

REPORT ON MACHINERY.

Received at London Office 29 OCT 1924

Date of writing Report 25th Oct. 1924 When handed in at Local Office 25th Oct. 1924 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 26. 3. 1924 Last Survey 10. 10. 1924
 Reg. Book. "S.S. CARLBETH" (Number of Visits 25)

S 88263 on the

Tons } Gross 2110
 Net 1250
 When built 1924

Master Built at Burntisland By whom built Burntisland L.C. Co. Ltd.
 Engines made at Glasgow By whom made D. Rowan & Co. Ltd. (No. 798) when made 1924.
 Boilers made at Glasgow By whom made D. Rowan & Co. Ltd. (No. 798) when made 1924.
 Registered Horse Power Owners J. A. Duff & Co. Port belonging to Glasgow.
 Nom. Horse Power as per Section 28 220 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 20"-33"-54" Length of Stroke 36" Revs. per minute 79 Dia. of Screw shaft 11.43" Material of 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 charged

If two liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 3'-10"

Dia. of Tunnel shaft as per rule 9.94" Dia. of Crank shaft journals as per rule 10.43" Dia. of Crank pin 11" Size of Crank webs 16" x 6 3/4" Dia. of thrust shaft under

collars 10 3/4" Dia. of screw 14'-4" Pitch of Screw 15'-3" No. of Blades 4 State whether moveable No Total surface 68.65

No. of Feed pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps BALLAST GENERAL 9 1/2" x 11" x 18" 7 1/2" x 5" x 8" 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 Holds, &c. Fore Hold 2-3" after 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 Yes - 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 — 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 — Deck platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Port Talbot Steel Co. Ltd., The Lanarkshire Steel Co. Ltd.

Total Heating Surface of Boilers 3804 sq. ft. Is Forced Draft fitted No No. and Description of Boilers Two Single-Ended

Working Pressure 180 lbs./sq. in. Tested by hydraulic pressure to 320 lbs./sq. in. Date of test 23. 9. 24 No. of Certificate 16612

Can each boiler be worked separately Yes Area of fire grate in each boiler 55 sq. ft. No. and Description of Safety Valves to

each boiler Two Spring loaded Area of each valve 7.06 sq. in. Pressure to which they are adjusted — 185 LBS. Are they fitted with easing gear Yes

Smallest distance between boilers — 18" Mean dia. of boilers 14'-3 3/32" Length 10'-6" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 28/32 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 3/32" Lap of plates or width of butt straps 18 1/2"

Per centages of strength of longitudinal joint rivets 93.4 Working pressure of shell by rules 180 lbs./sq. in. Size of manhole in shell 19 1/2" x 15 1/2"

Size of compensating ring 2'-10" x 2'-6" x 1 1/4" No. and Description of Furnaces in each boiler Three Beighton Material Steel Outside diameter 3'-5 3/32"

Length of plain part top bottom Thickness of plates bottom 3/32" Description of longitudinal joint weld No. of strengthening rings None

Working pressure of furnace by the rules 181 lbs./sq. in. 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 1/4" x 9 1/2" Back 9 1/4" x 8 7/8" Top 10 1/4" x 9 1/2" If stays are fitted with nuts or riveted heads None Working pressure by rules 182 lbs./sq. in.

Material of stays Steel Dia. OVER THREADS Area supported by each stay 82" x 97.5" Working pressure by rules 185 lbs./sq. in. End plates in steam space:

Material Steel Thickness 1 3/32" Pitch of stays 19" x 20" How are stays secured D. Nuts Working pressure by rules 182 lbs./sq. in. Material of stays Steel

Area supported by each stay 360" Working pressure by rules 182 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 3/8" x 8 7/8" Working pressure of plate by rules 182 lbs./sq. in.

Diameter of tubes 3 1/2" Pitch of tubes 4 3/8" x 4 1/2" Material of tube plates Steel Thickness: Front 27/32" Back 23/32" Mean pitch of stays 10"

Pitch across side water spaces 1 1/32" Working pressures by rules 181 lbs./sq. in. Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 7 1/2" x 23 7/8" Length as per rule 2'-7 5/8" Distance apart 9 1/2" Number and pitch of stays in each 20 x 10 1/4"

Working pressure by rules 182 lbs./sq. in. Steam dome: description of joint to shell None % of strength of joint —

