

REPORT ON MACHINERY.

No. 53893

Port of Newcastle on Tyne Received at London Office THUR, 28 NOV 1907
 No. in Survey held at S. Shields Date, first Survey 14 May Last Survey 9 Nov 1907
 Reg. Book. on the S. S. Harport (Number of Volls. 28)
 Master T. H. Holman. Built at S. Shields By whom built J. Readhead & Sons Tons { Gross 3086
 Engines made at S. Shields By whom made J. Readhead & Sons when made 1907
 Boilers made at S. Shields By whom made J. Readhead & Sons when made 1907
 Registered Horse Power 374 Owners J. & C. Harrison Ltd. Port belonging to London
 Nom. Horse Power as per Section 28 374 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 26-42-70 Length of Stroke 45 Revs. per minute 60 Dia. of Screw shaft as per rule 14.22 Material of Iron
 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 — 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 — Length of stern bush 4-9 1/2
 Dia. of Tunnel shaft as per rule 12.75 Dia. of Crank shaft journals as per rule 13.35 Dia. of Crank pin 13.5 Size of Crank webs 18x9 Dia. of thrust shaft under
 collars 14 1/2 Dia. of screw 17-6 Pitch of Screw 16-6 No. of Blades 4 State whether moveable No Total surface 83.2 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 Two Sizes of Pumps 13 1/2 x 9 x 13 1/2 x 6 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three of 3 1/2" Bore In Holds, &c. No 1 - 2. 3 1/2" No 2 - 2. 3 1/2"
No 3 - 2. 3 1/2" No 4 - 2. 3 1/2" apt. Well. 1 - 2 1/2"
 No. of Bilge Injections 1 sizes 5 1/2" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size 3 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 —
 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 —

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 7.10.07 of Stern Tube 7.10.07 Screw shaft and Propeller 21.10.07
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top Platform

BOILERS, &c.—(Letter for record —) Manufacturers of Steel Spencer, Newcastle
 Total Heating Surface of Boilers 6004 Is Forced Draft fitted No No. and Description of Boilers Two, built S. End.
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 1.10.07 No. of Certificate 7601
 Can each boiler be worked separately Yes Area of fire grate in each boiler 61 sq ft No. and Description of Safety Valves to
 each boiler 2, Spring Area of each valve 70 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 20" Mean dia. of boilers 16-11 1/2" Length 11-0" Material of shell plates S.
 Thickness 1 1/32 Range of tensile strength 28/32 Tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 2 DR
 long. seams D.B.S. Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 9 1/32 Lap of plates or width of butt straps 21 3/4"
 Per centages of strength of longitudinal joint 87 Working pressure of shell by rules 189 lbs 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, Impure Material Outside diameter 48"
 Length of plain part top 7 1/2" Thickness of plates crown 3 1/4" Description of longitudinal joint Weld No. of strengthening rings —
 Working pressure of furnace by the rules 181 lbs Combustion chamber plates: Material S. Thickness: Sides 7/8" Back 7/8" Top 3/4" Bottom 7/8"
 Pitch of stays to ditto: Sides 8 1/2 x 8" Back 9 x 8" Top 10 x 9 1/2" If stays are fitted with nuts or riveted heads both Working pressure by rules 186 lbs
 Material of stays I. Diameter at smallest part 2 3/4" Area supported by each stay 95" Working pressure by rules 183 lbs End plates in steam space:
 Material S. Thickness 1 1/4" Pitch of stays 19 1/2" How are stays secured D.N.W. Working pressure by rules 194 lbs Material of stays S.
 Diameter at smallest part 7.24" Area supported by each stay 380" Working pressure by rules 190 lbs Material of Front plates at bottom S.
 Thickness 3/4" Material of Lower back plate S. Thickness 1 1/16" Greatest pitch of stays 12 x 8" Working pressure of plate by rules 220 lbs
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/8 x 4 1/4" Material of tube plates S. Thickness: Front 3/4" Back 3/4" Mean pitch of stays 9 1/4" 9 1/2"
 Pitch across wide water spaces 14" Working pressures by rules 183 lbs Girders to Chamber tops: Material S. Depth and
 thickness of girder at centre 9 1/2 x 12" Length as per rule 27 7/8" Distance apart 10" Number and pitch of stays in each 20 9 1/2"
 Working pressure by rules 284 lbs Superheater or Steam chest; how connected to boiler None 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 —

1009-0143

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. Description *Particulars given in the attached Form*

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to Date of test No. of Certificate Fire grate area Description of Safety

Valves No. of Safety Valves Area of each Pressure to which they are adjusted Date of adjustment

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

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 and D.M. & nuts, Two bottom end with
Two main bearing bolts & nuts, One set coupling bolts, Spare air,
Circulating Feed & Bidge Pump Valves, One Propeller shaft, One propeller
Assorted bolts & nuts.*

The foregoing is a correct description,

John Headhead & Sons Manufacturer.

Dates of Survey while building { During progress of work in shops - 1907 May 11, 28, July 12, 13, 17, 21, 24, July 1, 5, 9, 10, 15, 17, 29, Aug 1, 7, 13, 15, 19, 21, 23, 27, Sep 18, 20, 23, 26, Oct 1, 7, 14, 21, 25, 29, 30, Nov.
During erection on board vessel - 5, 6, 11, 13, 19.
Total No. of visits 28

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

Dates of Examination of principal parts—Cylinders 7.8.07 Slides 23.8.07 Covers 23.8.07 Pistons 23.8.07 Rods 18.9.07
Connecting rods 18.9.07 Crank shaft *Samuelson* Thrust shaft 7.10.07 Tunnel shafts 7.10.07 Screw shaft 7.10.07 Propeller 23.9.07
Stern tube 26.9.07 Steam pipes tested 29.10.07 Engine and boiler seatings 21.10.07 Engines holding down bolts 30.11.07
Completion of pumping arrangements 5.11.07 Boilers fixed 5.11.07 Engines tried under steam 6.11.07
Main boiler safety valves adjusted 6.11.07 Thickness of adjusting washers *21/16* *P. 8/16* *P. 7/16* *5/16* *5/16*
Material of Crank shaft *I. Steel* Identification Mark on Do. *21/16* 7.07 Material of Thrust shaft *I. Steel* Identification Mark on Do. 7.10.07
Material of Tunnel shafts *I. Steel* Identification Marks on Do. 7.10.07 Material of Screw shafts *I. Steel* Identification Marks on Do. 7.10.07
Material of Steam Pipes *Copper* Test pressure 400 lb. *0.5*

General Remarks (State quality of workmanship, opinions as to class, &c. *The above machinery and
Boilers have been constructed under Special Survey. The
materials and workmanship employed therein are satisfactory
and render the vessel eligible, in my opinion, for class L.M.C. 11.07.*

It is submitted that
this vessel is eligible for
THE RECORD. *L.M.C. 11.07.*

J.H.C. 28.11.07

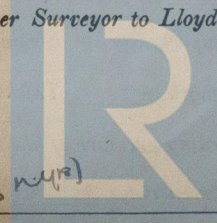
J.H.C.
28.11.07

The amount of Entry Fee. £ 3 : : : When applied for, 26 NOV 1907
Special £ 38 : 14 : : :
Donkey Boiler Fee £ : : : : When received, 28/11/07
Travelling Expenses (if any) £ : : : :

Committee's Minute FRI. 29 NOV 1907

Assigned

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



Lloyd's Register
Foundation

MACHINERY
TIFRAT
WRITTEN

*certified copy
20/5/19*

Certificate (if required) to be sent to the Secretary of the Committee's Minute.