

REPORT ON MACHINERY.

No. 17246.
WED. 10. APR. 1918

Received at London Office

Date of writing Report 29 March 1918 When handed in at Local Office 1 April 1918 Port of Greenock

No. in Survey held at Greenock - Port Glasgow Date, First Survey 28th June, 1916, Last Survey 30 March 1918
Reg. Book. 89 in S. on the Steel screw steamer Ardglass (Number of Visits 4)

Master J. J. Kerr Built at Port Glasgow By whom built Russell & Co Tons { Gross 4617.01
Net 2932.28
When built 1918

Engines made at Greenock By whom made John S. Macdonald & Co when made 1918
Boilers made at Greenock By whom made John S. Macdonald & Co when made 1918

Registered Horse Power _____ Owners Steamship Ardgangy Co. Ltd. Port belonging to Greenock
Nom. Horse Power as per Section 28 474 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 26" - 42" - 70" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 14.47 Material of screw shaft Steel
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 60"

Dia. of Tunnel shaft as per rule 12.98 Dia. of Crank shaft journals as per rule 15.62 Dia. of Crank pin 13 1/4" Size of Crank webs 25 1/2" x 8 1/4" Dia. of thrust shaft under collars 13 1/4" Dia. of screw 17.6" Pitch of Screw 16.0" No. of Blades 4 State whether moveable Yes Total surface 96 sq ft

No. of Feed pumps one Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work Yes
No. of Bilge pumps Three Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps 18" x 10" - 6" x 8" - 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps _____
Engine Room Three 3/2" In Holds, &c Eight 3/2" - Ten 3/2"

Fuel oil discharge trunking 7 1/2" - 8"
No. of Bilge Injections one sizes 8" Connected to condenser, or to circulating pumps Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3/2"

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 Yes

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 —
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

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 Top Deck Room

MATERIALS, &c.—(Letter for record Yes) Manufacturers of Steel Blair & Co. Glasgow

Total Heating Surface of Boilers 7014 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Three Compound
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 25 Jan 1918 No. of Certificate 1322

Can each boiler be worked separately Yes Area of fire grate in each boiler 55 1/2 sq ft No. and Description of Safety Valves to boiler Two Spring Area of each valve 8.29 sq in Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 22" Mean dia. of boilers 16.9" Length 11.6" Material of shell plates Steel
Thickness 1 1/16" Range of tensile strength 28 - 32 Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams —

seams all cir. rivets Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8 1/4" Lap of plates or width of butt straps 18 1/2"
Percentages of strength of longitudinal joint 87.5 Working pressure of shell by rules 181 lbs Size of manhole in shell 16" x 12"

of compensating ring Range 1 1/16" No. and Description of Furnaces in each boiler Three Brighton Material Steel Outside diameter 46 1/2"
Thickness of plates 9 1/16" Description of longitudinal joint Welded No. of strengthening rings Compy

Working pressure of furnace by the rules 191 lbs Combustion chamber plates: Material Steel Thickness: Sides 10 1/16" Back 2 1/16" Top 10 1/16" Bottom 1 1/16"
of stays to ditto: Sides 8 1/2" x 8 1/4" Backs 8 1/2" x 9 1/4" Top 8 1/2" x 8 1/4" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 181 lbs

Material of stays Iron Area at smallest part 1.79 sq in Area supported by each stay 7 sq in Working pressure by rules 193 lbs End plates in steam space: —
Material Steel Thickness 1 1/16" Pitch of stays 2 1/2" - 19 1/16" How are stays secured all nut Working pressure by rules 181 lbs Material of stays Steel

at smallest part 8.12 sq in Area supported by each stay 462 sq in Working pressure by rules 181 lbs Material of Front plates at bottom Steel
Thickness 15 1/16" Material of Lower back plate Steel Thickness 1 1/16" Greatest pitch of stays 13" Working pressure of plate by rules 184 lbs

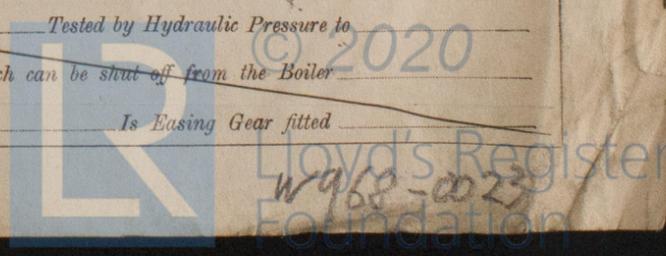
Diameter of tubes 2 1/2" Pitch of tubes 3 1/2" - 5 1/16" Material of tube plates Steel Thickness: Front 19 1/16" Back 1 1/16" Mean pitch of stays 9.28"
across wide water spaces 18" Working pressures by rules 187 lbs Girders to Chamber tops: Material Steel Depth and

yes — thickness of girder at centre 8 1/4" - 1 1/2" Length as per rule 51.66 Distance apart 8 1/2" Number and pitch of stays in each two 8 1/4"
Working pressure by rules 199 lbs Steam dome: description of joint to shell _____ % of strength of joint _____

Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet holes _____
of rivets _____ Working pressure of shell by rules _____ Crown plates _____ Thickness _____ How stayed _____

REHEATER. Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____
Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____

of Safety Valve _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____



IS A DONKEY BOILER FITTED? *No* If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two top end bolts. Two bottom end bolts. Two main bearing bolts. One set coupling bolts. One set head pump valves. One set safety valves. One set check valves. Three cylinder escape valves. Springs. Three safety valve springs. Various bolts nuts etc.*

The foregoing is a correct description.
for and on behalf of **JOHN G. KINCAID & COY., LIMITED.**

W. Wingham Director, Manufacturer.

Dates of Survey while building: During progress of work in shops (17/6, June 28, July 7, Aug 7, Oct 4 (1917), Feb 22, Mar 19, 22, May 2, 4, 8, 11, 14, 15, June 4, 6, 25, July 18, Aug 7, 28, Sep 5, Oct 1). During erection on board vessel (25, 26, 29 Nov, 1, 2, 6, 7, 12, 13, 14, 16, 17, 28, 22, 26, 28, 30, Dec 3, 4, 6, 7, 10, 12, 13, 14, 20, 25, 31 (1918), Jan 9, 10, 15, 17, 21, 24, 25, 28, 30, Feb 4, 6, 8, 18, 20, 22, 27, Mar 6, 7, 9, 12, 13, 19, 21, 29, 30). Total No. of visits *24*. Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *13/12/17* Slides *29/1/18* Covers *13/12/17* Pistons *29/1/18* Rods *29/1/18*
Connecting rods *4/2/18* Crank shaft *2/11/17* Thrust shaft *4/2/18* Tunnel shafts *22/2/18* Screw shaft *6/12/17* Propeller *17/1/18*
Stern tube *25/12/17* Steam pipes tested *12-13/3/18* Engine and boiler seatings *10/1/18* Engines holding down bolts *22/2/18*
Completion of pumping arrangements *2/3/18* Boilers fixed *22/2/18* Engines tried under steam *29/3/18*
Completion of fitting sea connections *10/1/18* Stern tube *10/1/18* Screw shaft and propeller *4/2/18*
Main boiler safety valves adjusted *19/3/18* Thickness of adjusting washers *P 1 1/2 - S 1 1/2 - P 1 1/2 - S 1 1/2 - P 1 1/2 - S 2 1/2*

Material of Crank shaft *Steel* Identification Mark on Do. *4411* Material of Thrust shaft *Steel* Identification Mark on Do. *4411*
Material of Tunnel shafts *Steel* Identification Marks on Do. *4411* Material of Screw shafts *Steel* Identification Marks on Do. *4411*
Material of Steam Pipes *Iron* Test pressure *boiler*
Is an installation fitted for burning oil fuel 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 If so, state name of vessel *—*

General Remarks (State quality of workmanship, opinions as to class, &c. *Workmanship good.*)
The Engines and Boilers of this Steamer have been constructed under special survey and placed on land in accordance with the Societies Rules. They are now in my opinion in safe working condition and subject fully submitted for the F.D. Certification + L.M.C. 3-18 in the Register Book.

This vessel is fitted to carry fuel oil in double bottom. Oil above 150° F. The requirements have been carried out.

It is submitted that this vessel is eligible for THE RECORD + L.M.C 3.18. F.D.

J.W.D.
10/4/18

James James
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee	£ 1 : 0 :	When applied for,
Special	£ 43 : 14 :	3rd April, 1918.
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any)	£ :	5th April, 1918.

Committee's Minute **GLASGOW.** 9 APR 1918

Assigned + L.M.C 3, 18

MACHINERY CERTIFICATE WRITTEN 10.4.18

VESSELS

These particulars are Signal Letters (if any)

Official Number.

137060

No., Date, and Port of Previous

Whether British or Foreign Built. Whether and if a

British

Number of Decks

Number of Masts

Rigged ...

Stern ...

Build ...

Galleries ...

Head ...

Framework and description vessel ...

Number of Bulkheads ...

Number of water ballast tanks and their capacity in tons

Total to quarter the depth from weather to bottom of keel

No. of sets of Engines.

Description of Engines. *Triple Expansion*

No. of shafts.

Particulars of Boilers. Description, Number, Iron or Steel, Loaded Pressure *180 lb*

GROSS TONNAGE

Under Tonnage Deck ...

Space or spaces between Deck

Turret or Trunk ...

Forecastle ...

Bridge space *Raised*

Poop or Break ...

Side Houses ...

Deck Houses ...

Chart House ...

Spaces for machinery, and 1 Section 78 (2) of the Merc 1894

Excess of Hatchways ...

Gross Tonnage Deductions, as per Contract

Registered Tonnage

NOTE 1.—The tonnage of the engine Deck for propelling machinery

NOTE 2.—The undermentioned spaces

Open Forecastle

Open Bridge

Less House, Eng

Name of Master

No. of Owners

Name, Residence, and De

Steamship

of 1, Cal

Dated *26th*

(830) (74343) Wt. 19793 74 2000



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