

# REPORT ON MACHINERY.

No. 67291  
TUE. MAR. 23. 1915

Received at London Office

Date of writing Report 22nd March 1915 When handed in at Local Office 22nd March 1915 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at South Shields Date, First Survey Aug. 27. 1914 Last Survey Mar 16. 1915

Reg. Book. 91 on the S.S. Blaydonian (Number of Visits 37) Tons { Gross 314 Net 230 118

Master Sin Built at S. Shields By whom built J. P. Remoldson & Sons When built 1915

Engines made at S. Shields By whom made J. P. Remoldson & Sons when made 1915

Boilers made at Hebburn By whom made Palmer, S. B. & Iron Co. Ltd when made 1915

Registered Horse Power \_\_\_\_\_ Owners Blaydon & London S.S. Co. Ltd Port belonging to Newcastle

Nom. Horse Power as per Section 28 70 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

## ENGINES, &c. — Description of Engines Compound Surface Condensing No. of Cylinders Two No. of Cranks 2

Dia. of Cylinders 17" & 36" Length of Stroke 24" Revs. per minute 110 Dia. of Screw shaft 7.85" Material of Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 32"

Dia. of Tunnel shaft 6.96" Dia. of Crank shaft journals 7.3" Dia. of Crank pin 7.2" Size of Crank webs 3.8" x 4.75" Dia. of thrust shaft under

collars 7.2" Dia. of screw 8-9" Pitch of Screw 11-0" No. of Blades 4 State whether moveable No Total surface 26.9 sq ft

No. of Feed pumps One Diameter of ditto 3" Stroke 12" Can one be overhauled while the other is at work Yes

No. of Bilge pumps One Diameter of ditto 3" Stroke 12" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two duplex Sizes of Pumps 6 x 5 1/2 x 6 & 5 x 3 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two (one 2" & one 2 1/4") In Holds, &c. Two 2" in fore hold

No. of Bilge Injections One sizes 2 1/4" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes, 2 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 Yes

Are all connections with the sea direct on the skin of the ship Yes Are the 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 23/1, 27/1/15 of Stern Tube 7/1, 11/1, 27/1/15 Screw shaft and Propeller 23/1, 27/1/15

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

## BOILERS, &c. — (Letter for record S) Manufacturers of Steels See attached report on boiler.

Total Heating Surface of Boilers 2246 sq ft Is Forced Draft fitted No No. and Description of Boilers One, Single Ended

Working Pressure 130 lbs Tested by hydraulic pressure to 260 lbs Date of test 7/1/15 No. of Certificate 8748

Can each boiler be worked separately Yes Area of fire grate in each boiler 43.8 sq ft No. and Description of Safety Valves to

each boiler Two, direct spring Area of each valve 7.07 sq in Pressure to which they are adjusted 135 lbs per sq in Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 14" Mean dia. of boilers \_\_\_\_\_ 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 \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_

Size of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_

Length of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_

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 \_\_\_\_\_

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:

*No top & two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts and nuts, one set of feed & one set of bilge pump valves & seats, assorted bolts & nuts & a few bars of iron.*

The foregoing is a correct description,

J. P. RENNOLDSON & SONS LTD.

*J. P. Rennoldson* DIRECTOR

Manufacturer.

Dates of Survey while building: During progress of work in shops - Aug 27, Sep 4, 10, 30, Oct 29, 14, 16, 22, 27, Nov 20, Dec 8, 18, 24, 1915, Jan 7, 11, 14. During erection on board vessel - 20, 23, 25, 27, 28, Feb 1, 2, 11, 16, 18, 19, 22, 26, Mar 2, 4, 8, 9, 10, 11, 16. Total No. of visits 37+

Is the approved plan of main boiler forwarded herewith? *Yes*

Dates of Examination of principal parts - Cylinders 27/5, 4/9, 8/10, Slides 2/10, 26/11/15, Covers 2/20, 27/10, Pistons 4/10, 26/11/15, Rods 14/10, 26/11/15

Connecting rods 4/10, 26/11/15, Crank shafts 10/9, 30/10, Thrust shafts 25/1, 2/3/15, Tunnel shafts None, Screw shaft 4/9, 19/12/15, Propeller 7/1/15

Stern tube 4/3/14, 11/1/15, Steam pipes tested 8/3/15, Engine and boiler seatings 11/2/15, Engines holding down bolts 9/1/2, 22/2/15

Completion of pumping arrangements 11/3/15, Boilers fixed 26/2/15, Engines tried under steam 11/3/15

Main boiler safety valves adjusted 11/3/15, Thickness of adjusting washers 3/8" & 2/8"

Material of Crank shafts 5M Steel, Identification Mark on Do 9/1/15 GM 3862, Material of Thrust shafts Scrap Steel 857N, Identification Mark on Do 9/1/15 GM 857N

Material of Tunnel shafts None, Identification Marks on Do. ✓, Material of Screw shafts Scrap Iron, Identification Marks on Do. do

Material of Steam Pipes Copper ✓, Test pressure 260 lb per sq. in. ✓

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 & workmanship are of good quality, it has been securely fitted on board & satisfactorily tested under full steam.*

*In my opinion the machinery of this vessel is now eligible for record LMC 3.15 (mud) in the register book.*

*Boiler plan, report on boiler, mirrors & forging reports now forwarded.*

It is submitted that this vessel is eligible for THE RECORD + LMC 3.15.

*JWD. G.R.R.*

George Murdoch, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee ... £ 1 : 0 : 0, Special ... £ 10 : 10 : 0, Donkey Boiler Fee ... £ ... , Travelling Expenses (if any) £ ...

When applied for, MAR 22 1915, When received, 29 Mar 1915

Committee's Minute FRI MAR 26 1915, Assigned + LMC 3.15

