

Date of writing Report

19

When handed in at Local Office

19

Port of Glasgow

Received at London Office

1918

No. in Survey held at Glasgow

Date, First Survey 5/9/17

Last Survey 24/6/18

1918

Reg. Book.

(Number of Vents 27)

on the

G.S. Mar Clarion

Master

Built at

By whom built

The North S.P.T.E.C.P.D. (36)

Tons

Gross

Net

When built 1918

Engines made at Glasgow

By whom made

D. Brown &amp; Co. Ltd. (691)

when made 1918

Boilers made at Glasgow

By whom made

D. Brown &amp; Co. Ltd. (691)

when made 1918

Registered Horse Power

Owners

Controller of Shipping (R. Mackie) Port belonging to

Nom. Horse Power as per Section 28 410 411

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes

ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 25" 41" 68"

Length of Stroke 45"

Revs. per minute

Dia. of Screw shaft

as per rule 13.4

Material of

screw shaft

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

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 13.4

Dia. of Crank shaft journals

as per rule 13.4

Dia. of Crank pin 1 3/4"

Size of Crank webs 8 3/4"

Dia. of thrust shaft under

collars 13 1/4"

Dia. of screw 15-6

Pitch of Screw 17-0

No. of Blades 4

State whether moveable 220

Total surface

75-8"

No. of Feed pumps 2

Diameter of ditto 3 1/2"

Stroke 24"

Can one be overhauled while the other is at work yes

No. of Bilge pumps 2

Diameter of ditto 3 1/2"

Stroke 24"

Can one be overhauled while the other is at work yes

No. of Donkey Engines one

Sizes of Pumps 9 1/2 x 7 1/2 x 18"

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

In Engine Room 2-3 bore

all other holds

In Holds, &amp;c. one 2 1/2 tunnel well 1-3 after hold, 2-3

No. of Bilge Injections 1

size 8"

Connected to condenser, or to circulating pump pump

Is a separate Donkey Suction fitted in Engine room &amp; size yes-3"

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 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

None

How are they protected

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 28/6/18

of Stern Tube 28/6/18

Screw shaft and Propeller 28/6/18

Is the Screw Shaft Tunnel watertight yes

Is it fitted with a watertight door no

worked from

OILERS, &amp;c.—(Letter for record S.)

Manufacturers of Steel

Wm. Beardmore &amp; Co.

Total Heating Surface of Boilers 5882 1/2

Is Forced Draft fitted yes

No. and Description of Boilers 2 Single ended

Working Pressure 180 lbs

Tested by hydraulic pressure to 360

Date of test 2/6/18

No. of Certificate 14332

Can each boiler be worked separately yes

Area of fire grate in each boiler 74 1/2

No. and Description of Safety Valves to

each boiler 1 pair direct spring

Area of each valve 12.56

Pressure to which they are adjusted 185 lbs

Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 4 1/2"

Mean dia. of boilers 16-6"

Length 11-9"

Material of shell plates steel

Thickness 1/32"

Range of tensile strength 28 1/2-33 tons

Are the shell plates welded or flanged 710

Descrip. of riveting: cir. seams cup double

long. seams both ends

Diameter of rivet holes in long. seams 1 3/8"

Pitch of rivets 9 5/8"

Lap of plates or width of butt straps 20 5/8"

Per centages of strength of longitudinal joint

rivets 90

plate 85

Working pressure of shell by rules 188

Size of manhole in shell 16" x 12"

Size of compensating ring flanged

No. and Description of Furnaces in each boiler 4 Deighton

Material steel

Outside diameter 44 1/2"

Length of plain part top

bottom

Thickness of plates crown

bottom 9"

Description of longitudinal joint welded

No. of strengthening rings

Working pressure of furnace by the rules 198

Combustion chamber plates: Material steel

Thickness: Sides 23

Back 11

Top 23

Bottom 23

Pitch of stays to ditto: Sides 9 3/8 x 8 3/4"

Back 8 5/8 x 10"

Top 7 5/8 x 8 3/4"

