

REPORT ON MACHINERY.

No. 44306.
21 JAN 1925

Date of writing Report 14 Jan '25 When handed in at Local Office 16/1/25 Port of Glasgow
 No. in Survey held at Clydebanks Date, First Survey 8.7.24 Last Survey 13 Jan 1925
 Reg. Book. on the steel screw steamer "Downshire" (Number of Visits 16)
 Master Built at Bowling By whom built Scott & Sons 7 N° 297 When built 1925
 Engines made at Clydebanks By whom made Aitchison & Blair N° 150 when made 1925
 Boilers made at Glasgow By whom made D. Rowan & Co 2 N° B. 331 when made 1925
 Registered Horse Power Owners The Downshire S. S. Co Port belonging to Belfast
 Nom. Horse Power as per Section 28 80 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 18"-21"-34" Length of Stroke 24" Revs. per minute 125 Dia. of Screw shaft as per rule 7.157" Material of screw shaft 8.
 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 30 1/2" No. 9.
 Dia. of Tunnel shaft as per rule 6.407" Dia. of Crank shaft journals as per rule 6.727" Dia. of Crank pin 6 3/8" Size of Crank webs 13 1/4" x 4 1/2" Dia. of thrust shaft under
 collars 6 3/8" Dia. of screw 9'-0" Pitch of Screw 9'-4 1/2" No. of Blades 4 State whether moveable No Total surface 28.25 sq ft
 No. of Feed pumps 2 Diameter of ditto 1 3/8" Stroke 14" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2" Stroke 14" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 5 x 3 1/2 x 6, 6 x 6 x 6" duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 1-2 1/2", stokehold 2-2" In Holds, &c. 3-2 1/2"

No. of Bilge Injections 1 sizes 3 1/2" Connected to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 1-2 1/2"
 Are all the bilge suction pipes fitted with mud boxes Yes Are the mud boxes in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible No
 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 N° 1 hold bilge pipes 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 No Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record Yes) Manufacturers of Steel See Gls Report N° 44194
 Total Heating Surface of Boilers 1502 sq ft Is Forced Draft fitted No No. and Description of Boilers See Gls Report N° 44194
 Working Pressure 180 Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 4.9 sq ft Pressure to which they are adjusted 185 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork Well clear 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 Valve Pressure to which each is adjusted Is Easing Gear fitted

IS A DONKEY BOILER FITTED? *no* ✓

If so, is a report now forwarded? ✓

SPARE GEAR.

State the articles supplied:— 2. main bearing bolts & nuts, 1 set top end bolts & nuts, 1 set bottom end bolts & nuts, 1 set coupling bolts, 1 set feed pump valves, 1 set bilge pump valves, 1 propeller, a quantity assorted bolts & nuts, etc.

The foregoing is a correct description,
FOR AND ON BEHALF OF

AITCHISON, BLAIR, LIMITED.

Arch Blair

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1924. July 8. Aug 24. Sept 4. 12. 16. 23. Oct 23. Nov 20²⁵. Dec 5. 8. 18. 20.
During erection on board vessel - - - 1925. Jan 7. 13
Total No. of visits 16.

Is the approved plan of main boiler forwarded herewith *yes* ✓

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 23-10-24 Slides 23-10-24 Covers 23-10-24 Pistons 23-10-24 Rods 23-10-24

Connecting rods 23-10-24 Crank shaft 27-11-24 Thrust shaft 27-11-24 Tunnel shafts *none* Screw shaft 27-11-24 Propeller 27-11-24

Stern tube 27-11-24 Steam pipes tested 20-12-24 Engine and boiler seatings 5-12-24. Engines holding down bolts 18-12-24

Completion of pumping arrangements 9-1-25 Boilers fixed 18-12-24. Engines tried under steam 9-1-25

Completion of fitting sea connections 5-12-24. Stern tube 5-12-24. Screw shaft and propeller 5-12-24.

Main boiler safety valves adjusted 9-1-25 Thickness of adjusting washers P. 5/16" S 5/16"

Material of Crank shaft S Identification Mark on Do. 150 HC Material of Thrust shaft S Identification Mark on Do. 150 HC

Material of Tunnel shafts *none* Identification Marks on Do. Material of Screw shafts S Identification Marks on Do. 150 HC

Material of Steam Pipes *Copper* ✓ 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 *no* ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery and boilers*

of this vessel have been built under special survey in accordance with the approved plans, and the Society's Rules, and requirements, the materials, and workmanship are good, the machinery and boiler have been securely fitted on board, and satisfactorily tried under steam, and in my opinion is eligible for the record + L. M. C. 1-25

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 1-25. CL.

The amount of Entry Fee ... £ 2 : - : When applied for, 16/1/24.
Special ... 3/5 ... £ 12 : - :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : When received, 20/1/25. *mmss*

CERTIFICATE WRITTEN
24.1.25

Jas. Cairns
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 20 JAN 1925.

Assigned + LMC 1,25



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Foundation