

# REPORT ON MACHINERY

Received at London Office

THU. APR 8 1920

Date of writing Report 1<sup>st</sup> April 1920 When handed in at Local Office 6<sup>th</sup> 4<sup>th</sup> 1920 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 16/10/19 Last Survey 25.3 1920  
Reg. Book. on the S.S. Somerset Coast. (Number of Visits 31)

Master Built at Glasgow By whom built Harland & Wolff Ltd (592G) When built 1920  
Engines made at Glasgow By whom made A. & J. Inglis Ltd (444) when made 1920  
Boilers made at Glasgow By whom made A. & J. Inglis Ltd (604) when made 1920

Registered Horse Power Owners Coast Lines Ltd Port belonging to Liverpool.  
Nom. Horse Power as per Section 28 203.8 203 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes.

**ENGINES, &c.**—Description of Engines *Triple* No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 18" 30" 50" Length of Stroke 36 Revs. per minute 91 Dia. of Screw shaft as per rule 10.8 as fitted 11.4 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 L 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 L If two liners are fitted, is the shaft lapped or protected between the liners L Length of stern bush 4' 0"

Dia. of Tunnel shaft as per rule 9.3 as fitted 10" Dia. of Crank shaft journals as per rule 9.44 as fitted 10" Dia. of Crank pin 10" Size of Crank webs 6 3/4 x 18 1/2 Dia. of thrust shaft under collars 10" Dia. of screw 14' 0" Pitch of Screw 12' 3" No. of Blades 4 State whether moveable No Total surface 76 sq ft

No. of Feed pumps 2 Diameter of ditto 2 5/8" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 5/8" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 2 Weir Feed 7" x 5" x 1 1/2" Dawson & Downie Ballast 8" x 9" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2 - 2 1/2" Dia. Stokehold 2 - 2 1/2" Dia. In Holds, &c. No. 1 & 2 Holds 2 each @ 2 1/2" Dia.

No. of Bilge Injections 1 sizes 5 1/2" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 2 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 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 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 Forward hold suction How are they protected wood casing

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 Yes

**BOILERS, &c.**—(Letter for record 8) Manufacturers of Steel David Colville & Sons Ltd R.S.B.

Total Heating Surface of Boilers 3702 sq ft Is Forced Draft fitted No No. and Description of Boilers Two Single Endpt.

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 24 & 28/12/20 No. of Certificate 150654 & 15058

Can each boiler be worked separately Yes Area of fire grate in each boiler 58 sq ft No. and Description of Safety Valves to each boiler 2 Spring Loaded Area of each valve 7.06 sq in 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 12' 0" Mean dia. of boilers 14' 1 3/32" Length 10' 6" Material of shell plates S

Thickness 1 1/2" Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. long. seams D.B.S., T.R. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/8" Lap of plates or width of butt straps 18 1/8"

Per centages of strength of longitudinal joint rivets 94.2 plate 85.04 Working pressure of shell by rules 180.5 lbs Size of manhole in end of shell 16" x 12"

Size of compensating ring Plate flanged in No. and Description of Furnaces in each boiler 3 Morrison Material S Outside diameter 43 1/2"

Length of plain part top bottom Thickness of plates crown 1 1/2 bottom 3/2 Description of longitudinal joint Weld. No. of strengthening rings

Working pressure of furnace by the rules 189.2 lbs Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 3/4"

Pitch of stays to ditto: Sides 8 3/4 x 8" Back 9 1/4 x 7 1/2" Top 8 x 7 1/2" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 190.3

Material of stays S Area at smallest part 1.69 Area supported by each stay 40 Working pressure by rules 193 lbs End plates in steam space: Material S Thickness 1 1/2" Pitch of stays 20 1/2 x 14 1/2 How are stays secured Bolted & Nutted Working pressure by rules 180 Material of stays S

Area at smallest part 6.23 Area supported by each stay 350 Working pressure by rules 184 Material of Front plates at bottom S

Thickness 3/4" Material of Lower back plate S Thickness 3/4" Greatest pitch of stays 13 1/2 x 7 1/2 Working pressure of plate by rules 191 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 3/8" Material of tube plates S Thickness: Front 3/4" Back 3/4" Mean pitch of stays 10"

