

REPORT ON MACHINERY.

No. 48.353.

Port of Newcastle

Received at London Office 18 Feb 1905

No. in Survey held at Newcastle
Reg. Book.Date, first Survey 28 July '04 Last Survey 10 Feb 1905on the 3/5 Netherton(Number of Visits 48)Tons { Gross 4226
Net 2756

Master

Built at Newcastle By whom built Northumberland Shipbldg Co When built 1904-5Engines made at NewcastleBy whom made H. C. M. Eng Co Ltdwhen made 1904-5Boilers made at "By whom made "when made 1904-5

Registered Horse Power

Owners Greenlees & CoPort belonging to GlasgowNom. Horse Power as per Section 28 350Is Refrigerating Machinery fitted noIs Electric Light fitted no

ENGINES, &c.—Description of Engines

Tri Cpd.No. of Cylinders 3No. of Cranks 3Dia. of Cylinders 24 1/2" 40"Length of Stroke 48"Revs. per minute 65Dia. of Screw shaft 1 1/2"Material of 9Is the screw shaft fitted with a continuous liner yes 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 attached 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 at inner endsLength of stern bush 5ftDia. of Tunnel shaft 1 1/2"Dia. of Crank shaft journals 1 1/2"Dia. of Crank pin 1 1/2"Size of Crank webs 13 1/2 x 8 1/2

Dia. of thrust shaft under

collars 1 1/2"Dia. of screw 1 7/8"Pitch of screw 17 ftNo. of blades 4State whether moveable fTotal surface 90 ftNo. of Feed pumps 2Diameter of ditto 4"Stroke 22 1/2"Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 5"Stroke 22 1/2"Can one be overhauled while the other is at work yesNo. of Donkey Engines 2Sizes of Pumps 7 x 9 x 9 x 7 1/2 x 5 x 6"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 of 3 1/2"In Holds, &c. 2 of 3 1/2" in all holdsNo. of bilge injections 1sizes 6"Connected to condenser, or to circulating pump C.P.Is a separate donkey suction fitted in Engine room & size yes 3 1/2"Are all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yesAre the sluices on Engine room bulkheads always accessible —Are all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks bothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre the discharge pipes above or below the deep water line aboveAre they each fitted with a discharge valve always accessible on the plating of the vessel yesAre the blow off cocks fitted with a spigot and brass covering plate yesWhat pipes are carried through the bunkers noneHow are they protected —Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock 2.2.04Is the screw shaft tunnel watertight yesIs it fitted with a watertight door yesworked from top platform

BOILERS, &c.—

(Letter for record B)Total Heating Surface of Boilers 5715 ftIs forced draft fitted noNo. and Description of Boilers 3 Marine typeWorking Pressure 180Tested by hydraulic pressure to 360Date of test 15/12/04Can each boiler be worked separately yesArea of fire grate in each boiler 51.8 ft

No. and Description of safety valves to

each boiler 2 springArea of each valve 7.07Pressure to which they are adjusted 185Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 2 feetMean dia. of boilers 13 9"Length 11 ftMaterial of shell plates SThickness 1 1/8"Range of tensile strength 29Are they welded or flanged endsDescrip. of riveting: cir. seams A. T Cap. long. seams A. T all StpsDiameter of rivet holes in long. seams 1 1/2"Pitch of rivets 8 1/2"Lap of plates or width of butt straps 15 1/8"

Per centages of strength of longitudinal joint

rivets 82.4Working pressure of shell by rules 181Size of manhole in shell 16" x 12"Size of compensating ring flangedNo. and Description of Furnaces in each boiler 3 deeg^{ms}Material SOutside diameter 35 1/2"Length of plain part topThickness of plates bottomDescription of longitudinal joint weld.No. of strengthening rings —Working pressure of furnace by the rules 182Combustion chamber plates: Material SThickness: Sides 7/8"Back 1 1/8"Top 7/8"Bottom 23/32"Pitch of stays to ditto: Sides 8 1/2 x 8 1/2"Back 9 x 9"Top 8 1/2 x 8 1/2"If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 182Material of stays SArea at smallest part 2.03Area supported by each stay 83.25Working pressure by rules 183

End plates in steam space:

Material SThickness 1 1/8"Pitch of stays 25 x 21 1/2"How are stays secured A. nutsWorking pressure by rules 180Material of stays SDiameter at smallest part 9.8Area supported by each stay 534Working pressure by rules 183Material of Front plates at bottom SThickness 3 1/2"Material of Lower back plate SThickness 29/32"Greatest pitch of stays 14 1/2"Working pressure of plate by rules 182Diameter of tubes 3 1/4"Pitch of tubes 4 1/2 x 4 3/8"Material of tube plates SThickness: Front 2 1/2"Back 3/4"Mean pitch of stays 8.8"Pitch across wide water spaces 14 1/2"Working pressures by rules 182 1/2"Girders to Chamber tops: Material S

Depth and

thickness of girder at centre 8 1/2 x 12"Length as per rule 30"Distance apart 8 5/8"Number and pitch of Stays in each 2 of 8 1/2"Working pressure by rules 194Superheater 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

Lloyd's Register

Foundation

W536-060

DONKEY BOILER— No. Description

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves

No. of safety valves Area of each Pressure to which they are adjusted 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 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

Thickness of furnace crown plates Stayed by Working pressure of shell by rules

Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:— 1 Set connecting rod top and bottom end bolts and nuts, 2 main bearing bolts and nuts, 1 set of coupling bolts and nuts, 1 set feed and bilge pump valves, propeller shaft, nuts bolts and assorted iron

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD.

Manufacturer.

During progress of work in shops— 1904 July 31 Aug 22 23 25 31 Sept 6 8 13 14 15 21 30 Oct 4 7 13 19 25 26 27 Nov 3 4 7 10 11 14 15 16 Dec 1 6 7 8 9 13 15 16 19

Dates of Survey while building During erection on board vessel— 22 29 1905 Jan 4 5 6 13 16 19 24 28 Feb 3 10

Total No. of visits 48

Is the approved plan of main boiler forwarded herewith 408

" " " donkey " " " ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) Machinery and boilers constructed under special survey. Materials and workmanship good. Engines & boilers examined on full speed trial at sea and found satisfactory. In my opinion this vessel is eligible for the record in the Register Book of L.M.C 2/05

It is submitted that this vessel is eligible for THE RECORD L.M.C. 2.05

Emd 18.2.05

18.2.05

Hawcastle-on-Tyne.

Certificate (if required) to be sent to

The amount of Entry Fee.. £ 3 : : : When applied for, 17 FEB 1905

Special £ 37 : 10 : : : When received, 23 FEB 1905

Donkey Boiler Fee £ : : : : : 23 FEB 1905

Travelling Expenses (if any) £ : : : : : 23 FEB 1905

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

Committee's Minute TUES. 21 FEB 1905

Assigned + L.M.C 2.05