

# REPORT ON MACHINERY.

No. 41735

Received at London Office

Date of writing Report 16 2 22. When handed in at Local Office Feb 16<sup>th</sup> 1922 Port of GLASGOW.

No. in Survey held at Ayr and Troon Date, First Survey 11. 3 1919 Last Survey 1. 2. 1922

Reg. Book. on the Machinery of S.S. DRAKE (Number of Visits 76.) Tons { Gross 1597 Net 794

Master Built at Ayr. By whom built Ailsa S.B. Co Ltd N°343. When built 1922

Engines made at Troon By whom made Ailsa S.B. Coy Ltd N° 108 when made 1922

Boilers made at Glasgow By whom made Dunsmuir & Jackson Ltd B.126 when made 1922

Registered Horse Power Owners General Steam Nav. Co Ltd. Port belonging to London.

Tom. Horse Power as per Section 28 259 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" 35" 54" Length of Stroke 39" Revs. per minute 90 Dia. of Screw shaft as per rule 11.5 as fitted 11.75 Material of screw shaft Iron

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 Solid If two

liners are fitted, is the shaft lapped or protected between the liners - Length of stern bush 65"

Dia. of Tunnel shaft as per rule 10.75 as fitted 10.75 Dia. of Crank shaft journals as per rule 11.32 as fitted 11.35 Dia. of Crank pin 11 3/8 Size of Crank webs 21 1/2 x 4 1/2 Dia. of thrust shaft under

collars 11 3/8 Dia. of screw 14'-0" Pitch of Screw 16' 3" No. of Blades 4 State whether moveable No Total surface 61.5 sq.

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 19 1/2 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 19 1/2 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4 Sizes of Pumps See back. No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 @ 2 1/2 In Holds, &c. No 1 hold. 2 @ 2 1/2 No 2 Hold 2 @ 2 1/2

No 3 Hold. 2 @ 2 1/2 Tunnel 1 @ 2 1/2

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

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 Below

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 Bilge & Ballast 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 Yes Is it fitted with a watertight door Yes worked from Shelter Deck

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

Total Heating Surface of Boilers 4516 sq ft Is Forced Draft fitted No No. and Description of Boilers Two S.E. Marine

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 5-5-21 No. of Certificate 15816.

Can each boiler be worked separately Yes Area of fire grate in each boiler 63 1/4 No. and Description of Safety Valves to

each boiler Two spring loaded Area of each valve 9.6 sq Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers 1' 8" Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. 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

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 space 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

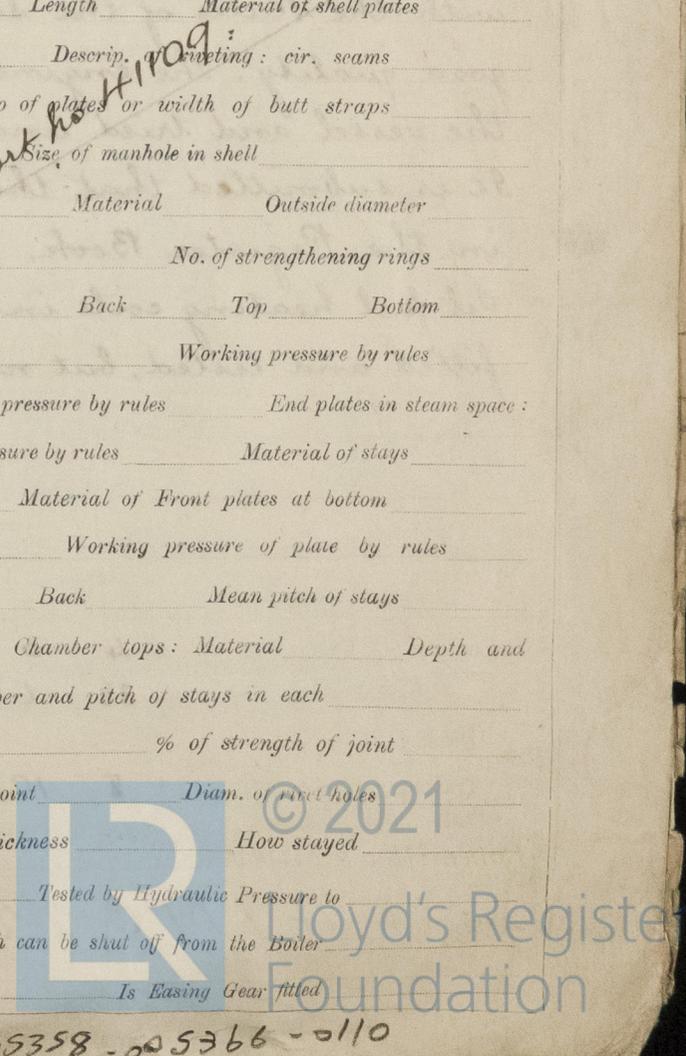
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

