No. of 25

Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " No

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

The machinery of this vessel has been built under special survey & in my opinion is eligible for record F.L.M.C 12.03

It is submitted that this vessel is eligible for THE RECORD F.L.M.C 12.03.

R.M.
12.1.04

Eng.
12.1.04

The amount of Entry Fee... £ 2 : : :
 Special ... £ 34.16 : : :
 Donkey Boiler Fee ... £ : : :
 Travelling Expenses (if any) £ : : :
 When applied for, 11 JAN 1904
 When received, 13/1/04

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

Committee's Minute File 15 JAN 1904

Assigned + June 12 03

MACHINERY CERTIFICATE WRITTEN.



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Newcastle-on-Tyne.