

Rpt. 4.

REPORT ON MACHINERY.

No. 38681

Received at London Office

WED. 30 APR. 1919

Date of writing Report

19

When handed in at Local Office

19

Port of Glasgow

No. in Survey held at
Reg. Book.Date, First Survey 27th July 1916, Last Survey 18th April 1919

(Number of Visits 40)

on the

S.S. CLAN MATHESON

Master

Built at Glasgow

By whom built

W. Hamilton & Co. Ltd (No 311)

When built 1919

Engines made at

Glasgow

By whom made

D. Rowan & Co. Ltd (No 652)

when made 1919

Boilers made at

Do.

By whom made

Do.

(No 652)

when made 1919

Registered Horse Power

Owners Cayzer Irvine & Co.

Port belonging to Glasgow

Nom. Horse Power as per Section 28

514

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 27-44-73

Length of Stroke 48

Revs. per minute 80

Dia. of Screw shaft

as per rule 14.7

Material of screw shaft

as fitted 15.2

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 5' 0"

Dia. of Tunnel shaft

as per rule 13.33

3.2

Dia. of Crank shaft journals

as per rule 14

14.2

Dia. of Crank pin 4.2

Size of Crank webs 9x28

Dia. of thrust shaft under

collars 14.3

Dia. of screw 17-6

Pitch of Screw 16-6

No. of Blades 4

State whether moveable

no

Total surface 98.2

No. of Feed pumps 2

Diameter of ditto 4

Stroke 24

Can one be overhauled while the other is at work

yes

No. of Bilge pumps 2

Diameter of ditto 4

Stroke 24

Can one be overhauled while the other is at work

yes

No. of Donkey Engines 2

Sizes of Pumps 10.2x24x14.7x9.2x18

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

In Engine Room

Four 3.2

In Holds, &c. No 1 Two 3.2 No 2 Two 3.2

No. of Bilge Injections 1

size 8

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room & size

yes 3.2

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

yes

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

below

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

1 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

yes

Is it fitted with a watertight door

yes

worked from

Top Platform

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

Messrs. William Beardmore & Co. Ltd

Total Heating Surface of Boilers 7668

Is Forced Draft fitted

yes

No. and Description of Boilers 3 Single ended

Working Pressure 180 lb

Tested by hydraulic pressure to

360 lb

Date of test 13.2.19

No. of Certificate 14613

Can each boiler be worked separately

yes

Area of fire grate in each boiler

63.34

No. and Description of Safety Valves to

each boiler 2 spring loaded

Area of each valve 9.67

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

1-3

Mean dia. of boilers 15-6

Length 11-6

Material of shell plates Steel

Thickness 1/4

Range of tensile strength 28632 lb

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams do Lap

long. seams TRDBS Diameter of rivet holes in long. seams 1.76

Pitch of rivets 9.8

Lap of plates or width of butt straps 19.2

Per centages of strength of longitudinal joint

rivets 88.3

plate 85.6

Working pressure of shell by rules 183

Size of manhole in shell 16x12

Size of compensating ring

a flange

No. and Description of Furnaces in each boiler 3 bright

Material Steel

Outside diameter 4-2 3/16

Length of plain part

top —

Thickness of plates

crown 3 1/32

Description of longitudinal joint welded

No. of strengthening rings —

Working pressure of furnace by the rules 188

Combustion chamber plates: Material Steel

Thickness: Sides 3/32

Back 1/16

Top 3/32

Bottom 3/32

Pitch of stays to ditto: Sides 10.8x9.4

Back 10.4x8.4

Top 10.8x9.4

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules 180

Material of stays Steel

Area at smallest part 2.395

Area supported by each stay 980

Working pressure by rules 219

End plates in steam space

Material Steel Thickness 1/32

