

Rpt. 4.

REPORT ON MACHINERY.

Sept 20 1922

No. 42191

Received at London Office SEP. 28 1922

Date of writing Report *26.9.22* When handed in at Local Office *26.9.22* Port of *Glasgow*
 No. in Survey held at *Glasgow* Date, First Survey *2-8-1921* Last Survey *15-9-1922*
 Reg. Book. *Port of London Authority Hopper No 26* (Number of Visits *39*)
 Master *Glasgow* Built at *Glasgow* By whom built *Monmouth 8200* Tons { Gross *1232*
 Engines made at *Glasgow* By whom made *Fairfield 835 F.E. 20 (614)* Net *565*
 Boilers made at *altos* By whom made *altos (614)* When built *1922*
 Registered Horse Power *altos* Owners *The Port of London Authority* when made *1922*
 Nom. Horse Power as per Section 28 *198* Port belonging to *London*
 Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *19" 31" 50"* Length of Stroke *36"* Revs. per minute *105* Dia. of Screw shaft *11.23"* Material of screw shaft *S*
 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 *5' 0"*
 Dia. of Tunnel shaft *as per rule 9.57"* Dia. of Crank shaft journals *as per rule 10.05"* Dia. of Crank pin *10.44"* Size of Crank webs *3/16" 1/4"* Dia. of thrust shaft under collars *10.44"* Dia. of screw *13.0"* Pitch of Screw *12.3"* No. of Blades *4* State whether moveable *Yes* Total surface *5.34*
 No. of Feed pumps *2* Diameter of ditto *8.6"* Stroke *21"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *3"* Stroke *18"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *one* Sizes of Pumps *6x6x6 Dupline* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *1 cubic 2 1/2" 2 wings 2 1/2"* In Holds, &c. *See hold 2 1/2" 2 1/2" 2 1/2" in each side of buoyancy tank at each side of Hopper, 4 in diameter*
 No. of Bilge Injections *1* sizes *6"* 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 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 *Bilge & N. & from plate suction* How are they protected *Strong wood casings*
 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 *Machinery aft.*

MILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Spencer & Beaumont*
 Total Heating Surface of Boilers *3530* Is Forced Draft fitted *No* No. and Description of Boilers *2 Single Ended*
 Working Pressure *180* Tested by hydraulic pressure to *320* Date of test *10.3.22* No. of Certificate *16034*
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *62.25* No. and Description of Safety Valves to each boiler *Lockdown High Lift (2)* as approved (see London letter 19/9/21) Area of each valve *3.98* 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 *10 ft* Mean dia. of boilers *14.13/16"* Length *10' 6"* Material of shell plates *S*
 Thickness *3/16"* Range of tensile strength *28-32* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *DR2*
 g. seams *TRIDBS* Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *8.678"* or width of butt straps *18 7/16"*
 Percentages of strength of longitudinal joint *92.3%* Working pressure of shell by rules *186* Size of manhole in shell *16x12"*
 of compensating ring *3.8x2.8x1 1/4"* No. and Description of Furnaces in each boiler *3 Corrugated* Material *S* Outside diameter *3-10 1/2"*
 Length of plain part *top* Thickness of plates *bottom* *3 9/16"* Description of longitudinal joint *Weld* No. of strengthening rings *—*
 Working pressure of furnace by the rules *188* Combustion chamber plates: Material *S* Thickness: Sides *2 1/32"* Back *2 1/32"* Top *2 1/32"* Bottom *1 1/8"*
 of stays to ditto: Sides *9x8"* Back *9x8 1/2"* Top *8x8"* If stays are fitted with nuts or riveted heads *Both* Working pressure by rules *195*
 Material of stays *S* Area at smallest part *1.430"* Area supported by each stay *46.65"* Working pressure by rules *199* End plates in steam space:
 Material *S* Thickness *1 1/8"* Pitch of stays *15x19"* How are stays secured *Both* Working pressure by rules *188* Material of stays *S*
 at smallest part *5.050"* Area supported by each stay *28.50"* Working pressure by rules *182* Material of Front plates at bottom *S*
 Thickness *2 1/32"* Material of Lower back plate *S* Thickness *2 1/32"* Greatest pitch of stays *14"* Working pressure of plate by rules *184*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2 x 4 1/2"* Material of tube plates *S* Thickness: Front *2 1/32"* Back *1 1/16"* Mean pitch of stays *9"*
 across wide water spaces *13 1/2"* Working pressures by rules *185* Girders to Chamber tops: Material *S* Depth and
 mass of girder at centre *8x3 1/4"* Length as per rule *2.478"* Distance apart *8"* Number and pitch of stays in each *3 at 8"*
 Working pressure by rules *192* Steam dome: description of joint to shell *—* % of strength of joint *—*
 Material *—* Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivet holes *—*
 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 Valve *—* Pressure to which each is adjusted *—* Is Easing Gear fitted *—*

