

REPORT ON MACHINERY.

Received at London Office

WED. OCT. 20 1920

Date of writing Report 11. 10 1920 When handed in at Local Office 12. 10 1920 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 12. 3. 1920 Last Survey 8. October 1920

Reg. Book. on the s/s *Portsmouth*

(Number of Visits 15)

Master Built at *Barnstaple* By whom built *British Construction Co. Ltd. (17)* When built

Engines made at *Clydebank* By whom made *Aitchison Blair Ltd. (131)* when made 1920

Boilers made at *Glenoch* By whom made *John G. Fincaid & Co. Ltd. (92)* when made 1920

Registered Horse Power Owners *R. P. Care & Co. Ltd.* Port belonging to *Cardiff*

Nom. Horse Power as per Section 28 *73 1/2* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Triple*

Dia. of Cylinders *12" 20" 32"* Length of Stroke *24* Revs. per minute *110* No. of Cylinders *3* No. of Cranks *3*

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 *No* 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 *No*

If two liners are fitted, is the shaft lapped or protected between the liners *No* Length of stern bush *2 1/2"*

Dia. of Tunnel shaft *6 1/2"* Dia. of Crank shaft journals *6 1/2"* Dia. of Crank pin *6 1/2"* Size of Crank webs *2 1/2" x 4 1/2"* Dia. of thrust shaft under collars *6 1/2"*

No. of Feed pumps *2* Diameter of ditto *1 1/8"* Stroke *12"* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *2* Diameter of ditto *2"* Stroke *12"* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *2* Sizes of Pumps *Ballast 6" x 6" x 6" Donkey 5" x 3 1/2" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *2 - 3"* In Holds, &c. *2 - 2" 2 - 3"*

No. of Bilge Injections *1* sizes *3 1/2"* Connected to condenser, or to circulating pump *Sea P.* Is a separate Donkey Suction fitted in Engine room & size *1 - 3"*

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 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 *Hot steam* How are they protected *Wood casing*

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*

Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers *1372 sq ft* Is Forced Draft fitted *No* No. and Description of Boilers *One Single ended.*

Working Pressure *180 lbs* Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler *46.58 sq ft* No. and Description of Safety Valves to each boiler *2 Spring Loaded*

Area of each valve *4.9 sq in* Pressure to which they are adjusted *18 lbs* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *4' 0"* 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 rivets 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 top Thickness of plates crown 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 Area 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

Area 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 Steam dome: description of joint to shell % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valves Pressure to which each is adjusted Is Easing Gear fitted

WHS-00391

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts & nuts, 1 set coupling bolts, 1 set feed & bridge pump valves, 6 condenser tubes, 2 set air pump valves, 2 set circulating pump valves, 1 set waste valve springs, 1 set piston rings & springs for P, MP & LP cylinders. Quantity assorted bolts & nuts, iron of various sizes.

The foregoing is a correct description,
MITCHISON, BLAIR LTD,

Arch Blair

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1920:— Mar 12-22-23 Apr 9-27 May 10-20 Jun 2 July 1-12-29 Aug 4 Sep 7-28 Oct 8
 During erection on board vessel --- 1920:— Sept 27 Nov 23-30 Dec 17 1921:— Jan 11 July 14 1923:— Jan 19 Feb 2, 6
 Total No. of visits 15+9 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 2'4" x 20'5" x 20 Slides 1'4" x 20 Covers 1'4" x 20 Pistons 1'4" x 20 Rods 9'4" x 20
 Connecting rods 9'4" x 20 Crank shaft 12'3" x 20 Thrust shaft 2'6" x 20 Tunnel shafts None Screw shaft 4'9" x 20 Propeller 4'9" x 20
 Stern tube 4'9" x 20 Steam pipes tested None Engine and boiler seatings 11-1-21 Engines holding down bolts 11-1-21
 Completion of pumping arrangements 3-2-23 Boilers fixed 11-1-21 Engines tried under steam 3-2-23 ✓
 Completion of fitting sea connections 27-9-20 Stern tube 27-9-20 Screw shaft and propeller 27-9-20
 Main boiler safety valves adjusted 19-1-23 ✓ Thickness of adjusting washers P 5/16 I 5/16
 Material of Crank shaft S Identification Mark on Do. LLOYDS 131 7-2-20 Material of Thrust shaft S Identification Mark on Do. LLOYDS 131 7-2-20
 Material of Tunnel shafts None Identification Marks on Do. None Material of Screw shafts S Identification Marks on Do. LLOYDS 131 7-2-20
 Material of Steam Pipes Solid drawn copper Test pressure 360 lb
 Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. Yes
 Have the requirements of Section 49 of the Rules been complied with Yes
 Is this machinery duplicate of a previous case No If so, state name of vessel None

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

Machinery has been built under Special Survey the workmanship and materials are good.
These engines have been dispatched to the Law Shipbuilding Yard, Barnstaple to be fitted on board their N°14. After they have been efficiently fitted on board, tried under steam & spare gear checked they will be eligible in my opinion for the Record + L.M.C. with date in the Register Book.

The machinery & boiler of this vessel have been fully & secured on trials under running conditions with satisfactory results & are now eligible for Record + L.M.C. with date

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 2.23. C.L.

Date of construction 1921

AKD
7/2/23
FRJ
 Attn for G. A. & J. J. J. J. J.
J. P. Gurray
 John W. Gurray
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 1 : - } When applied for, 19 OCT 1920
 Total Special ... £ 5 : 10 }
 Donkey Boiler Fee ... £ : : }
 Travelling Expenses (if any) £ 12 : 10 }
 (Bros etc) 9-2-23 12-10-6

Committee's Minute **GLASGOW 19 OCT 1920**
 Assigned Deferred

FRI. 9 FEB. 1923

+ L.M.C. 2.23
Lloyd's Register of Shipping Foundation

Certificate (if required) to be sent to
 The Surveyors are requested not to write on or below the space for Committee's Minute.