Pitch of stays 21.4x20.2

How are stays secured

nuts & washers

Working pressure by rules 181

Material of stays Steel

Area at smallest part 8.29

Area supported by each stay 4450

Working pressure by rules 198

Material of Front plates at bottom Steel

Thickness 1/8

Material of Lower back plate Steel

Thickness 3/32

Greatest pitch of stays 13.8x8.3

Working pressure of plate by rules 187

Diameter of tubes 2 3/4

Pitch of tubes 4x3 3/8

Material of tube plates Steel Thickness: Front 3/32

Back 3/4

Mean pitch of stays 9.7

Pitch across wide water spaces 13.5

Working pressures by rules 181

Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10x7 1/2

Length as per rule 35.9

Distance apart 10.8

Number and pitch of stays in each line 9 1/2

Working pressure by rules 188

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 none

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

002374-002384-0170

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:—

2 top end bolts and nuts 2 bottom end bolts and nuts 2 main beam bolts & nuts 1 set coupling bolts & nuts 1 feed and bilge pump valves, Iron. Bolts & nuts assorted Propeller shaft

The foregoing is a correct description,

David Cowan & Co Ltd

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1916. (1917) May 15 June 19. (1918) Apr 10. May 2 June 5 Sept 2. 11. 14. 20. 24 Oct 1. 4. 16. 17. 28 Nov 22. 29. During erection on board vessel -- Dec 3. 11. 19. 24. 26. (1919) Jan 8. 16. 17. 22. Feb 6. 11. 13. 14. 18. 20. Mar 3. 7. 22. 25. Apr 1. 4. 8. 18. Total No. of visits 40.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 26.12.18 Slides 26.12.18 Covers 26.12.18 Pistons 26.12.18 Rods 26.12.18

Connecting rods 26.12.18 Crank shaft 17.10.18 Thrust shaft 24.12.18 Tunnel shafts 17.2.19 Screw shaft 24.12.18 Propeller 24.12.18 Engine Room

Stern tube 16.1.19 Steam pipes tested 20.2.19 Engine and boiler seatings 25.3.19 Engines holding down bolts 25.3.19

Completion of pumping arrangements 8.4.19 Boilers fixed 25.3.19 Engines tried under steam 8.4.19 18.4.19

Completion of fitting sea connections G.R.K. Stern tube G.R.K. Screw shaft and propeller G.R.K.

Main boiler safety valves adjusted 8.4.19 Thickness of adjusting washers Pt 1/2 Pt 3/8 Sta 3/8 anti B Pt 3/8 Sta 3/8 5/16 Pt 1/2 Sta 3/8

Material of Crank shaft Steel Identification Mark on Do. 17.10.18 JE Material of Thrust shaft Steel Identification Mark on Do. 24.12.18

Material of Tunnel shafts Steel Identification Marks on Do. 17.10.18 JE Material of Screw shafts Steel Identification Marks on Do. 24.12.18

Material of Steam Pipes Iron Test pressure 540

Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes

Have the requirements of Section 49 of the Rules been complied with Yes

Is this machinery duplicate of a previous case No If so, state name of vessel

General Remarks

(State quality of workmanship, opinions as to class, &c.)

827 891 AF 223 818 817
26.7 25.2 22.4 87.5 25.8 25.0
17.1.19 JE 17.1.19 JE 17.1.19 JE 17.1.19 JE 17.1.19 JE 17.1.19 JE

The machinery of this vessel has been constructed under special survey in accordance with the Rules and approved Plans and has been seen satisfactorily working under steam, material and workmanship are good.

The machinery is eligible in my opinion to be classed + LMC 4-19 and to have the record fitted for oil fuel 4-19 F.P. above 150°

It is submitted that this vessel is eligible for THE RECORD + LMC 4.19. F.D. Fitted for oil fuel 4.19. F.P. above 150°F.

The amount of Entry Fee ... £ 3 : 0 : When applied for, Special ... £ 45 : 14 : 29.4.19.19. Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 3.5.19.19.

Committee's Minute GLASGOW 29 APR 1919

Assigned + L.M.C. 4.19 22. Fitted for oil fuel 4.19 F.P. above 150°F.



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