

Rpt. 4.

## REPORT ON MACHINERY.

No. 42308.

WED. NOV. 22 1922

Date of writing Report 18 11 1922 When handed in at Local Office 18 11 1922 Port of Glasgow  
No. in Survey held at Glasgow Date, First Survey 12 Nov 1920 Last Survey 15-11-1922  
Reg. Book. s/s "Clan Macfarlane" (Number of Visits 64)  
on the Master Built at Irvine By whom built Ayrline Dryd Co. Ltd.  
Engines made at Glasgow By whom made Dunson & Jackson Ltd. (527) when made 1922  
Boilers made at ditto By whom made ditto (527) when made 1922  
Registered Horse Power Owners Barry Irvine & Co. Port belonging to Glasgow  
Nom. Horse Power as per Section 28 620 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 24 1/2 - 46 1/2 - 48 Length of Stroke 54 Revs. per minute 65 Dia. of Screw shaft as per rule 16 1/2 as fitted 18 1/4 Material of screw shaft S  
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 — If two  
liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 6-1  
Dia. of Tunnel shaft as per rule 15 9/16 as fitted 15 3/16 Dia. of Crank shaft journals as per rule 16 1/4 as fitted 16 1/4 Dia. of Crank pin 16 1/4 Size of Crank webs 3 1/2 x 10 1/4 Dia. of thrust shaft under  
collars 16 1/4 Dia. of screw 18 6 Pitch of Screw 19 0 No. of Blades 4 State whether moveable Yes Total surface 110 sq  
No. of Feed pumps 2 Diameter of ditto 4 3/4 Stroke 30 Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 2 Diameter of ditto 6 Stroke 30 Can one be overhauled while the other is at work Yes  
No. of Donkey Engines 4 Sizes of Pumps 2. 9. 2. 8. 5. 1. 6. 4. 4. 6. 1. 2. 1. 2. No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 2. 3 1/2 Stroke 2. 3 1/2 In Holds, &c. 2. 3 1/2 in each hold. Tunnel Well 1. 3 1/2

No. of Bilge Injections 1 sizes 8 Connected to condenser, and circulating pump C Pump Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2  
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 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 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 Engine Room Platform

**BOILERS, &c.—(Letter for record (S))** Manufacturers of Steel Steel Coy Scotland Beardmore & Sons  
Total Heating Surface of Boilers 8430 # Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended  
Working Pressure 215 Tested by hydraulic pressure to 373 Date of test 12. 6. 22. 5-6-22 No. of Certificate 16065, 16070, 16068  
Can each boiler be worked separately Yes Area of fire grate in each boiler 71.5 # No. and Description of Safety Valves to  
each boiler 2 Dual Spring Area of each valve 9.62 # Pressure to which they are adjusted 220 Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 6 1/2 Mean dia. of boilers 16-10 1/4 Length 12.6 Material of shell plates S  
Thickness 17/16 Range of tensile strength 29/33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR  
long. seams TRIDBS Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 10 Top of plates or width of butt straps 1-10 3/8  
Per centages of strength of longitudinal joint rivets 91.4 # Working pressure of shell by rules 216 Size of manhole in shell 16 x 12  
Size of compensating ring 83 1/4 x 17 1/6 No. and Description of Furnaces in each boiler 4 Horizontal Material S Outside diameter 3.4  
Length of plain part top 19 3/32 bottom 19 3/32 Description of longitudinal joint weld No. of strengthening rings  
Working pressure of furnace by the rules 219 Combustion chamber plates: Material S Thickness: Sides 3/4 Back 3/4 Top 3/4 Bottom 7/8  
Pitch of stays to ditto: Sides 8 7/8 x 9 3/4 Back 10 1/8 x 9 1/4 Top 5 7/8 x 10 If stays are fitted with nuts or riveted heads DN Working pressure by rules 217  
Material of stays S Area at smallest part 231.343 # Area supported by each stay 88.76 # Working pressure by rules 216 End plates in steam space: S  
Material S Thickness 15/16 Pitch of stays 2 1/2 x 16 3/4 How are stays secured DN Working pressure by rules 220 Material of stays S  
Area at smallest part 424 # Area supported by each stay 338.5 # Working pressure by rules 218 Material of Front plates at bottom S  
Thickness 13/64 Material of Lower back plate S Thickness 1 Greatest pitch of stays 14 1/2 x 13 1/4 Working pressure of plate by rules 231  
Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 1/16 Material of tube plates S Thickness: Front 13/64 Back 27/32 Mean pitch of stays 11.15  
Pitch across wide water spaces 13 1/2 Working pressures by rules 217 Girders to Chamber tops: Material None Depth and  
thickness of girder at centre 12 x 1 (2) Length as per rule 34 1/32 Distance apart 10 Number and pitch of stays in each 2 at 8 7/8  
Working pressure by rules 217 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 —  
Tested by Hydraulic Pressure to —

