

# REPORT ON MACHINERY.

No. 44173

Received at London Office

19 NOV 1924

Date of writing Report *Nov 14<sup>th</sup> 1924* When handed in at Local Office *Nov 14<sup>th</sup> 1924* Port of **GLASGOW.**

No. in Survey held at *Troon* Date, First Survey *9th June* Last Survey *Nov 5<sup>th</sup> 1924*  
Reg. Book. (Number of Visits *12*)

on the *Machinery of SS. BERYL* Tons { Gross *568*  
Net *236*  
Master *Troon* Built at *Troon* By whom built *Ailsa S.B. Co Ltd.* When built *1924*

Engines made at *Troon* By whom made *Ailsa S.B. Co Ltd* No *125* when made *1924*

Boilers made at *Glasgow* By whom made *Forth S.B. and Eng. Co Ltd* No *125* when made *1924*

Registered Horse Power Owners *W. Robertson* Port belonging to *Glasgow*

Nom. Horse Power as per Section 28 *88* 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 *13 1/2", 21", 35"* Length of Stroke *26* Revs. per minute *116* Dia. of Screw shaft as per rule *4.86* Material of screw shaft *S*  
as fitted *4 7/8"*

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 *- No oil gland* Length of stern bush *31 1/2"*

Dia. of Tunnel shaft as per rule *6.80* Dia. of Crank shaft journals as per rule *4.119* Dia. of Crank pin *4 1/8"* Size of Crank webs *13 3/4" x 4 9/16"* Dia. of thrust shaft under collars *4 1/8"* Dia. of screw *10 ft* Pitch of Screw *10 ft* No. of Blades *4* State whether moveable *No* Total surface *34 sq ft*

No. of Feed pumps *2* Diameter of ditto *2 1/2"* Stroke *13"* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *2* Diameter of ditto *2 1/2"* Stroke *13"* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *2* Sizes of Pumps *Ballast 8" x 8" x 8" G. Ser. 6" x 1 1/2" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *Two @ 2"* In Holds, &c. *For. hold 3 at 2"*

No. of Bilge Injections *1* sizes *3"* Connected to condenser, or to circulating pump *pump* Is a separate Donkey Suction fitted in Engine room & size *Yes 2 1/4"*

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 *Yes*

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 *Fore peak & For. bilges* How are they protected *Wood covering*

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 *None* Is it fitted with a watertight door *-* worked from *-*

BOILERS, &c.—(Letter for record *(5)* Manufacturers of Steel

Total Heating Surface of Boilers *1627 sq ft* Is Forced Draft fitted *No* No. and Description of Boilers *One S.E. Marine*

Working Pressure *180 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *4-10-24* No. of Certificate *16624*

Can each boiler be worked separately *-* Area of fire grate in each boiler *50 sq ft* No. and Description of Safety Valves to each boiler *2 spring loaded*

Area of each valve *5.94* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *3'* Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

bottom Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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

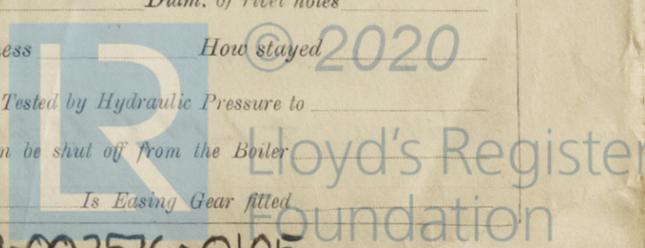
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

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

*See separate report*



002568-002576-0105

If not, state whether, and when, one will be sent

Is a Report also sent on the Hull of the Ship?

IS A DONKEY BOILER FITTED?

No ✓

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two connecting rod top end bolts and nuts two bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, a quantity of assorted bolts and nuts and iron of various sizes

The foregoing is a correct description,

FOR AILSA SHIPBUILDING CO., LIMITED.

J McNaughton

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1924 June 9 Aug 11 15 19 Sep 12 23 26 Oct 10 28 29 Nov 4 5; During erection on board vessel --- 12; Total No. of visits 12.

Is the approved plan of main boiler forwarded herewith Yes ✓

Is the approved plan of main boiler forwarded herewith " donkey " " "

Dates of Examination of principal parts—Cylinders 12-9-24 Slides 23-9-24 Covers 23-9-24 Pistons 23-9-24 Rods 23-9-24 Connecting rods 23-9-24 Crank shaft 12-9-24 Thrust shaft 12-9-24 Tunnel shafts — Screw shaft 12-9-24 Propeller 12-9-24 Stern tube 12-9-24 Steam pipes tested 31-10-24 Engine and boiler seatings 23-9-24 Engines holding down bolts 14-10-24 Completion of pumping arrangements 4-11-24 Boilers fixed 4-11-24 Engines tried under steam 5-11-24 Completion of fitting sea connections 26-9-24 Stern tube 23-9-24 Screw shaft and propeller 23-9-24 Main boiler safety valves adjusted 4-11-24 Thickness of adjusting washers PV 1/16 B SV 3/8 F. Material of Crank shaft S Identification Mark on Do. LLOYDS NO 632 DCB Material of Thrust shaft S Identification Mark on Do. LLOYDS NO 632 DCB Material of Tunnel shafts Identification Marks on Do. 12-9-24 Material of Screw shafts S Identification Marks on Do. 12-9-24 Material of Steam Pipes S D. Copper ✓ Test pressure 360 lbs ✓

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 No ✓ If so, state name of vessel —

General Remarks (State quality of workmanship, opinions as to class, &c. These engines have been built under Special Survey in accordance with the Rules of the Society Materials and workmanship are of good quality The engines and boiler have been securely fitted on board and tried under steam with satisfactory results It is submitted that the machinery of this vessel is eligible for a record of LMC 11-24.

It is submitted that this vessel is eligible for THE RECORD. + LMC 11.24. CL.

David C Barr 20/11/24

The amount of Entry Fee ... £ 2 : 0 : 0 When applied for, 18/11/24; 3/5 Special ... £ 13 : 4 : 0; Donkey Boiler Fee ... £ : : ; Travelling Expenses (if any) £ 2 : 2 : .

David C Barr. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 18 Nov 1924

Assigned + LMC 11, 24

CERTIFICATE WRITTEN 22.11.24



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Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.

2.6 14/11/24 Glasgow