

Rpt. 4.

## REPORT ON MACHINERY.

No. 32255

Received at London Office

WED. JAN. 22. 1913

Date of writing Report

19

When handed in at Local Office

18. 1.

19

Port of

Glasgow

No. in Survey held at  
Reg. Book.

Clydebank

Date, First Survey

29. 5. 12

Last Survey

15. 1.

19 13.

on the

1/2 Carnalea

(Number of Visits

18)

Tons

Gross 579

Net 233.

When built 1913

Master J. Robinson

Built at

Bowling

By whom built

Scott &amp; Sons

Engines made at

Clydebank

By whom made

Aitchison Blair &amp; Co.

when made 1913

Boilers made at

Glasgow

By whom made

Dunsmuir &amp; Jackson

when made 1913

Registered Horse Power

Owners

John Kelly &amp; Co.

Port belonging to

Belfast

Nom. Horse Power as per Section 28

113

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

## ENGINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

15. 25. 41

Length of Stroke

30

Revs. per minute

105

Dia. of Screw shaft

as per rule 8. 34

Material of

stabil

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 2'- 10 5/8"

Dia. of Tunnel shaft

as per rule 4. 6

Dia. of Crank shaft journals

as per rule 7. 99-8. 16

Dia. of Crank pin

8 1/4

Size of Crank webs

5 1/2 x 11 3/4

Dia. of thrust shaft under

collars

8 1/4

Dia. of screw

10'- 0"

Pitch of Screw

13'- 6"

No. of Blades

4

State whether moveable

no

Total surface

33. 3 sq ft

No. 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

No. 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

No. of Donkey Engines

2

Sizes of Pumps

duplex 7- 4 1/2 x 8

7- 8 x 8

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

1 of 2"

In Holds, &amp;c.

Hold 2 of 2 1/2"

No. of Bilge Injections

1

sizes

4"

Connected to condenser, or to circulating pump

circuit

Is a separate Donkey Suction fitted in Engine room &amp; size

yes 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

bilge &amp; ballast

How are they protected

wood casings

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

18. 11. 12

of Stern Tube

18. 11. 12

Screw shaft and Propeller

18. 11. 12

Is the Screw Shaft Tunnel watertight

none

Is it fitted with a watertight door

—

worked from

—

## BOILERS, &amp;c.—(Letter for record

Manufacturers of Steel

For particulars see separate report

Total Heating Surface of Boilers

1938

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. 93"

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers

on 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

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

bottom

Thickness of plates

crown

bottom

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

002506 0025 14-0022

Lloyd's Register  
Foundation



# 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 nuts set of feed bilge pump valves. Assorted iron, bolts nuts.

AITCHISON, BLAIR LTD.

The foregoing is a correct description,

Manufacturer.

Arch<sup>d</sup> Blair. Director

Dates of Survey while building	During progress of work in shops --	1912 May 27. June 28. July 10. Aug. 9. 12. 28. Sept 6. Oct. 2. 14. 31.
	During erection on board vessel ---	Nov. 11. 18. 26. 27. 1913. Jan. 8. 9. 14. 15.
	Total No. of visits	18.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—	Cylinders 9. 8. 12	Slides 28. 8. 12	Covers 28. 8. 12	Pistons 6. 9. 12	Rods 9. 8. 12
Connecting rods 9. 8. 12	Crank shaft 9. 8. 12	Thrust shaft 14. 10. 12	Tunnel shafts —	Screw shaft 31. 10. 12	Propeller 2. 10. 12
Stern tube 2. 10. 12	Steam pipes tested 9. 1. 13	Engine and boiler seatings 18. 11. 12	Engines holding down bolts 8. 1. 13		
Completion of pumping arrangements 14. 1. 13.	Boilers fixed 14. 1. 13	Engines tried under steam 15. 1. 13			
Main boiler safety valves adjusted 15. 1. 13.	Thickness of adjusting washers PV $\frac{5}{16}$ full. SV $\frac{5}{16}$ full				
Material of Crank shaft steel	Identification Mark on Do. 76 HC	Material of Thrust shaft steel	Identification Mark on Do. 76 HC.		
Material of Tunnel shafts none	Identification Marks on Do. —	Material of Screw shafts steel	Identification Marks on Do. 76 HC.		
Material of Steam Pipes Copper	Test pressure 360 lbs				

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 and workmanship are good. When the engines were being taken to the wharf for shipment two corners were broken off stool of bed plate on which LP back column sits. This has been repaired as per sketch attached, and letter from owners accepting this repair is enclosed.

This machinery is eligible in my opinion to be classed +LMC. 1.13

It is submitted that this vessel is eligible for THE RECORD. +LMC 1.13.

The amount of Entry Fee	.. £ 2 : 0 :	When applied for,
Special	.. £ 16 : 19 :	20. 1. 13.
Donkey Boiler Fee	.. £ 6 : 9 :	When received,
Travelling Expenses (if any)	£ 10 : 10 :	21. 1. 13.

Committee's Minute

GLASGOW

21 JAN. 1913

Assigned + LMC 1.13.

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



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