606467-006478-0232

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 1 Propeller blade, 6 propeller studs, 1 set coupling bolts, one piston rod with bushes, 1 air pump rod, 3 main bearing bolts & nuts, 2 per rod bolts & nuts, 2 bottom end bolts & nuts, 1 set pump ring bolts, 1 set pump collar studs & nuts, 1 set pump ring bolts for HP piston, 1 set bottom end bush, 1 set air pump valves, 1 set piston rings & springs for each engine, 1 set piston rings for air pump (Cant) also sets each for donkey & feed pumps, 2 main & donkey chuck valves, 1 set rings & springs for HP IP piston valves, 24 condenser tubes & assortment of bolts &c

The foregoing is a correct description,

FOR THE FAIRFIELDS BUILDING & ENGINEERING CO., LIMITED.

Robt. Fraill

DIRECTOR. Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1921 Aug 2. 16. 23 Sep 7. 9. 15. 27 Oct 7. 13. 18 Nov 9. 22. 29 Dec 13. 23 30 1922 Jan 17. 26 Feb 2. 10 15 Mar 1. 29
During erection on board vessel - - 26 Mar 9. 18 Jun 1. 6 Jul 3. 10. 31 Aug 9. 14. 17. 18. 25 Sep 6. 15 1922 Aug 1. 14. Sept 22 26
Total No. of visits 39 for 3. 6 visits

Is the approved plan of main boiler forwarded herewith? ☒ Yes ☐ No

Dates of Examination of principal parts—Cylinders 18. 8. 22 Stiles 26. 8. 22 Covers 18. 8. 22 Pistons 9. 8. 22 Rods 4. 8. 22
Connecting rods 4. 8. 22 Crank shaft 9. 8. 22 Thrust shaft 9. 8. 22 Tunnel shafts ✓ Screw shaft 4. 8. 22 Propeller 17. 8.
Stern tube 23. 1. 22 Steam pipes tested 20. 12. 21 Engine and boiler seatings 22. 9. 22 Engines holding down bolts 9. 10. 22
Completion of pumping arrangements 20. 10. 22 Boilers fixed 9. 10. 22 Engines tried under steam 20. 10. 22
Completion of fitting sea connections 9. 10. 22 Stern tube 1. 9. 22 Screw shaft and propeller 9. 10. 22
Main boiler safety valves adjusted 20. 10. 22 ✓ Thickness of adjusting washers 4 1/2 inch S 7/32 P 7/32 Prod S 7/32 P 7/16
Material of Crank shaft S Identification Mark on Do. 614. WGM Material of Thrust shaft S Identification Mark on Do. 614. WGM
Material of Tunnel shafts ✓ Identification Marks on Do. Material of Screw shafts S Identification Marks on Do. 614. WGM
Material of Steam Pipes Copper (2 lengths only + 2 others) Test pressure 360 lbs ✓
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? Yes

If so, state name of vessel Ing 80612 Sh. Reg. 4729

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

These Engines & Boilers have been built under Special Survey in accordance with the approved plans. The workmanship & material are of good quality & the machinery is securely fitted on board & satisfactorily tried under steam. It will be submitted in my opinion to the record of + LMC with date

These Engines & Boilers have now been shipped to Glasgow at which port they will be fitted on board.

The Machinery of this vessel has now been fitted on board & efficiently secured. The boilers have been examined under steam & safety valves adjusted. During basin trials the engines ran well & satisfactorily & the vessel is now in our opinion eligible for the Record of + LMC 11.22

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 11.22.

The amount of Entry Fee ... £ 3

Due 39. 10. 22

Donkey Boiler Fee 49. 10. 22

Travelling Expenses (if any) 2. 8. 22

Committee's Minute

Assigned Deferred

When applied for,

27. 9. 22

When received,

9. 10. 22

Wm. Gordon Sinclair, J. H. B. R. M. Engineer Surveyor to Lloyd's Register of Shipping

TUE. 14 NOV. 1922

TUE. NOV. 28 1922

Lloyd's Register Foundation