**UPERHEATER.** Type None Date of Approval of Plan — Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler —  
Date of Test — Is Easing Gear fitted —  
Diameter of Safety Valve — Pressure to which each is adjusted —

Lloyd's Register  
W374-0067



IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied:— one set each of Top, Bottom Main Bearings, Coupling bolts, one Impeller shaft, one Air Pump Rod, 1 Gals. Grease on hand of top, Bottom and Brasses, one Propeller shaft, one set of Field & Field Pump, Air Pump, Tank, one set of bars of steel & a quantity of bolts, nuts & washers etc.

The foregoing is a correct description,

James Fletcher

Manufacturer.

Dates of Survey while building: During progress of work in shops: 1920 Nov 12, 16, 22, Dec 20, 1921 Jan 19, Feb 7, 25, Mar 22, 24, Apr 7, 12, May 5, Jun 1, Aug 1, Sep 2, 1922 Jan 12, 30, Feb 17, 23, Mar 14, 15, 16, 27, Apr 3, 19, 27, May 8, 18, 24, 29, Jun 5, 6, 12, 19, 22, 26, 27, 28, Aug 1, 8, 10, 15, 23, 28, 31, Sep 1, 15, 18, 19, 22, 27, 29, Oct 5, 6, 11, 12, 26, 27, 31, Nov 9, 15. Total No. of visits: 64.

Is the approved plan of main boiler forwarded herewith?

Yes

Dates of Examination of principal parts: Cylinders 11.8.22, Slides 23.8.22, Covers 11.8.22, Pistons 14.2.22, Rods 17.2.22, Connecting rods 9.4.22, Crank shaft 19.4.22, Thrust shaft 28.10.22, Tunnel shafts 28.10.22, Screw shaft 8.8.22, Propeller 8.8.22, Stern tube 5.4.22, Steam pipes tested 23.8.22, Engine and boiler seatings 14.8.22, Engines holding down bolts 5.10.22, Completion of pumping arrangements 24.10.22, Boilers fixed 5.10.22, Engines tried under steam 15.11.22, Completion of fitting sea connections 10.4.22, Stern tube 17.8.22, Screw shaft and propeller 22.8.22, Main boiler safety valves adjusted 12.10.22, Thickness of adjusting washers P 1/16, S 1/16, S 1/16, P 1/16, S 1/16, F 1/16, A 27/64, Material of Crank shaft S, Identification Mark on Do. LLOYDS, Material of Thrust shaft S, Identification Mark on Do. LLOYDS, Material of Tunnel shafts S, Identification Marks on Do. W.G.M., Material of Screw shafts S, Identification Marks on Do. W.G.M., Material of Steam Pipes Iron, Test pressure 64 1/2 lb.

Is an installation fitted for burning oil fuel? Yes. Is the flash point of the oil to be used over 150°F? Yes. 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.) These Engines & boilers have been built under Special Survey in accordance with the approved plans & the workmanship & material are of good quality & they have been securely fitted on board & tried under steam & found satisfactory. The Machinery is eligible in my opinion to be entered with record of L.M.C. 11.22. F.P. above 150°F.

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. 11.22. F.D. C.L.

"Fitted for oil fuel" 11.22 F.P. above 150°F.

C. J. A. B.

23/11/22

W. Gordon - Sinclair

Engineer Surveyor to Lloyd's Register of Shipping.

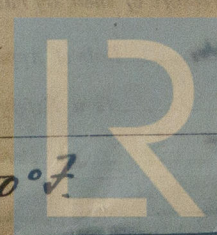
The amount of Entry Fee ... £ 6 : - : When applied for, 17.11.1922. Special ... £ 106 : 10 : When received, 21/11/1922. Donkey Boiler Fee ... £ 4 : 4 : Travelling Expenses (if any) £ 1 : - :

Committee's Minute GLASGOW 21 NOV 1922

Assigned + L.M.C. 11.22

CERTIFICATE WRITTEN 22.11.22

Fitted for oil fuel 11.22 F.P. above 150°F.



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