Pitch across wide water spaces 14 1/4 Working pressures by rules 201 Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 1/4 x 3/4(2) Length as per rule 30 5/8 Distance apart 8 3/8 Number and pitch of stays in each 308

Working pressure by rules 250 lbs 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

**SUPERHEATER.** Type Date of Approval of Plan Tested by Hydraulic Pressure to

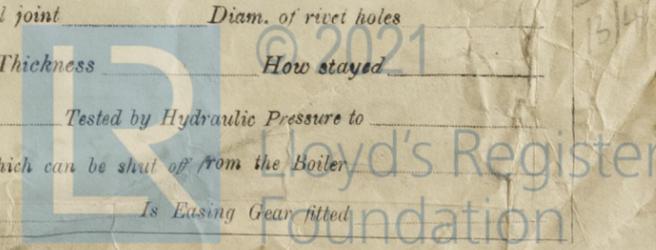
Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

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

If not, state whether, and when, one will be sent

Is a Report also sent on the Hull of the Ship?

002298-002304-0013



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two top end & two bottom end bolts & nuts for connecting rods. Two main bearing bolts & nuts. One set coupling bolts. One set feed and bilge pump valves. Iron of various sizes. Quantity assorted bolts & nuts.*

The foregoing is a correct description,

A. & J. INGLIS LIMITED.

William Booth, Secy.  
Manufacturers.

Dates of Survey while building  
 During progress of work in shops - 1919 Oct 1-21. 23. 28. 30 Nov 10. 12. 19. 21. 28. Dec 3. 5. 8. 12. 14. 19  
 During erection on board vessel - 1920 Jan 10. 12. 20. 28. 29. 30. Feb 5. 10. 13. 16. 24. 14. 25. Mar 4. 25  
 Total No. of visits 31

Is the approved plan of main boiler forwarded herewith *do*

Dates of Examination of principal parts—Cylinders *16.7.23.10.19* Slides *12.1.20* Covers *12.1.20* Pistons *28.10.19* Rods *12.1.20*  
 Connecting rods *12.1.20* Crank shaft *12.11.19* Thrust shaft *14.12.19* Tunnel shafts *None* Screw shaft *5.12.19* Propeller *16.2.20*  
 Stern tube *3.12.19* Steam pipes tested *12.12.19. 15.2.20* Engine and boiler seatings *10.1.20* Engines holding down bolts *25.2.20*  
 Completion of pumping arrangements *4.3.20* Boilers fixed *13.2.20* Engines tried under steam *4.3.20*  
 Completion of fitting sea connections *19.12.19* Stern tube *24.2.20* Screw shaft and propeller *24.2.20*  
 Main boiler safety valves adjusted *4.3.20*

Material of Crank shaft *S* Identification Mark on Do. *LLOYD'S 3164 2/11/19* Material of Thrust shaft *S* Identification Mark on Do. *LLOYD'S 3164 2/11/19*  
 Material of Tunnel shafts *None* Identification Marks on Do. Material of Screw shafts *S* Identification Marks on Do. *LLOYD'S 3164 2/11/19*  
 Material of Steam Pipes *Lapwelded wrought iron* Test pressure *540 lbs per sq in*

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.)  
*The Engines & Boilers of this vessel have been built under Special Survey, the workmanship and materials are good, they have been well fitted on board, tried under steam and found to work satisfactorily.  
 The Machinery of this vessel is eligible in my opinion for the record of + LMC 3.20 in the Register book.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 3.20

*J.W.D. 9/4/20*  
*A.R.R.*

GLASGOW

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

The amount of Entry Fee ... £ 2 : : :  
 Special ... £ 30 : 4 : :  
 Donkey Boiler Fee ... £ : : :  
 Travelling Expenses (if any) £ : : :  
 When applied for, 7.4.20.  
 When received, 10/4/20

*W.S. Murray*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 7-APR 1920  
 Assigned + LMC 3.20

MACHINERY CERTIFICATE  
 WRITTEN  
 9-4-20

