

# REPORT ON MACHINERY

No. 38549

WED. 19 MAR. 1919

of writing Report 7<sup>th</sup> Mar 1919 When handed in at Local Office

Port of Glasgow

in Survey held at Glasgow

Date, First Survey Mar 21<sup>st</sup> 1918 Last Survey 6<sup>th</sup> March 1919

Book on the SS. "Wat Rother" (C5 Coaster Class)

(Number of Visits 12)

ster Built at Campbeltown

By whom built Campbeltown S.B. Co (No 109)

Tons Gross 1360 Net 1199

ines made at Glasgow

By whom made Ross & Duncan. Ings 1051

when made 1919

lers made at Glasgow

By whom made Ross & Duncan. Boilers No 1565/6

when made 1919

istered Horse Power

Owners J. Hay & Son for Ship Co Ltd

Port belonging to London.

Horse Power as per Section 28 172

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

INES, &c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

of Cylinders 18x30x50

Length of Stroke 33

Revs. per minute 90

Dia. of Screw shaft

as per rule 10.7

as fitted 10.34

Material of screw shaft

8

he 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

he propeller boss

Yes

If the liner is in more than one length are the joints burned

Yes

If the liner does not fit tightly at the part

een the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

Yes

If two

rs are fitted, is the shaft lapped or protected between the liners

Yes

Length of stern bush 43"

of Tunnel shaft

as per rule 9.22

as fitted 9.18

Dia. of Crank shaft journals

as per rule 9.22

as fitted 9.34

Dia. of Crank pin

9.34

Size of Crank webs

18x6

Dia. of thrust shaft under

ars

9.34

of Feed pumps

2

Diameter of ditto

2 1/2"

Stroke 18"

Can one be overhauled while the other is at work

Yes

of Bilge pumps

2

Diameter of ditto

2 1/2"

Stroke 18"

Can one be overhauled while the other is at work

Yes

of Donkey Engines

Two

Sizes of Pumps

7x5x12

7x8x8

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

Engine Room

2 @ 2 1/2" in Eng Room

2 @ 2 1/2" in Stikhold

In Holds, &c.

Fore hold 2 @ 2 1/4"

after hold one @ 2 1/2"

Tunnel 1 @ 2 1/2"

of Bilge Injections

One size 7"

Connected to condenser, or to circulating pump C. P.

Is a separate Donkey Suction fitted in Engine room & size

Yes

2 1/2"

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

how

all connections with the sea direct on the skin of the ship

Yes

Are they Valves or Cocks

Both

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

at pipes are carried through the bunkers

Fore hold Suctions

How are they protected

Strong wood limba covers

Yes

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

es of examination of completion of fitting of Sea Connections

Greenock Rpt

of Stern Tube

Greenock Rpt

Screw shaft and Propeller

Greenock Rpt

he Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

upper deck

TERS, &c.—(Letter for record

3)

Manufacturers of Steel

Glasgow Iron & Steel Co & David Colville & Sons

al Heating Surface of Boilers

2886

Is Forced Draft fitted

No

No. and Description of Boilers

Two Single ended Multitubular

Working Pressure

150 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

20-12-18

No. of Certificate

14561

each boiler be worked separately

Yes

Area of fire grate in each boiler

48.5

No. and Description of Safety Valves to

boiler

Two spring loaded

Area of each valve

4.9

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes

allest distance between boilers or uptakes and bunkers or woodwork

5'-0"

Mean dia. of boilers

18'-0"

Length

10'-8"

Material of shell plates

8

Range of tensile strength

28/32

Are the shell plates welded or flanged

No

kness

1 1/16"

Range of tensile strength

28/32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.D.R.

seams

DL Staps T.R.

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

8"

width of butt straps

16 7/8"

centages of strength of longitudinal joint

rivets 86.98

plate 85.93

Working pressure of shell by rules

183

Size of manhole in shell

16x12"

No. and Description of Furnaces in each boiler

Two Corrugated

Material

8

Outside diameter

41 1/4"

Thick-

ness

of compensating ring

Yes

No. and Description of Furnaces in each boiler

Two Corrugated

Material

8

Outside diameter

41 1/4"

Thick-

ness

of plain part

top

bottom

Thickness of plates

1 1/2"

Description of longitudinal joint

weld

King pressure of furnace by the rules

183

Combustion chamber plates: Material

8

Thickness: Sides

5/8"

Back

5/8"

Top

5/8"