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

005358 - 005366 - 0110



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 connecting rod 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 Iron of various sizes.*

The foregoing is a correct description,  
FOR AILSA SHIPBUILDING CO., LIMITED.

*McMaugher*  
ENGINEER MANAGER

Manufacturer.

Dates of Survey while building: During progress of work in shops - - - 1919 Mar 11 May 2 Jul 8 Aug 14 1925 Sep 4 8 24 Oct 13 16 21 23 28 31 Nov 4 13 27 Dec 1 17 23 26 1920 Jan 22 26 29  
During erection on board vessel - - - Sep 8 14 21 22 27 Oct 5 19 25 28 Nov 29 Dec 7 12 19 23 26 (1922) 26 1.  
Total No. of visits *96*

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 24-5-21 Slides 24-5-21 Covers 24-5-21 Pistons 25-1-21 Rods 4-6-21  
Connecting rods 4-6-21 Crank shaft 24-5-21 Thrust shaft 10-6-21 Tunnel shafts 10-6-21 Screw shaft 28-6-21 Propeller 11-3-2  
Stern tube 2-8-21 Steam pipes tested 25-10-21 Engine and boiler seatings 24-9-21 Engines holding down bolts 28-10-21  
Completion of pumping arrangements 26-12-21 Boilers fixed 19-10-21 Engines tried under steam 1-2-22  
Completion of fitting sea connections 21-9-21 Stern tube 2-8-21 Screw shaft and propeller 29-8-21  
Main boiler safety valves adjusted 23-12-21 Thickness of adjusting washers PBSV 33" 31" 31" 15"  
Material of Crank shaft *S* Identification Mark on Do. *DCB 24 31* Material of Thrust shaft *S* Identification Mark on Do. *ILLOYDS N°108 DCB 10-6-21*  
Material of Tunnel shafts *S* Identification Marks on Do. *ILLOYDS N°108 DCB 10-6-21* Material of Screw shafts *Iron* Identification Marks on Do. *ILLOYDS N°108 DCB 28-6-21*  
Material of Steam Pipes *Lap-welded iron* Test pressure *540 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 *Yes* If so, state name of vessel *S.S. "Petrel."*

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

*Pumps. Ballast Pump. 6" x 8" x 8" Gen. Ser. Pump 8" x 6" x 8" Sanitary 4 x 4 x 5. Aux. Cond 6" x 6" x 6"  
Harbour Feed. 4" x 6" x 8" & 2 Main Feed (Weirs) 6" x 8" x 21"*

*The engines have been constructed under Special Survey in accordance with the Rules of the Society. The workmanship and materials are of good quality. The engines and boilers have been securely fitted on board the vessel and tried under steam with satisfactory results.*

*It is submitted that this vessel is eligible for a record of L.M.C. 2-22 in the Register Book.*

*Oil fuel heating coils in double bottom tanks and settling tanks have been fitted and tested, but no more of the oil fuel plant has been fitted*

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. - 2.22 C.L.*

The amount of Entry Fee ... £ 4 : 0 :  
Special ... £ 38 : 6 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ 8 : 10 :

When applied for, *21/2/22.*

When received, *23 2 1922*

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

Committee's Minute *GLASGOW 21 FEB 1922*

Assigned *+ LMC 2.22.*

MACHINERY CERT.  
WRITTEN 22.2.22  
issued 25/2/22



Certificate (if required) to be sent to Glasgow

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