

REPORT ON MACHINERY

No. 35915

SAT. - 8 APR. 1916

Received at London Office

Date of writing Report

When rendered at Local Office

19

Port of

Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

21/10/14

Last Survey

April 30, 1916

on the

SS "Macedon"

(Number of Visits)

Master

Built at

Port Glasgow

By whom built

Tom Hamilton & Co (301)

When built

1916

Engines made at

Glasgow

By whom made

D. Rowan & Co (633)

when made

1916

Boilers made at

Glasgow

By whom made

D. Rowan & Co (633)

when made

1916

Registered Horse Power

Owners

Messrs. Howard Smith & Co

Port belonging to

Mullum

Nom. Horse Power as per Section 28

421

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

No. of Cranks

Dia. of Cylinders

15 1/2, 42, 70"

Length of Stroke

48"

Revs. per minute

75"

Dia. of Screw shaft

as per rule 14 1/2"

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

-

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

Length

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

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

Length of stern bush

Dia. of Tunnel shaft

as per rule 12 1/8"

as fitted 13"

Dia. of Crank shaft journals

as per rule 13 1/2"

as fitted 13 3/4"

Dia. of Crank pin

14"

Size of Crank webs

8 1/2"

collars

14"

Dia. of screw

17-3"

Pitch of Screw

18 1/2"

No. of Blades

4

State whether moveable

No

No. of Feed pumps

2

Diameter of ditto

9 1/2"

Stroke

21"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

27"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

5

SIZES of Pumps

15 1/2 x 6 x 8, 3 1/2 x 8 x 8, 10 1/2 x 4 x 5

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

In Engine Room (4) 3 1/2"

In Engine Room

(4) 3 1/2"

In Holds, &c.

2 in each hold 3 1/2"

(2) 3 1/2"

No. of Bilge Injections

1

size

8"

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room of size

Yes

3 1/2"

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

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

-

What pipes are carried through the bunkers

ford bilge suction

How are they protected

below floor

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

of Stern Tube

Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

top platform

BOILERS, &c.—(Letter for record)

(3)

Manufacturers of Steel

David Colville Sons & Co.

Total Heating Surface of Boilers

7212

Is Forced Draft fitted

No

No. and Description of Boilers

3 Single ended

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

30/5/15

No. of Certificate

13168

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

62 1/2

No. and Description of Safety Valves to

each boiler

1 pair direct spring

Area of each valve

Smallest distance between boilers or uptakes and bunkers or woodwork

2-6"

Mean dia. of boilers

15-9"

Length

11-0 1/2"

Material of shell plates

Steel

Thickness

1 3/16"

Range of tensile strength

30-5-34 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

lap smooth

long. seams

butt with

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

8 3/4"

Lap of plates or width of butt straps

18 3/4"

Per centages of strength of longitudinal joint

rivets 87.9

plate 86.7

Working pressure of shell by rules

188

Size of manhole in shell

17 1/2 x 13"

Size of compensating ring

30 1/2 x 31 1/2 x 1 3/16"

No. and Description of Furnaces in each boiler

3 Dayton

Material

Steel

Outside diameter

49 1/2"

Length of plain part

top

Thickness of plates

crown 3 1/16"

Description of longitudinal joint

welded

No. of strengthening rings

-

Working pressure of furnace by the rules

180

Combustion chamber plates: Material

Steel

Thickness: Sides

25 1/2"

Back

23"

Top

Pitch of stays to ditto: Sides

10 3/4 x 10 1/2"

Back

10 3/4 x 10 1/2"

Top

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

182

Material of stays

Steel

Diameter at smallest part

2-07"

Area supported by each stay

98"

Working pressure by rules

190

Material

Steel

Thickness

1 3/32"

Pitch of stays

2 3/4 x 2 1/2"

How are stays secured

2 nuts

Working pressure by rules

182

Material of stays

Steel

Material of Front plates at bottom

Steel

Diameter at smallest part

5-29"

Thickness

5"

Material of Lower back plate

Steel

Thickness

5 1/2"

Greatest pitch of stays

13 3/4"

Working pressure of plate by rules

188

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/8 x 4 3/4"

Material of tube plates

Steel

Pitch across wide water spaces

14 1/2"

Working pressures by rules

181

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

Working pressure by rules

191

Superheater or Steam chest; how connected to boiler

None

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

-

Lloyd's Register

Foundation

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:-

2 Top end bolts & nuts, 2 bottom end bolts & nuts
2 main bearing bolts & nuts, 1 set of coupling bolts & nuts, 1 set
of edge pump valves, iron bolts & nuts mounted.

The foregoing is a correct description,

for David Rowan & Co

Manufacturer.

Dates
of Survey
while
building

During progress of
work in shops - -
During erection on
board vessel - - -
Total No. of visits

1914. 6. 21. Nov 4. 20. Dec 5. 11. 14. 17. 1915 Jan. 14. 18. 21. Feb. 1. 2. 3. 9. 19. 23. 25. Mar. 3. 9. 12. 15. 23. Apr. 7. 18. 19. 21.
Jun 10. 21. July 1. 3. 30. Aug 1. 12. 20. 1916. Feb. 15. 20. 21. Mar. 10. 21. 23. Apr. 3.
40

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " " "

Dates of Examination of principal parts - Cylinders 15/3/16 Slides 3/3/16 Covers 3/3/16 Pistons 7/12/14 Rods 3/3/16

Connecting rods 7/12/14 Crank shaft 18/3/16 Thrust shaft 18/3/16 Tunnel shafts 14/8/16 Screw shaft 4/8/16 Propeller 14/8/16

Stern tube 14/8/16 Steam pipes tested 26/2/16 Engine and boiler seatings Engines holding down bolts 20/3/16

Completion of pumping arrangements 20/3/16 Boilers fixed 23/3/16 Engines tried under steam 3/4/16

Main boiler safety valves adjusted 23/3/16 Thickness of adjusting washers 7 1/2 5 1/2 3 1/2 3 1/2 5 1/2

Material of Crank shaft Steel Identification Mark on Do. 4020 23/3/16 4/8/16

Material of Tunnel shafts Steel Identification Marks on Do. 4020 23/3/16 4/8/16

Material of Steam Pipes iron Test pressure 540

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F.

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

Is this machinery duplicate of a previous case Yes If so, state name of vessel S.S. "Chronos"

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

These engines and boilers have been built under special survey
the materials and workmanship are of good description,
they have been well fitted on board & tried under steam
This machinery is now in my opinion eligible to have
notification of LMC 4.16 (in red) in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 4.16.

JWD. 10/4/16
GPR

The amount of Entry Fee ... £ 3 :
Special ... £ 41 :
Donkey Boiler Fee ... £
Travelling Expenses (if any) £

When applied for,

6/4/16

When tested,

19/4/16

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

Committee's Minute GLASGOW

6 APR 1916

Assigned + LMC 4.16

MACHINERY CERTIFICATE



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