

REPORT ON MACHINERY.

No. 43343

WFO 20 FEB. 1924

Received at London Office

Date of writing Report 11th July 1924 When handed in at Local Office 11th July 1924 Port of Glasgow
No. in Survey held at Glasgow Date, First Survey 17. 11. '22 Last Survey 9. 2. 1924
Reg. Book. 39207 on the S.S. "GRETASTON" (Number of Visits 30)
Master Built at Port-Glasgow By whom built R. Duncan & Co. Ltd. (N^o 352) When built 1924.
Engines made at Glasgow By whom made D. Rowan & Co. Ltd. (N^o 768) when made 1924.
Boilers made at Glasgow By whom made D. Rowan & Co. Ltd. (N^o 768) when made 1924.
Registered Horse Power Owners W.S. Miller & Co. Port belonging to Glasgow
Nom. Horse Power as per Section 28 476 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"-42"-70" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 14.47" Material of screw shaft Steel
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 Yes If two
liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 5'-0" NO OIL GLAND FITTED
Dia. of Tunnel shaft as per rule 12.98" Dia. of Crank shaft journals as per rule 13.626" Dia. of Crank pin 13.34" Size of Crank webs 21" x 8.34" Dia. of thrust shaft under
collars 14" Dia. of screw 17'-6" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable No Total surface 92 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 7x4.2x6-6x4.2x6-9x12x12 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 2 @ 3.5"; Fore-bopperdam 1 @ 2.2"; After-bopperdam 1 @ 3.5" In Holds, &c. N^o 1 Hold 2 @ 3"; N^o 2 Hold 2 @ 3.5"; Deep Tank 2 @ 2.2";
N^o 3 Hold 2 @ 3.5" + N^o 3 Hold 1 @ 3.5"; Tunnel Well 1 @ 2.4"
No. of Bilge Injections One size 6" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size One @ 4.2"
Are all the bilge suction pipes fitted with roses Yes Are the 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 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 None How are they protected —
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 Upper Deck.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel The Steel Co. of Scotland Ltd.; The Scottish Iron Co. Ltd.; James Dunlop & Co. Ltd.
Total Heating Surface of Boilers 7068 ft² Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended
Working Pressure 180 lbs./sq. in. Tested by hydraulic pressure to 320 lbs./sq. in. Date of test 16.3.23 No. of Certificate 16209
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 loaded Area of each valve 8.29 sq. in. Pressure to which they are adjusted 185 lbs./sq. in. Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15'-6" Length 11'-6" Material of shell plates Steel
Thickness 1.74" Range of tensile strength 28/32 tons/sq. in. Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. lap.
long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1.5/16" Pitch of rivets 9.7/16" Lap of plates or width of butt straps 19.3/16"
Per centages of strength of longitudinal joint rivets 90.2 Working pressure of shell by rules 180 lbs./sq. in. Size of manhole in shell None—manhole in Back
Size of compensating ring None—Back End No. and Description of Furnaces in each boiler 3 Brighton Material Steel Outside diameter 3'-11.3/16"
Length of plain part top 19" Thickness of plates crown 32 Description of longitudinal joint weld No. of strengthening rings None
bottom 32 Working pressure of furnace by the rules 183 lbs./sq. in. Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 11/16" Top 23/32" Bottom 23/32"
Pitch of stays to ditto: Sides 9" x 10.15/16" Back 8.4" x 10.2" Top 9" x 10.15/16" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 181 lbs./sq. in.
Material of stays Steel Dia. over threads Area at smallest part 1.5" x 1.34" Area supported by each stay 86.6" x 98.4" Working pressure by rules 180 lbs./sq. in. End plates in steam space:
Material Steel Thickness 1.5/16" Pitch of stays 20.2" x 21.3/4" How are stays secured Nuts Working pressure by rules 180 lbs./sq. in. Material of stays Steel
Dia. Body Area at smallest part 3.4" x 3" Area supported by each stay 460" x 424" Working pressure by rules 194 lbs./sq. in. Material of Front plates at bottom Steel
Thickness 27/32" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13.1/2" x 8.4" Working pressure of plate by rules 180 lbs./sq. in.
Diameter of tubes 3" Pitch of tubes WINGS 14.7/32" x 4.8" Material of tube plates Steel Thickness: Front 27/32" Back 3/4" Mean pitch of stays WINGS 10.45"
Pitch across wide water spaces 14" Working pressures by rules 182 lbs./sq. in. Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 10.4" x 2 @ 7" Length as per rule 37.9/16" Distance apart 10.15/16" Number and pitch of stays in each 3 @ 9"
Working pressure by rules 186 lbs./sq. in. Steam dome: description of joint to shell None % 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 None 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:— All as per Rule Requirements together with one propeller, one HP. Piston Valve, boiler tubes, condenser tubes, and a quantity of small gear.

