

REPORT ON MACHINERY.

No. 18276

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No. in Survey held at Greenock, Date, First Survey 6th March, 1923. Last Survey 15-8-1924
Reg. Book. S/S "Invella" INVELLA (Number of Visits 41) Gross 5026
on the Tons Net 3735

Master Built at Glasgow By whom built Barclay Curle & Co. Ltd. 1924
Engines made at Greenock By whom made John & Tuccaid & Co. Ltd. 1924
Boilers made at ditto By whom made ditto 1924
Registered Horse Power Owners MacLay & Montgomerie Port belonging to Glasgow
Nom. Horse Power as per Section 28 513 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 26" - 44" 73 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft 14.74" as per rule 14.4" 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 63 3/4"
Dia. of Tunnel shaft 13.12" as per rule 13.33" Dia. of Crank shaft journals 13.99" as per rule 13.77" Dia. of Crank pin 14 1/2" Size of Crank webs 28" x 9" Dia. of thrust shaft under
collars 14 3/4" Dia. of screw 18" 0" Pitch of Screw 18" 0" No. of Blades 4 State whether moveable No Total surface 100 ft²
No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes
No. of Donkey Engines 3 Sizes of Pumps 9.13.10 (8.6.8) 9.5.7.21 (2) No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 4 3 1/2" In Holds, &c. 2 3 1/2" Runk Hold 2 3 1/2" No. 1 2 3 1/2"
in Bulk Tank or No. 3 Hold 1 3 1/2" No. 4 Hold Tunnel Well 1 3 1/2"
No. of Bilge Injections 8" Connected to condenser, &c. to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & size Yes 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 Bilge Suction 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 U E R Platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel Co. of Scotland
Total Heating Surface of Boilers 7620 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended
Working Pressure 180 Tested by hydraulic pressure to 320 Date of test 15-6-23 No. of Certificate 1632
Can each boiler be worked separately Yes Area of fire grate in each boiler 63.3 ft² No. and Description of Safety Valves to
each boiler Double spring Area of each valve 8.29" Pressure to which they are adjusted 185 Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 15-6" Length 11-6" Material of shell plates S
Thickness 1 1/4" Range of tensile strength 28-32 Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams DR
long. seams TR. DBS Diameter of rivet holes in long. seams 19/32" Pitch of rivets 9 1/8" Lap of plates or width of butt straps 1.7 1/4"
Per centages of strength of longitudinal joint rivets 87.1 plate 86.95 Working pressure of shell by rules 180 Size of manhole in shell 20 1/2" x 16 1/2"
Size of compensating ring 2-11 1/8" 2-6 7/8" 1 1/2" No. and Description of Furnaces in each boiler 3 Barrowed Material S Outside diameter 4.2 1/4"
Length of plain part top Thickness of plates crown 19 1/32" Description of longitudinal joint welded No. of strengthening rings —
bottom Thickness of plates bottom 19 1/32" Working pressure of furnace by the rules 182 Combustion chamber plates: Material S Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 11/16"
Pitch of stays to ditto: Sides 9 1/4" 9 3/4" Back 10 1/8" 9 3/4" Top 8 1/2" 10 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 183
Material of stays S Area at smallest part 203 2 3/6" Area supported by each stay 88.5 Working pressure by rules 202 End plates in steam space:
Material S Thickness 1 1/32" Pitch of stays 20 1/2" 21 3/4" How are stays secured DN Working pressure by rules 190 Material of stays S
Area at smallest part 7.85" Area supported by each stay 425.8" Working pressure by rules 189 Material of Front plates at bottom S
Thickness 3 1/32" Material of Lower back plate S Thickness 25/32" Greatest pitch of stays 13 3/4" Working pressure of plate by rules 186
Diameter of tubes 2 1/2" Pitch of tubes 3 1/16" 3 3/4" Material of tube plates S Thickness: Front 3 1/32" Back 23/32" Mean pitch of stays 9.27
Pitch across wide water spaces 13 1/4" Working pressures by rules 200 Girders to Chamber tops: Material S Depth and
thickness of girder at centre 9 3/4" 4 7/8" (2) Length as per rule 37 Distance apart 10 1/4" Number and pitch of stays in each 3 at 8 1/2"
Working pressure by rules 199 Steam dome: description of joint to shell % of strength of joint

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

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