

Rpt. 4.

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. on the Machinery of SS ARCLIGHT (Number of Visits 21)Master Yroon Built at Yroon By whom built Ailsa S.B. Co Ltd N°381 Tons ^{Gross} 1921
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 124 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 ExpansionNo. of Cylinders 3 No. of Cranks 3Dia. of Cylinders 15" 24 1/2" 40" Length of Stroke 30" Revs. per minute 105 Dia. of Screw shaft ^{as per rule} 8 1/4" ^{as fitted} 8 3/8" Material of 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 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" ^{as fitted} None Dia. of Crank shaft journals ^{as per rule} 8 1/8" ^{as fitted} 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 sqNo. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work YesNo. 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 1/4" 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 BothAre 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 AboveAre 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 YesWhat pipes are carried through the bunkers F. Bilge How are they protected Wood casedAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YesIs 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 SE MarineWorking 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 YesSmallest 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 — Thickness of plates — 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 —Date of Test — Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler — Tested by Hydraulic Pressure to —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

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 30 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 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 6397 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

Ans. Reel 20/10/21

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

David C Barr.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 18 OCT 1921

Assigned

+ L.M.C. 10.21.

MACHINERY CERTI
WRITTEN
26.10.21
(dated 19.10.21)



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Lloyd's Register
Foundation

Glasgow

Certificate (if required) to be sent to

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