

## REPORT ON MACHINERY.

No. 3952 Jt.

11th Dec 1920

Received at London Office

Date of writing Report

10

When handed in at Local Office

9/1/1920 Port of Glasgow

No. in Survey held at  
Reg. Book.

on the

Master RANKIN 10-19

Built at Glasgow

By whom built

D. W. Henderson 604 No 522

When built 1919

Engines made at

Glasgow

By whom made

do

No 522 when made 1919

Boilers made at

do

By whom made

do

No 522 when made 1919

Registered Horse Power

Owners

Lamport &amp; Holt

Port belonging to Liverpool

n. Horse Power as per Section 28

517

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

GINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

No. 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

Steel

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

the propeller boss

Yes

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

fits whole length

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

—

Length of stern bush

60 1/2

No. of Tunnel shaft

as per rule 13.3

Dia. of Crank shaft journals

as per rule 13.9

Dia. of Crank pin

14 1/2

Size of Crank webs

28x9

Dia. of thrust shaft under

bars

14 3/4

Dia. of screw

17-6

Pitch of Screw

16-6

No. of Blades

4

State whether moveable

No

Total surface

98.24

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

3

Sizes of Pumps

General 7x9 1/2 x 18

Ballant 10 1/2 x 14 x 24

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

Engine Room

(2) 3 1/2

Stokehold

(2) 3 1/2

In Holds, &amp;c.

Nos 1-2-3-4 (2 each) 3 1/2

No 5 (1) 3 1/2

Lunnet well

(1) 3 1/2

No. of Bilge Injections

1

sizes

12

Connected to condenser, or to circulating pump

Pump

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

Are all pipes carried through the bunkers

7 d Suctions

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 Engine Room Top Platform

MANUFACTURERS, &amp;c.—(Letter for record

S)

Manufacturers of Steel

Steel 6. of Scotland Ltd

Total Heating Surface of Boilers

7668 1/2

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 Single ended

Working Pressure

180 lb

Tested by hydraulic pressure to

350

Date of test

11-11-19

15-11-19

No. of Certificate

14981, 14989

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

63.3 1/2

No. and Description of Safety Valves to

each boiler

No. of Safety Valves to each boiler

2 Spring loaded

Area of each valve

9.62 1/2

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

1-6

Mean dia. of boilers

15-6

Length

11-6

Thickness

1 1/4

Range of tensile strength

28 to 35 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Cold ch

No. of rivets

TR DBS

Diameter of rivet holes in long. seams

1 5/16

Pitch of rivets

9 1/8

Lap of plates or width of butt straps

19 1/2

Percentages of strength of longitudinal joint

rivets 85.3

plate 85.6

Working pressure of shell by rules

182

Size of manhole in shell

16x12

No. of compensating rings

1

No. and Description of Furnaces in each boiler

3 Corrugated

Material

Steel

Outside diameter

4-2 3/8

Length of plain part

top

Thickness of plates

crown 19

Description of longitudinal joint

Welded

No. of strengthening rings

—

Working pressure of furnace by the rules

188

Combustion chamber plates: Material

Steel

Thickness: Sides

23/32

Back

11/16

No. of stays to ditto: Sides

9 1/4 x 10 1/2

Back

8 3/4 x 10 1/4

Top

7 x 10 1/2

If stays are fitted with nuts or riveted heads

Nuts

Material of stays

Steel

Area at smallest part

1.990

Area supported by each stay

980

Working pressure by rules

184

Material

Steel

Thickness

1 3/32

Pitch of stays

2 1/4 x 20 1/2

How are stays secured

Nuts

Area at smallest part

8.290

Area supported by each stay

4450

Working pressure by rules

198

Material of Front plates at bottom

Steel

Thickness

3/8

Material of Lower back plate

Steel

Thickness

3/16

Greatest pitch of stays

13 5/8 x 8 3/4

Diameter of tubes

2 3/4

Pitch of tubes

4 x 3 7/8

Material of tube plates

Steel

Thickness: Front

31/32

Thickness across wide water spaces

13 5/8

Working pressures by rules

181

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

10 x 7 1/2 (2)

Length as per rule

35 9/16

Distance apart

10 5/8

Number and pitch of stays in each

(3) 9 1/4

Working pressure by rules

188

Steam dome: description of joint to shell

None

% of strength of joint

—

Diameter of rivets

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

—

How stayed

—

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

—

—

—

L700-164200-0047



IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied:—

2 Top end bolts and nuts. 2 bottom end bolts and nuts. 2 main bearing bolts and nuts. 6 coupling bolts and nuts. set of feed and bilge Pump Valves. Iron. Bolts and nuts assorted, and other articles.

The foregoing is a correct description,  
For DAVID & WM HENDERSON & CO., Ltd.

H. Y. Patrick

DIRECTOR, Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1918. June 20. Sept. 14. 20. 23. 24. Oct. 8. 14. Nov. 20. 1919. Jan. 9. 29. Feb. 19. Mar. 14. Apr. 7. 8. 30. May 23. 24. June 14. July 8. 16. Sept. 3. 12. 26. 30. Oct. 1. 10. 15. 17. 20. 21. 23. 24. 29. Nov. 6. 10. 11. 15. 18. 20. 21. 29. Dec. 23. 11. 23. 24. 1920. Jan. 6. Total No. of visits 51.

Is the approved plan of main boiler forwarded herewith

No

" " " donkey " " "

"

Dates of Examination of principal parts—Cylinders 14.6.19 Slides 8.4.19 Covers 14.6.19 Pistons 8.7.19 Rods 8.7.19

Connecting rods 12.9.19 Crank shaft 23.5.19 Thrust shaft 23.5.19 Tunnel shafts 17.10.19 Screw shaft 17.10.19 Propeller 17.10.19

Stern tube 17.10.19 Steam pipes tested 2.12.19 Engine and boiler seatings 20.10.19 Engines holding down bolts 3.12.19

Completion of pumping arrangements 11.12.19 Boilers fixed 11.12.19 Engines tried under steam 11.12.19. 27.12.19

Completion of fitting sea connections 29.10.19 Stern tube 20.10.19 Screw shaft and propeller 29.10.19

Main boiler safety valves adjusted 11.12.19 Thickness of adjusting washers Star B 3/16 3/8 Centre 1/4 3/32 Port 3/8 3/16

Material of Crank shaft Star Identification Mark on Do. 23519JE Material of Thrust shaft Star Identification Mark on Do. 23519

Material of Tunnel shafts Star Identification Marks on Do. \* Material of Screw shafts Star Identification Marks on Do. 1489

Material of Steam Pipes Iron Test pressure 540 lb

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 Standard A

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

\* 3652 1836 1837 1105 1084 1216  
JP JD JD JHS JT JT  
834 198 198 412 413 413  
9LS17.10.19 9LS17.10.19 9LS17.10.19 9LS17.10.19 9LS17.10.19 9LS17.10.19

The machinery of this vessel has been built under Special Survey in accordance with the Rules and approved Plans and has been seen working satisfactorily under steam. Materials and workmanship are good.

The machinery is eligible in our opinion to be classed  
+ LMC 1-20.

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 1.20. F.D.

JUD. 15/1/20 JPR

The amount of Entry Fee ... £ 3 : 0 :  
Special ... £ 45 : 17 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ 18 : 0 :  
Chargeable Clms

When applied for, 9.1.1920.

When received, 21/1/1920.

as Easthope

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 13 JAN 1920

Assigned + LMC 1,20

