

REPORT ON MACHINERY

No. 41433

WED. 19 OCT. 1921

Received at London Office

Date of writing Report Oct 8th 1921 When handed in at Local Office Oct 12th 1921 Port of GLASGOW.

No. in Survey held at Yroon Date, First Survey 30th Nov 1920 Last Survey Oct 4th 1921
Reg. Book. Yroon (Number of Visits 21)

on the Machinery of SS ARCLIGHT

Master Yroon Built at Yroon By whom built Ailsa S.B. Co Ltd N°381 Tons ^{Gross} _{Net} When built

Engines made at Yroon By whom made Ailsa S.B. Co Ltd N° 116 when made 1921

Boilers made at Glasgow By whom made Dunsmuir & Jackson B142 when made 1921

Registered Horse Power Owners Light Shipping Co Ltd. Port belonging to Greenock.

Nom. Horse Power as per Section 28 124 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 15" 24 1/2" 40" Length of Stroke 30" Revs. per minute 105 Dia. of Screw shaft ^{as per rule} 8 3/4" ^{Material of} Iron
_{as fitted} 8 7/8" _{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 If two liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 3' 0"

Dia. of Tunnel shaft ^{as per rule} 4 1/4" Dia. of Crank shaft journals ^{as per rule} 8 1/8" Dia. of Crank pin 8 1/8" Size of Crank webs 15 1/2" x 5 1/2" Dia. of thrust shaft under collars 8 1/8" Dia. of screw 11' 0" Pitch of Screw 11' 9" No. of Blades 4 State whether moveable No Total surface 39 sq

No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 15" 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" & Ser. 4" x 4" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room One @ 2 1/4" In Holds, &c. Two @ 2 1/4"

No. of Bilge Injections 1 sizes 3 3/4" 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 —

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 F. Bilge How are they protected Wood cased

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) Manufacturers of Steel

Total Heating Surface of Boilers 2398 sq Is Forced Draft fitted No No. and Description of Boilers Two S E Marine

Working Pressure 180 Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Yes Area of fire grate in each boiler No. and Description of Safety Valves to each boiler Two Spring loaded Area of each valve 3.94 sq 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 5' 0" 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 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} ^{bottom} Thickness of plates ^{crow} ^{bottom} 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 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

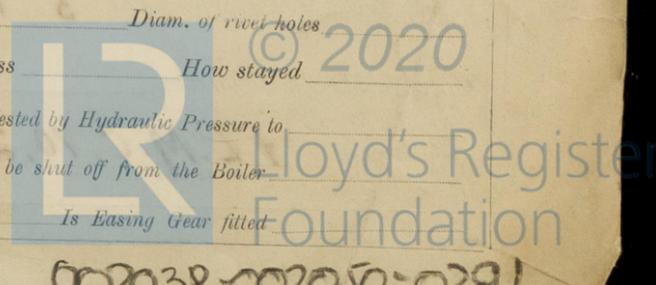
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

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



002038-002050-0281

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *—*

SPARE GEAR. State the articles supplied:— *Two top end and two bottom end connecting rod bolts and nuts, two main bearing bolts, 1 set of coupling bolts 1 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 -- } *1920 Mar 30 (1921) Jun 25 Feb 3 Mar 18 30 Apr 13 15 20 22 29 May 3 10 24 30 Jun 7 14 17 23 Sep 29*
{ During erection on board vessel --- } *Oct 5-7*
Total No. of visits *21*

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *29-4-21* Slides *29-4-21* Covers *3-5-21* Pistons *3-5-21* Rods *3-5-21*

Connecting rods *3-5-21* Crank shaft *15-4-21* Thrust shaft *20-4-21* Tunnel shafts *—* Screw shaft *29-4-21* Propeller *29-4-21*

Stern tube *3-5-21* Steam pipes tested *14-6-21* Engine and boiler seatings *10-5-21* Engines holding down bolts *30-5-21*

Completion of pumping arrangements *23-6-21* Boilers fixed *4-6-21* Engines tried under steam *4-10-21*

Completion of fitting sea connections *10-5-21* Stern tube *10-5-21* Screw shaft and propeller *10-5-21*

Main boiler safety valves adjusted *23-6-21* Thickness of adjusting washers SBSV $\frac{7}{16}$ " SBPV $\frac{25}{64}$ " PBSV $\frac{3}{8}$ " PBPV $\frac{3}{8}$ "

Material of Crank shaft *Steel* Identification Mark on Do. *LLOYDS 6398 No 116 D.C.B.* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYDS 6398 No 116 D.C.B. 20-4-21*

Material of Tunnel shafts *—* Identification Marks on Do. *15-4-21* Material of Screw shafts *Iron* Identification Marks on Do. *LLOYDS 6398 No 116 D.C.B. 29-4-21*

Material of Steam Pipes *SD 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. *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 + LMC 10-21 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD, + LMC. 10.21 CL

David C Barr
20/10/21

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

The amount of Entry Fee ... £ 3 : 0 :
Special ... £ 19 : 1 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 3 : 10 :
When applied for, *17.10.1921*
When received, *19.10.21*

Committee's Minute *GLASGOW 18 OCT 1921*

Assigned *+ L.M.C. 10.21.*

MACHINERY CERTI
WRITTEN
26.10.21
(dated 19.10.21)



Glasgow

Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.
HC: 17.10.21

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