The foregoing is a correct description,

For David Rowan & Co. Ltd.
Arch^d H. Greenison Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1922 Nov 17, 22, 29, Dec 5, 12, 19, 26 1923 Jan 9, 22, 25, 29 Feb 5, 18, 26 Mar 2, 16, 21 Apr 9, 17, 25, 27, 30 May 8, 11, 18, 23, 28, 31
{ During erection on board vessel -- } 31 Jun 4, 18, 19 Aug 5, 30 Sep 20 Oct 10 Nov 20 1924 Jan 9, 14, 15, 21, 24 25, 28, 29, 30, 31 Feb 5, 9
Total No. of visits 50.

Is the approved plan of main boiler forwarded herewith Yes.

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 28.5.23 Slides 28.5.23 Covers 28.5.23 Pistons 4.6.23 Rods 4.6.23
Connecting rods 4.6.23 Crank shaft 8.5.23 Thrust shaft 31.5.23 Tunnel shafts 23.5.23 Screw shaft 31.5.23 Propeller 31.5.23

Stern tube 18.5.23 Steam pipes tested 30.5.23 to 25.1.24 Engine and boiler seatings 14.1.24 Engines holding down bolts 30.1.24

Completion of pumping arrangements 5.2.24 Boilers fixed 28.1.24 Engines tried under steam 9.2.24

Completion of fitting sea connections, and Stern tube and Screw shaft and propeller See Greenison Report

Main boiler safety valves adjusted 31.1.24 Thickness of adjusting washers PORT BLR. P 5/16 S 7/16 CENTRE BLR. P 3/8 S 5/16 STARBLR. P 3/8 S 1/2

Material of Crank shaft Steel Identification Mark on Do. LLOYD'S No 20603 H.C.F. 31.5.23 Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S No 231 H.C.F. 31.5.23

Material of Tunnel shafts Steel Identification Marks on Do. LLOYD'S Nos 233, 236, 239, 242, 244 or 246 H.C.F. 23.5.23 Material of Screw shafts Steel Identification Marks on Do. LLOYD'S No 232 H.C.F. 31.5.23

Material of Steam Pipes Lapwelded Wrought Iron Test pressure 540 lbs./sq. in.

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 Yes.

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 of this vessel has been built under Special Survey in accordance with the Rules and Approved Plans; the materials and workmanship are good; the machinery has been installed on board the vessel in a satisfactory manner, examined under full working conditions and found satisfactory, and is eligible, in my opinion, for classification, and to have the record L.M.C. 2.24 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 2.24. FD. CL.

The amount of Entry Fee ... £ 5 : 0 : When applied for,

Special ... £ 96 : 8 : 11/2/24

Donkey Boiler Fee ... £ — : — : When received,

Travelling Expenses (if any) £ — : — : 15/2/24

Committee's Minute GLASGOW 19 FEB 1924

Assigned + LMC 2.24

H. Forster

Engineer Surveyor to Lloyd's Register of Shipping.



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