

REPORT ON MACHINERY

No. 34713

Received at London Office

Date of writing Report 10 When handed in at Local Office 10 Port of Glasgow
No. in Survey held at Clydebank Date, First Survey 28/5/14 Last Survey 29/12/14
Reg. Book. on the s/s Clarecastle (Number of Visits 20)
Master Built at Bowling By whom built Scott & Sons Tons Gross 627 Net 236
Engines made at Clydebank By whom made Aitchison Blair & Co when made 1914
Boilers made at Glasgow By whom made Dunmuir & Jackson Ltd when made 1914
Registered Horse Power Owners John Kelly Ltd Port belonging to Belfast
Nom. Horse Power as per Section 28 113 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 15-25½-41 Length of Stroke 30 Revs. per minute 108 Dia. of Screw shaft as per rule 8.46 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 close fit If two
liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 2'10½"
Dia. of Tunnel shaft as per rule 7.77 Dia. of Crank shaft journals as per rule 8.15 Dia. of Crank pin 8½ Size of Crank webs 5½x15½ Dia. of thrust shaft under
collars 8½ Dia. of screw 10'-0" Pitch of Screw 13'-6" No. of Blades 4 State whether moveable no Total surface 37 ft
No. of Feed pumps 2 Diameter of ditto 2½ Stroke 16½ Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 2½ Stroke 16½ Can one be overhauled while the other is at work yes
No. of Donkey Engines 2 Sizes of Pumps 1 duplex 4-4½x8 feed & general Ballast No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 2 of 2½" In Holds, &c. Hold 2 of 2½"

No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump circ. pump Is a separate Donkey Suction fitted in Engine room & size yes 2½"
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 bilge 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
Dates of examination of completion of fitting of Sea Connections 25.11.14 of Stern Tube 25.11.14 Screw shaft and Propeller 25.11.14
Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record) Manufacturers of Steel See separate report

Total Heating Surface of Boilers 1938 ft Is Forced Draft fitted no No. and Description of Boilers one single ended
Working Pressure 180 lb Tested by hydraulic pressure to Date of test No. of Certificate
Can each boiler be worked separately Area of fire grate in each boiler 57 ft 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 lb Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork 6'-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 rivets plate 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

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

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

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 and set of coupling bolts and nuts. Set of feed and bilge pump valves. 1 main and 1 donkey feed check valves. Assorted iron bolts and nuts.

The foregoing is a correct description,

Manufacturer.

AITCHISON, BLAIR LTD.

Arch Blair.

Dates of Survey while building { During progress of work in shops - 1914 May 28 June 29 Aug 4 21 31 Sept 11 18 25 Oct 5 13 28 Nov 3 6 Dec 11 14 15 18 21 26 29
During erection on board vessel - - -
Total No. of visits 20

Is the approved plan of main boiler forwarded herewith _____

" " " donkey " " " _____

Dates of Examination of principal parts—Cylinders 29.6.14 4.8.14 Slides 15.9.14 Covers 29.6.14 Pistons 21.8.14 Rods 29.6.14
Connecting rods 29.6.14 Crank shaft 4.8.14 Thrust shaft 29.6.14 Tunnel shafts _____ Screw shaft 28.10.14 Propeller 13.10.14
Stern tube 21.8.14 Steam pipes tested 18.12.14 Engine and boiler seatings 25.11.14 Engines holding down bolts 21.12.14
Completion of pumping arrangements 21.12.14 Boilers fixed 21.12.14 Engines tried under steam 29.12.14
Main boiler safety valves adjusted 26.12.14 Thickness of adjusting washers PV $\frac{3}{8}$ " SV $\frac{23}{64}$
Material of Crank shaft steel Identification Mark on Do. 91 AC Material of Thrust shaft steel Identification Mark on Do. 91 AC
Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts steel Identification Marks on Do. 91 AC
Material of Steam Pipes solid drawn 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 under steam satisfactory. Materials and workmanship are good.

This machinery is eligible in my opinion to be classed + LMC-12.14.

It is submitted that this vessel is eligible for THE RECORD + LMC-12.14.

JM JAR 7/1/15.

Harry Clarke.

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

The amount of Entry Fee .. £ 2 : 0 :
Special .. £ 16 : 19 :
Donkey Boiler Fee .. £ 6 : 9 :
Travelling Expenses (if any) £ : :
When applied for, 5/1/15
When received, 8/1/15

Committee's Minute

GLASGOW

- 6 JAN 1915

Assigned + L.M.C. 12.14.

MACHINERY CERTIFICATE
WRITTEN 7-1-15



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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.)

L.A. 24/1/15