

REPORT ON MACHINERY.

Nwc. No. 46573
No. 21685 Sld

TUES. 1 MAR 1904

Port of Sunderland

Received at London Office 19

No. in Survey held at Sunderland
Reg. Book.Date, first Survey 17th Sept 03 Last Survey 8th Feb 1904

(Number of Visits)

on the Hul B. S. "Canada Cape"Tons Gross 4286
Net 2795Master Dymon Built at Newcastle By whom built Northumbrian S. S. Co. Ltd When built 1904Engines made at Sunderland By whom made Richardsons, Wigham & Co. Ltd. when made 1904Boilers made at Sunderland By whom made Richardsons, Wigham & Co. Ltd. when made 1904Registered Horse Power 372 Owners Eldee Dempster & Co. Ltd Port belonging to LiverpoolNom. Horse Power as per Section 28 372 Is Refrigerating Machinery fitted Yes Is Electric Light fitted No

ENGINES, &c.—Description of Engines Two compound surface condensing No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 25" - 41" - 69" Length of Stroke 48" Revs. per minute 65 Dia. of Screw shaft 14.9" Material of W.S.
 as per rule 14.9" as fitted 15" screw shaft

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 5' - 15"

Dia. of Tunnel shaft 12.69" Dia. of Crank shaft journals 13.82" Dia. of Crank pin 14" Size of Crank webs 20 1/2" x 8 1/2" Dia. of thrust shaft under
 as per rule 12.69" as fitted 13 1/2" as per rule 13.82" as fitted 14" collars 14 1/4" Dia. of screw 17' - 0" Pitch of screw 17' - 0" No. of blades 4 State whether moveable Yes Total surface 85 1/2

No. of Feed pumps 2 Diameter of ditto 3 3/4" Stroke 27" Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work YesNo. of Donkey Engines 3 Sizes of Pumps 11" x 10", 7 1/2" x 4 1/2" x 6", 6 1/2" x 4 1/2" No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room 4 of 3 1/2" In Holds, &c. 2 of 3 1/2" in each holdNo. of bilge injections 1 sizes 5" Connected to condenser, or to circulating pump E.P. Is a separate donkey suction fitted in Engine room & size Yes, 4"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 BothAre 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 AboveAre 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 YesWhat 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 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 20 - 12 - 03 Is the screw shaft tunnel watertight YesIs it fitted with a watertight door Yes worked from Top platformBOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 5940 1/2 Is forced draft fitted NoNo. and Description of Boilers Three single ended multitubular Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbsDate of test 23/12/03 Can each boiler be worked separately Yes Area of fire grate in each boiler 50 1/2 No. and Description of safety valves toeach boiler 2 Spring Area of each valve 7.07 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 1' - 6" Mean dia. of boilers 14' - 0" Length 10' - 9" Material of shell plates SteelThickness 1 1/4" Range of tensile strength 28 1/2 - 32 Are they welded or flanged Yes Descrip. of riveting: cir. seams A.R.L. long. seams T.R.D.B.Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 3/8" Lap of plates or width of butt straps 15 1/2"Per centages of strength of longitudinal joint 87.38 Working pressure of shell by rules 202.7 lbs Size of manhole in shell 16" x 12"Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Main Material Steel Outside diameter 3' - 7 1/2"Length of plain part top 17 1/2" Thickness of plates bottom 17 1/2" Description of longitudinal joint Welded No. of strengthening rings 1Working pressure of furnace by the rules 189 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 3/4"Pitch of stays to ditto: Sides 8" x 8" Back 8" x 8" Top 8" x 7 1/2" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 211 lbsMaterial of stays Steel Diameter at smallest part 1.5" Area supported by each stay 64" Working pressure by rules 187 lbs End plates in steam space:Material Steel Thickness 15/16" Pitch of stays 15" x 14" How are stays secured By nuts Working pressure by rules 187 lbs Material of stays SteelDiameter at smallest part 5.05" Area supported by each stay 210" Working pressure by rules 240 lbs Material of Front plates at bottom SteelThickness 3/4" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 15" Working pressure of plate by rules 269 lbsDiameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 3/4" Back 27/32" Mean pitch of stays 9" x 8 1/2"Pitch across wide water spaces 14 1/2" Working pressures by rules 192 lbs Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 8 1/2" x 1 1/2" Length as per rule 28 5/8" Distance apart 7 1/2" Number and pitch of Stays in each 2, 8"Working pressure by rules 242 lbs Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler workedseparately Yes Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivetholes — 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

Auxiliary

DONKEY BOILER—

No. 1

Description

Single ended multitubular

Made at Sunderland

By whom made

Richardsons, Westgarth & Co. Ltd. When made 1904 Where fixed At the hold.

Working pressure 180 lbs tested by hydraulic pressure to 360 lbs No. of Certificate 2227 Fire grate area 50 sq ft Description of safety valves Direct spring

No. of safety valves 2 Area of each 7.07 Pressure to which they are adjusted 185 lbs If fitted with easing gear Yes If steam from main boiler's can

enter the donkey boiler No Dia. of donkey boiler 14'-0" Length 10'-9" Material of shell plates Steel Thickness 1 1/4" Range of tensile

strength 285-32 Descrip. of riveting long. seams T. R. D. B. Dia. of rivet holes 1 3/8" Whether punched or drilled Drilled Pitch of rivets 8 3/4"

Per centage of strength of joint Rivets 87.38 Plates 85.35 Thickness of shell crown plates 1/2" Radius of do. 1/2" No. of Stays to do. 1

Dia. of stays 1/2" Diameter of furnace 3'-7 1/2" Bottom 1/2" Length of furnace 17 1/2" Thickness of furnace plates 1/2" Description of

joint Welded Thickness of furnace crown plates 1/2" Stayed by 1/2" Working pressure of shell by rules 202 1/2 lbs

Working pressure of furnace by rules 189 lbs Diameter of uptake 1/2" Thickness of uptake plates 1/2" Thickness of water tubes 7/8" S.W.

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

The foregoing is a correct description,

RICHARDSONS, WESTGARTH & CO., LTD

Manufactured by

Frederic S. Russell CHIEF DRAUGHTSMAN

Dates of Survey: During progress of work in shops: 1903- Sep 17 Oct 16 23 Nov 12 19 23 Dec 4 10 15 16 21 22 23
During erection on board vessel: 1904- Jan 8 9 12 15 21 22 23 Feb 1 8
Total No. of visits 23

Is the approved plan of main boiler forwarded herewith? Yes.
" " " donkey " " " return duplicate

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been built under Special Survey. The material and workmanship are good. The boiler and steam pipes were tested by hydraulic pressure to double the working pressure. The whole of the machinery worked well and the safety valves were adjusted under steam as stated above. The notation of L.M.C. 2,04 in the Register Book. This vessel, in our opinion is eligible to have the notation of L.M.C. 2,04 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 2,04. REF: MCHY.

1.3.04

The amount of Entry Fee £ 26 8/3
Special £ 38 12
Donkey Boiler Fee £
Travelling Expenses (if any) £

When applied for,

23. 2. 1904

When received,

23. 3. 04

G. Williamson
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 4 MAR 1904

Assigned

+ L.M.C. 2,04

MACHINERY CERTIFICATE
WRITTEN



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Foundation