If stays are fitted with nuts or riveted heads nuts

Working pressure by rules 200

Material of stays steel

Diameter at smallest part 1-07

Area supported by each stay 89

Working pressure by rules 210

End plates in steam space

Material steel

Thickness 1 1/16"

Pitch of stays 24 x 22 1/4"

How are stays secured 2 nuts

Working pressure by rules 207

Material of stays steel

Diameter at smallest part 9-62

Area supported by each stay 473.5-4"

Working pressure by rules 212

Material of Front plates at bottom steel

Thickness 1 1/16"

Material of Lower back plate steel

Thickness 2 3/8"

Greatest pitch of stays 13 3/4"

Working pressure of plate by rules 208

Diameter of tubes 2 3/4"

Pitch of tubes 4 x 3 3/8"

Material of tube plates steel

Thickness: Front 1 1/16"

Back 3/4"

Mean pitch of stays 9 3/8"

Pitch across wide water spaces 13 3/4"

Working pressures by rules 202

Girders to Chamber tops: Material steel

Depth and

thickness of girder at centre 10 x 7 1/8"

Length as per rule 34 9/16"

Distance apart 10 5/8"

Number and pitch of stays in each 3 5 3/4"

Working pressure by rules 204

Superheater or Steam chest; how connected to boiler 2 1/2"

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivets

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 3 1/2"

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Foundation

Foundation

Foundation

Foundation

Foundation

Foundation

Foundation

Foundation



IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 22xend bolts nuts 2 bottom end bolts nuts, 2 main bearing bolts nuts, 6 coupling bolts nuts, 2 feed valve pump valves seats, 2 iron bolts and nuts assorted, a cast iron propeller, 6 air pump valves, and assorted iron

The foregoing is a correct description,

Daniel Rowan & Co. Ltd. per *Alford* Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1917 Sept 5. Nov. 23. Dec 5. 1918 Jan 17. 20. 25. Feb. 1. Mar 19. 27. Apr 5. 12. 15. 17. 22. May 2. 6. 16. 18. 24. 27. 28. 31. June 6. 7. 17. 20. 24. 1918 June 28. July 6. 11. 17. 20. Aug 19. Sep 4. 14. During erection on board vessel - - - Total No. of visits 27.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 6/5/18 Slides 6/5/18 Covers 6/5/18 Pistons 6/5/18 Rods 3/15/18 Connecting rods 3/15/18 Crank shaft 27/5/18 Thrust shaft 24/6/18 Tunnel shafts 20/6/18 Screw shaft 24/6/18 Propeller 6/4/18 Stern tube 6/4/18 Steam pipes tested 16/5/18 Engine and boiler seatings 6/2/18 Engines holding down bolts 4/9/18 Completion of pumping arrangements 14/9/18 Boilers fixed 4/9/18 Engines tried under steam 14/9/18 Main boiler safety valves adjusted 4/9/18 Thickness of adjusting washers P P 1/32 S 1/32 S P 1/32 S 1/32

Material of Crank shaft *Steel* Identification Mark on Do. *27/5/18* Material of Thrust shaft *Steel* Identification Mark on Do. *24/6/18*

Material of Tunnel shafts *Steel* Identification Marks on Do. *20/6/18* Material of Screw shafts *Iron* Identification Marks on Do. *24/6/18*

Material of Steam Pipes *Lap-welded iron* Test pressure *540 lbs*

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, *(692)*

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 now been forwarded to Ellerman where they will be fitted on board the vessel.*

*These engines & boilers have been efficiently fitted on board and the vessel is eligible in my opinion for record of LMC 9.18. See light.*

*Ons*

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.18 F.D.

*20-9-18* *APR*

The amount of Entry Fee ... £ *38.11.6* When applied for, ... 19. Special *38.11.6* Donkey Boiler Fee *12.17.2* Travelling Expenses (if any) £ *12.17.2* When received, ... *238.11.6* paid *26.9.18*

Committee's Minute *GLASGOW* Assigned *Deferred for compln.*

MACHINERY CERTIFICATE WRITTEN



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