

REPORT ON MACHINERY.

No. 10982.

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Date of writing Report 8-7-21 1921 When handed in at Local Office 10-7-21 19 Port of Southampton
 No. in Survey held at Cones and Southampton Date, First Survey 11th May Last Survey 5th July 1921
 Reg. Book. 69207 on the S.S. "CITY OF DUNEDIN" EX. "PORTA" Number of Visits 8
 Master Built at Bremen By whom built Vulcan Works. Tons { Gross 7856.74
 Engines made at Bremen By whom made Vulcan Works when made 1917
 Boilers made at Bremen By whom made Vulcan Works when made 1917
 Registered Horse Power Owners Ellerman Lines Ltd Port belonging to London
 Nom. Horse Power as per Section 28 817.5 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted yes.

ENGINES, &c.—Description of Engines Triple Exp. Surface Condensing No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 32⁵/₁₆" 52¹¹/₁₆" 86⁵/₈" Length of Stroke 55¹/₂" Ret. per minute 70 Dia. of Screw shaft as per rule 18³/₄" Material of screw shaft steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No Is the after end of the liner made water tight
 in the propeller boss 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 No liners Length of stern bush 8'-7³/₈"
 Dia. of Tunnel shaft as per rule 16³/₁₆" Dia. of Crank shaft journals as per rule 17³/₄" Dia. of Crank pin 18³/₄" Size of Crank webs 11³/₈" Dia. of thrust shaft under
 collars 17" Dia. of screw 19'-2" Pitch of Screw 18'-4" No. of Blades 4 State whether moveable yes Total surface 124 sq
 No. of Feed pumps 2 Diameter of ditto 4¹⁵/₁₆" Stroke 27¹/₄" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 5¹/₂" Stroke 27¹/₄" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 10¹/₄" and 14¹/₈" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4-3¹/₂", 1-6", Strokehold. 2-3¹/₂" In Holds, &c. Tunnel 1-3¹/₂", No. 4 Hold 2-3¹/₂"
 No. 5 Hold 2-3¹/₂", No. 6 Hold 2-3¹/₂" No. 1 to 3 Holds 2-3¹/₂"
 No. of Bilge Injections 1 sizes 7¹/₈" Connected to condenser, or to circulating pump C. Pump Is a separate Donkey Suction fitted in Engine room & size yes 6"
 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 none
 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
 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 zinc ring
 What pipes are carried through the bunkers Ford Suctions How are they protected 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 Main deck.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel
 Total Heating Surface of Boilers 11,836 sq ft Is Forced Draft fitted yes No. and Description of Boilers 4 Single Ended
 Working Pressure 205 lb. Tested by hydraulic pressure to Date of test No. of Certificate
 Can each boiler be worked separately yes Area of fire grate in each boiler 64 sq ft No. and Description of Safety Valves to
 each boiler 2 Spring Loaded Area of each valve 11.79 sq in Pressure to which they are adjusted 210 lb. Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2'-8" Mean dia. of boilers 16'-1.13" Length 12'-1.27" Material of shell plates steel
 Thickness 1.39" Range of tensile strength Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. LAP.
 long. seams Q.R. BUTTERFLEYS Diameter of rivet holes in long. seams 1.5" Pitch of rivets 17.95" Lap of plates or width of butt straps 29.92"
 Per centages of strength of longitudinal joint rivets 115.8 Working pressure of shell by rules 211.2 lb. Size of manhole in shell 11.81" x 15.74"
 plate 91.6 Size of compensating ring 41.71" x 37.79" No. and Description of Furnaces in each boiler 3 Corrugated Material steel Outside diameter 4'-3.18"
 Length of plain part top Thickness of plates crown 6.5" Description of longitudinal joint Welded No. of strengthening rings
 bottom Working pressure of furnace by the rules 209 Combustion chamber plates: Material steel Thickness: Sides 7.087" Back 6.693" Top 7.087" Bottom 9.055"
 Pitch of stays to ditto: Sides 7.87" x 7.08" Back 7.28" x 7.44" Top 7.87" x 7.87" stays are fitted with nuts or riveted heads No Working pressure by rules 257.9
 Material of stays steel Area at smallest part 1.41" Area supported by each stay 54.16" Working pressure by rules 208.2 End plates in steam space:
 Material steel Thickness 1.10" Pitch of stays 15.35" x 15.74" How are stays secured 4 Washers Working pressure by rules 241.1 Material of stays steel
 Area at smallest part 6.49" Area supported by each stay 241.6" Working pressure by rules 279 Material of Front plates at bottom steel
 Thickness 1.06" Material of Lower back plate steel Thickness 1" Greatest pitch of stays 16.16" x 7.28" Working pressure of plate by rules 220
 Diameter of tubes 3" Pitch of tubes 4.21" x 4.25" Material of tube plates steel Thickness: Front 1.06" Back 9.055" Mean pitch of stays 8.46"
 Pitch across wide water spaces 13.97" Working pressures by rules 207.3 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 9.44" x 14.1" Length as per rule 33.46" Distance apart 7.87" Number and pitch of stays in each 3-7.87"
 Working pressure by rules 200 lb. 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
 UPPER HEATER. Type Schmidt 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 yes
 Diameter of Safety Valve 1⁹/₁₆" Pressure to which each is adjusted 210 lb. Is Easing Gear fitted yes