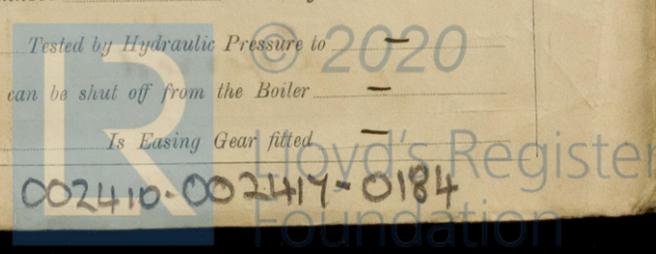
Diameter — Thickness — Material — Description of longitudinal joint — Diam. of rivet holes —

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 2020

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 —



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

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IS A DONKEY BOILER FITTED? *no* If so, is a report now forwarded? -

SPARE GEAR. State the articles supplied: - *All as per Rule requirements and, in addition, one propeller and a quantity of small gear.*

The foregoing is a correct description,
For David Rowan & Co. Ltd
Archd N. Grierson Manufacturer.

Dates of Survey while building: During progress of work in shops - *1924 Mar 26, 28 Jun 11 Jul 9, 10, 15, 30 Aug 4, 11, 12, 20, 22, 27 Sep 1, 3, 5, 11, 12, 15, 19, 23, 26, 30 Oct 7, 10*
During erection on board vessel - *Leith 18-9-24, 14-10-24, 14-10-24, 30-10-24, 4-11-24, 6-12-24 = 6 visits*
Total No. of visits *25* Is the approved plan of main boiler forwarded herewith *Yes*.

Dates of Examination of principal parts - Cylinders *5-9-24* Slides *12-9-24* Covers *5-9-24* Pistons *12-9-24* Rods *12-9-24*
Connecting rods *12-9-24* Crank shaft *1-9-24* Thrust shaft *20-8-24* Tunnel shafts *5-9-24* Screw shaft *7-10-24* Propeller *7-10-24*
Stern tube *19-9-24* Steam pipes tested *5-11-24* Engine and boiler seatings *19-9-24* Engines holding down bolts *24-10-24*
Completion of pumping arrangements *4-12-24* Boilers fixed *24-10-24* Engines tried under steam *6-12-24*
Completion of fitting sea connections *13-10-24* Stern tube *25-9-24* Screw shaft and propeller *8-10-24*
Main boiler safety valves adjusted *6-12-24* Thickness of adjusting washers - R $\left\{ \begin{matrix} P \frac{3}{32} \\ S \frac{1}{16} \end{matrix} \right.$ S $\left\{ \begin{matrix} P \frac{3}{32} \\ S \frac{3}{32} \end{matrix} \right.$
Material of Crank shaft *Steel* Identification Mark on Do. *LLOYD'S No 798 H.C.F. 1-9-24* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYD'S No 7076 J.A.N. 20-8-24*
Material of Tunnel shafts *Steel* Identification Marks on Do. *LLOYD'S No 798 H.C.F. 5-9-24* Material of Screw shafts *Steel* Identification Marks on Do. *LLOYD'S No 7079 H.C.F. 7-10-24*
Material of Steam Pipes - *W. Iron* Test pressure - *540 L.B.S.*

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 *Yes* If so, state name of vessel *s.s. "HALBEATH" - Glasgow Regt. No 43626*

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 has been forwarded to Leith to be fitted on board the vessel. This machinery is eligible, in my opinion, for classification, and to have the record L.M.C. (with date) in the Register Book, when it has been satisfactorily fitted on board the vessel and examined under full working conditions.

The machinery of this vessel has been securely fitted on board. Safety valves of main boilers adjusted under steam (See above for thicknesses of adjusting washers). Spare gear checked & found in order. The machinery tried under steam & found satisfactory.

The machinery of this vessel is in good order & eligible in my opinion to have record of L.M.C. 12-24 in the Register Book & also notation for B.C.L 12-24.

It is submitted that this vessel is eligible for THE RECORD. + LMC 12-24. CL. *J.W.D. 15/12/24*

The amount of Entry Fee ... £ 4 : 0 : 0 When applied for,
Special *1/8 LEITH* £ 11 : 0 : 0 *28/10/24*
4/8 GLASGOW £ 44 : 0 : 0
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : : : *31-10-24*

A.B. Forster & R. Pasthope
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW*
Assigned *Deferred*

DEC. 16 DEC 1924
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TUES. 8 JAN 1925
Lloyd's Register Foundation
TUES. 12 MAY 1925

Certificate (if required) to be sent to Glasgow

The Surveyors are requested not to write on or below the space for Committee's Minute.