Bottom

1 1/16"

of stays to ditto: Sides

8 3/4x8 1/2"

Back

8 7/8x8 3/8"

Top

8 3/4x8 1/2"

If stays are fitted with nuts or riveted heads

hats

erial of stays

8

Diameter at smallest part

1 7/9"

Area supported by each stay

74.3

Working pressure by rules

192

End plates in steam space:

erial

8

Thickness

1 1/4"

Pitch of stays

22 3/8x17 1/2"

How are stays secured

D. hats & washers

Working pressure by rules

180

eter at smallest part

7/34

Area supported by each stay

395.9

Working pressure by rules

194

Material of Front plates at bottom

8

Thick-

ness

Material of Lower back plate

8

Thickness

1 3/16"

Greatest pitch of stays

13x8 7/8"

Working pressure of plate by rules

184

eter of tubes

3 1/4"

Pitch of tubes

4 1/2"x4 7/16"

Material of tube plates

8

Thickness: Front

1"

Back

3/4"



# *No donkey boiler fitted* VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description		When made		Where fixed	
Made at	By whom made		Date of test		No. of Certificate	
Working pressure	tested by hydraulic pressure to		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	
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	
Working pressure of furnace by rules		Thickness of furnace crown plates	Radius of do.	Description of joint		
Diameter of uptake		Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— *1 set each of piston rod crosshead bolts & nuts, bottom end bolts & nuts, main bearing bolts & nuts, coupling bolts & nuts, feed, ridge & air pump valves, assorted iron bolts & nuts, and other spares as per specification.*

The foregoing is a correct description,  
*Ross Duncan* Manufacturer.

Dates of Survey while building	During progress of work in shops	1918. Mar 21. Apr 15. May 2. 7. 10. 24. 28. June 10. 14. 17. 21. 25. 28. July 2. 4. Aug 13. 21. Sept 2. 9. 13. Oct 1. 3.
	During erection on board vessel	14. 18. 22. 28. 30. 31. Nov. 6. 11. 18. 21. 25. 27. Dec. 6. 10. 16. 20. 23. 26. 27. (1919) Jan 10. 20. Feb 12. 14. 18. 28(2) Mar 1. 3.
	Total No. of visits	42.

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

Dates of Examination of principal parts—Cylinders		1-10-18	Slides	18-11-18	Covers	18-11-18	Pistons	13-9-18	Rods	3-10-18
Connecting rods		18-11-18	Crank shaft	3-10-18	Thrust shaft	22-10-18	Tunnel shafts	6-12-18	Screw shaft	16-12-18
Stern tube		16-12-18	Steam pipes tested	12-2-19	Engine and boiler seatings	Glenoch Rpt	Engines holding down bolts	14-2-19		
Completion of pumping arrangements		5-3-19	Boilers fixed	18-2-19	Engines tried under steam	28-2-19				
Main boiler safety valves adjusted		28-2-19	Thickness of adjusting washers	P. S.V. 5/32 P.V. 7/32. S. S.V. 3/16 P.V. 9/16.						
Material of Crank shaft		S	Identification Mark on Do.	3-10-18. J.E.S.	Material of Thrust shaft	S	Identification Mark on Do.	22-10-18. J.E.S.		
Material of Tunnel shafts		S	Identification Marks on Do.	6-12-18. J.E.S.	Material of Screw shafts	S	Identification Marks on Do.	16-12-18. J.E.S.		
Material of Steam Pipes		Seamless steel 4 x 3/16"	Seamless Copper 4 x 7/16"							
				Test pressure 540 lbs & 360 lbs						

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*The Engines & Boilers have been built under special survey, and in accordance with the Rules. The materials and workmanship are sound and good. They have been fitted on board in an efficient manner, tried under working conditions and found satisfactory, and are eligible in my opinion to be classed in the Register Book with record of L.M.C. 3-19.*

It is submitted that  
 this vessel is eligible for  
 THE RECORD. + L.M.C. 3.19

*H. 20/3/19*  
*J.R.R.*

The amount of Entry Fee	£ 7 : 30 : 8	When applied for,	13/3/19
Special	£ 30 : 8	When received,	15/3/19
Donkey Boiler Fee	£ 3		
Travelling Expenses (if any)	£		

Committee's Minute **GLASGOW 18 MAR 1919**

Assigned + L.M.C. 3.19.

MACHINE CERTIFICATE  
 19/3/19

*J. S. Keller*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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