

REPORT ON MACHINERY.

No. 33658

WED. FEB. 25. 1914

Received at London Office

4.

Writing Report

10

When handed in at Local Office

28. 2. 1914 Port of Glasgow

Survey held at Clydebank

Date, First Survey 14. 3. 13 Last Survey 14. 2. 1914

on the Stuel 1/2 Carrowdore

(Number of Visits 22

Tons } Gross 599
Net 226.

Built at Bowling By whom built Scott Sons

When built 1914

is made at Clydebank By whom made Aitchison Blair & Co

when made 1914

is made at Glasgow By whom made Dummuir & Jackson Ltd.

when made 1913

rated Horse Power

Owners Arthur Guinness Son & Co Ltd

Port belonging to Belfast

Horse Power as per Section 28 116

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes

INES, &c.—Description of Engines Triple expansion

No. of Cylinders 3 No. of Cranks 3

of Cylinders 15" 25 1/2" 41" Length of Stroke 30" Revs. per minute 110 Dia. of Screw shaft as per rule 8.46 Material of screw shaft as fitted 8.76 Material of screw shaft) steel

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

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

on the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two

s are fitted, is the shaft lapped or protected between the liners — Length of stern bush 2'-10 5/8"

of Tunnel shaft as per rule 4.74 Dia. of Crank shaft journals as per rule 8.15 Dia. of Crank pin 8 1/4 Size of Crank webs 11 3/4 x 5 1/2 Dia. of thrust shaft under

as fitted none as fitted 8.74 No. of Blades 4 State whether moveable no Total surface 33.37

of Feed pumps 2 Diameter of ditto 2 1/4 Stroke 16 1/2 Can one be overhauled while the other is at work yes

of Bilge pumps 2 Diameter of ditto 2 1/4 Stroke 16 1/2 Can one be overhauled while the other is at work yes

of Donkey Engines 2 Sizes of Pumps duplex 7-4 1/2 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 2 of 2" In Holds, &c. 2 of 2 1/2"

of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump and pp Is a separate Donkey Suction fitted in Engine room & size yes 2"

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

all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both

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

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

that pipes are carried through the bunkers bilge How are they protected wood casings

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes

dates of examination of completion of fitting of Sea Connections 26. 1. 14. of Stern Tube 26. 1. 14. Screw shaft and Propeller 26. 1. 14

the Screw Shaft Tunnel watertight none Is it fitted with a watertight door — worked from —

ILERS, &c.—(Letter for record) Manufacturers of Steel made by Dummuir & Jackson. See separate report.

Total Heating Surface of Boilers 2034 Is Forced Draft fitted no No. and Description of Boilers one single ended

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

can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 5.94 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

mg. 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 Thickness of plates crown 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 Diameter 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

Diameter 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 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

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

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

002667-002673-0126



VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____

Working pressure _____ tested by hydraulic pressure to _____ When made _____ Where fixed _____

Valves _____ No. of Safety Valves _____ Area of each _____ No. of Certificate _____ Fire grate area _____ Description of _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Pressure to which they are adjusted _____ Date of adjustment _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Dia. of donkey boiler _____ Length _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 2 top end, 2 bottom end, 2 main bearing & set of coupling bolts & nuts - set of judd bilge pump valves. Assorted iron bolts & nuts.

AITCHISON, BLAIR LTD.

Arch. Blair Director

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	During progress of work in shops	1913. Mar 10-14. Apr 10. May 7-15-23. June 3-18. July 1-14. Aug 19. Sept 1
	During erection on board vessel	Oct 3-17. 1914. Jan 14-26-28. Feb 4-6-13-14
	Total No. of visits	22

Is the approved plan of main boiler returned forwarded herewith *ye*

Dates of Examination of principal parts	Cylinders 14-3-13. Slides 15-5-13. Covers 15-5-13. Pistons 18-6-13. Rods 23-5-13.
Connecting rods	3-6-13. Crank shaft 1-7-13. Thrust shaft 19-8-13. Tunnel shafts —. Screw shaft 14-7-13. Propeller 26-9-13.
Stern tube	18-6-13. Steam pipes tested 6-2-14. Engine and boiler seatings 26-1-14. Engines holding down bolts 4-2-14.
Completion of pumping arrangements	13-2-14. Boilers fixed 13-2-14. Engines tried under steam 14-2-14.
Main boiler safety valves adjusted	13-2-14. Thickness of adjusting washers PV $\frac{5}{16}$ SV $\frac{5}{16}$
Material of Crank shaft	steel. Identification Mark on Do. 83 AC. Material of Thrust shaft steel. Identification Mark on Do. 83
Material of Tunnel shafts	— Identification Marks on Do. —. Material of Screw shafts steel. Identification Marks on Do. 83
Material of Steam Pipes	Copper. Test pressure 360 lbs $\frac{1}{2}$

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery of this vessel has been constructed under special survey in accordance with the rules and has been seen working satisfactorily under steam. Materials & workmanship are good.

This machinery is eligible in my opinion to be classed + LMC. 2. 14.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 2. 14.

JWD 26/2/14 *APR*

Harry Clarke

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	£ 2 : 0 :	When applied for,
Special	£ 10 : 12 :	23-2-1914
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any)	£ :	18-3-1914

Committee's Minute **GLASGOW** 24 FEB. 1914

Assigned + LMC. 2. 14

MACHINERY CERTIFICATE
 WRITTEN
 19-3-14



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GLASGOW

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

WEB FRAMES, In Fore
 No. of Side String
 B-FRAMES, In E. & B
 B-FRAMES, In After
 No. of Side String
 Size of Face Angle
 SOCKET PLATES to
 b Frames, depth an
 LKHEADS. Nu
 Vessel
 BULKHEADS
 Peak
 in room
 ISSION "
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 the outside Plates of
 the Sluice Valves a
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