

REPORT ON MACHINERY.

No. H4006
24 SEP 1924

Received at London Office

Date of writing Report 22nd Sept. 1924 When handed in at Local Office 22nd Sept. 1924 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 8. 8. 23 Last Survey 22. 9. 1924
 Reg. Book. 90267 on the s.s. "PENTIRION" (Number of Visits 35)
 Master Burntisland Built at Burntisland By whom built Burntisland C.B. Co. Ltd. (Nº 130) When built 1924
 Engines made at Glasgow By whom made D. Rowan & Co. Ltd. (Nº 787) when made 1924
 Boilers made at Glasgow By whom made D. Rowan & Co. Ltd. (Nº 787) when made 1924
 Registered Horse Power 251 Owners The Pentwyn Steamship Co. Ltd. Port belonging to Cardiff
 Nom. Horse Power as per Section 28 251 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 22" 36" 60" Length of Stroke 39" Revs. per minute 83 Dia. of Screw shaft 12.28" Material of Steel
 as per rule 12.28" as fitted 12.28" screw shaft
 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—charged If two
 liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 4' 13"
 Dia. of Tunnel shaft 10.87" Dia. of Crank shaft journals 11.41" Dia. of Crank pin 11.2" Size of Crank webs 17 1/2" x 7 1/2" Dia. of thrust shaft under
 as fitted 10.78" as fitted 11.2" collars 11 3/4" Dia. of screw 15' 3" Pitch of Screw 16' 6" No. of Blades 4 State whether moveable No Total surface 73.6 sq
 No. of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 21" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 21" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 8" x 10" x 8" 7 1/4" x 5 1/2" x 12" 5" x 3 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room -3-2 1/2", 1-4" special 1-2 1/2" tunnel well in Holds, &c. no 1 Hold 2-2 1/2", no 2 Hold 2-3"
no 3 Hold 3-3"
 No. of Bilge Injections one sizes 4 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 4"
 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 — 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 top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel The Steel Company of Scotland Ltd., The Lanarkshire Steel Co. Ltd.
 Total Heating Surface of Boilers 3970 sq Is Forced Draft fitted No No. and Description of Boilers Two Single Ended
 Working Pressure 180 lbs/sq Tested by hydraulic pressure to 320 lbs/sq Date of test 7.5.24 No. of Certificate 16491
 Can each boiler be worked separately Yes Area of fire grate in each boiler 67.75 sq No. and Description of Safety Valves to
 each boiler Two Spring loaded Area of each valve 7.06 sq Pressure to which they are adjusted 185 LBS Are they fitted with easing gear Yes
 Smallest distance between boilers on uptakes and bunkers on woodwork - 15" Int. dia. of boilers 14' 9" Length 10' 6" Material of shell plates Steel
 Thickness 1 1/4" Range of tensile strength 28/32 tons/sq 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 1/4" Pitch of rivets 8 27/32" Lap of plates or width of butt straps 18 3/4"
 Per centages of strength of longitudinal joint 89 Working pressure of shell by rules 180 lbs/sq Size of manhole in shell 19 1/2" x 15 1/2"
 Size of compensating ring 34" x 30" x 1 1/2" Description of Furnaces in each boiler 3 Beighton Material Steel Outside diameter 3' 7 3/32"
 Length of plain part top Thickness of plates bottom 35" Description of longitudinal joint weld No. of strengthening rings None
 Working pressure of furnace by the rules 184 lbs/sq Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 21/32" Top 23/32" Bottom 23/32"
 Pitch of stays to ditto: Sides 10 3/8" x 9 1/2" Back 9 1/4" x 8 7/8" Top 10 3/8" x 9 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 182 lbs/sq
 Material of stays Steel Area at smallest part 1 5/8" x 1 3/4" Area supported by each stay 82.17 sq Working pressure by rules 184 lbs/sq End plates in steam space:
 Material Steel Thickness 1 1/4" Pitch of stays 19 3/4" x 20 1/2" How are stays secured D. Nuts Working pressure by rules 180 lbs/sq Material of stays Steel
 Area at smallest part 3' x 2 3/4" Area supported by each stay 47.67 sq Working pressure by rules 180 lbs/sq Material of Front plates at bottom Steel
 Thickness 27/32" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 1/8" x 8 7/8" Working pressure of plate by rules 181 lbs/sq
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates Steel Thickness: Front 27/32" Back 23/32" Mean pitch of stays 10"
 Pitch across wide water spaces 13 7/8" Working pressures by rules F 180 lbs/sq, B 184 lbs/sq Orders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7 3/4" x 20 7/8" Length as per rule 2-8 5/8" Distance apart 9 1/2" Number and pitch of stays in each 2 @ 10 3/8"
 Working pressure by rules 181 lbs/sq 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 —

WhSh-0100

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Lloyd's Register
Foundation

If so, is a report now forwarded? *Forwarded with Gls. Rpt.*
N^o 43891

Survey Authorized per London letter 11/6/23

For David Rowan & Co. L^{td}

Manufacturer.

Dates of Examination of principal parts—Cylinders 28.5.24 Slides 16.6.24 Covers 28.5.24 Pistons 16.6.24 Rods 16.6.24
Connecting rods 16.6.24 Crank shaft 1.5.24 Thrust shaft 15.7.24 Tunnel shafts 17.7.24 Screw shaft 1.8.24 Propeller 1.8.24
Stern tube 6.8.24 Steam pipes tested 22.9.24 Engine and boiler seatings - 26.8.24 Engines holding down bolts - 21.9.24

Main boiler safety valves adjusted - 2 - 10 - 24 Thickness of adjusting washers - $\frac{1}{16}$ " $\frac{3}{8}$ " $\frac{1}{16}$ " $\frac{3}{8}$ "

Material of Tunnel shafts Steel Identification Marks on Do. N^o 787 Material of Screw shafts Steel Identification Marks on Do. N^o 787
W.L. 17-7-24 360 lbs 17-7-24

Material of Steam Pipes 10 Copper Test pressure 200 psi
Is the flash point of the oil to be used over 150°F. 200

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 S.S. "PENTRAETH" - Glo. Rpt. No 43891

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

This machinery has been constructed under Special Survey in accordance with the

Rules and Approved Plans: the materials and workmanship are good. The machinery

which has been forwarded to Keith to be installed on board the vessel, is eligible, in my

Opinion for Classification and to have the record \times L.M.C. (with date) in the Register

Book when it has been satisfactorily fitted on board the vessel and examined under work

conditions

The machinery of this vessel has been securely fitted on board

Safety valves of main & donkey boilers adjusted under steam to the above pressures

Boiler was checked & found in order. The machinery tried under steam & found

Satus Satoris

The machinery of this vessel is in good order & eligible in my opinion to

have record of $\frac{1}{2}$ L.M.C. 10.24 in the Register Book, & also notation for T.S.C. L113

It is submitted that
this vessel is eligible for

THE RECORD. + LMC 10.24. CL. 8.9

The amount of Entry Fee ... \$ 4 : 0 : 0 When applied for, 1/5 LEITH 111 B 13/10

Special 4/5 GLASSCO. W. £ 50 : 2 : 828/9/1934 J.B. Forster, & R. F. & Ashpole

Donkey Boiler Fee	£	-	:	-	:	When received,	
Travelling Expenses (if any)	£	-	:	-	:	29/9/1924	Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minutes

Committee's Minute

Assigned *Deferred.* 1


