

REPORT ON MACHINERY.

No. 39064.

Received at London Office

Writing Report

10

When handed in at Local Office

30/8 1919. Port of

GLASGOW

WED 3 SEP 1919

Survey held at
on the

Date, First Survey 9/11/1917. Last Survey 21st Aug 1919
(Number of Visits 39)

S.S. WAR DIWAN (Standard Z)

Gross 5543
Net 3446
Tons

Built at Glasgow By whom built Lithgows Sta no 718

When built

made at Glasgow

By whom made do Rowan & Co Ltd (no 708)

when made 1919

made at do

By whom made do

(no 721)

when made 1919

red Horse Power

Owners J. H. Shipping Controller

Port belonging to London

Horse Power as per Section 28 517

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

NES, &c.—Description of Engines Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Cylinders 27-44-73

Length of Stroke 48

Revs. per minute 80

Dia. of Screw shaft

as per rule 14.7
as fitted 15.2

Material of Iron
screw shaft

screw shaft fitted with a continuous liner the whole length of the stern tube

Is the after end of the liner made water tight

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

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

Yes

If two

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

Length of stern bush 60 1/2

Tunnel shaft

as per rule 13.33
as fitted 13.2

Dia. of Crank shaft journals

as per rule 14
as fitted 14.2

Dia. of Crank pin 14.2

Size of Crank webs 28 x 9

Dia. of thrust shaft under

14 3/4

Dia. of screw 17-6

Pitch of Screw 16-6

No. of Blades 4

State whether moveable No

Total surface 98.2 sq

Feed pumps 2

Diameter of ditto 4

Stroke 24

Can one be overhauled while the other is at work Yes

Bilge pumps 2

Diameter of ditto 4

Stroke 24

Can one be overhauled while the other is at work Yes

Donkey Engines 3

Sizes of Pumps

Ballast 10 1/2 x 14 x 24
Feed 9 1/2 x 17 x 18
1 1/2 x 7 x 18

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

Engine Room 3-3 1/2

Stokehold 2-3 1/2

In Holds, &c. Fore hold 2-3 1/2, Bunkers 1-3 1/2

ft hold 2-3 1/2, Tunnel 1-2 1/2

Bilge Injections 1

sizes 12

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2

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

connections with the sea direct on the skin of the ship

Yes

Are they Valves or Cocks

Both

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

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

pipes are carried through the bunkers

Forward Suctions

How are they protected Iron casings

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

of examination of completion of fitting of Sea Connections

20.6.19

of Stern Tube

20.6.19

Screw shaft and Propeller 20.6.19

Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

No

worked from Trunkway escape fittings

ERS, &c.—(Letter for record

S)

Manufacturers of Steel

Steel 60 of Scotland Sta

Heating Surface of Boilers 7668

Is Forced Draft fitted

Yes

No. and Description of Boilers 3 Single ended

ing Pressure 180 lb

Tested by hydraulic pressure to

360 lb

Date of test 13.6.19

No. of Certificate 14781

each boiler be worked separately

Yes

Area of fire grate in each boiler 63.33

No. and Description of Safety Valves to

boiler 2 Spring loaded

Area of each valve 9.6

Pressure to which they are adjusted 185 lb

Are they fitted with easing gear

test distance between boilers or uptakes and bunkers or woodwork

1-6

Mean dia. of boilers 15-6

Length 11-6

Material of shell plates Steel

ness 1 1/4

Range of tensile strength 28.5 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams do Lap

seams TR DBS

Diameter of rivet holes in long. seams 1 1/2

Pitch of rivets 9 1/2

Lap of plates or width of butt straps 19 1/2

Size of manhole in shell

16 x 12

entages of strength of longitudinal joint

plate

88.3

Working pressure of shell by rules

183

Size of manhole in shell

16 x 12

Material Steel Outside diameter 50 1/2

of compensating ring and flanged

No. and Description of Furnaces in each boiler 3 Corrugated

Material

Steel

No. of strengthening rings

23

Top 23

Bottom 23

h of plain part

top

Thickness of plates

bottom

19 3/2

Description of longitudinal joint

Weld

Back 16

Top 32

Bottom 32

ing pressure of furnace by the rules 188

Combustion chamber plates: Material

Steel

Thickness: Sides

32

Back 16

Top 32

Bottom 32

of stays to ditto: Sides 10 5/8 x 9 1/4

Back 10 1/4 x 8 3/4

Top 10 5/8 x 9 1/4

If stays are fitted with nuts or riveted heads

Into

Working pressure by rules 180

End plates in steam space:

rial of stays Steel

Diameter at smallest part 2 3/4

Area supported by each stay 98

Working pressure by rules 219

Material of stays Steel

rial Steel

Thickness 1 1/2

Pitch of stays 21 3/4 x 20 1/2

How are stays secured

Nuts

Working pressure by rules 181

Material of Front plates at bottom

Steel

Working pressure by rules 198

Material of Front plates at bottom

eter at smallest part 2 29

Area supported by each stay 4450

Working pressure by rules 198

Material of Front plates at bottom

Steel

Thickness 22

Greatest pitch of stays 13 5/8 x 8 3/4

Working pressure of plate by rules 187

Material of Lower back plate Steel

Thickness 32

eter of tubes 2 3/4

Pitch of tubes 4 x 3 3/8

Material of tube plates Steel

Thickness: Front

32

Back 32

Mean pitch of stays 9 7/8

Material of tube plates Steel

Thickness: Front

32

across wide water spaces 15 5/8 x 8 3/4

Working pressures by rules 187

Girders to Chamber tops: Material

Steel

Depth and

ness 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 30 9 1/4

king pressure by rules 188

Superheater or Steam chest; how connected to boiler

Into

Can the superheater be shut off and the boiler worked

Yes

Description of longitudinal joint

Diam. of rivet

Material

Description of longitudinal joint

Diam. of rivet

ately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Material of flue plates

Thickness

Thickness

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

How stayed

End plates: Thickness

How stayed

Working pressure by rules

Working pressure by rules

iffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure by rules

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Working pressure of end plates

king pressure of end plates

Working pressure of end plates

Working pressure of end plates

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Working pressure of end plates

W269-0110

Lloyd's Register Foundation

VERTICAL DONKEY BOILER—

Manufacturers of Steel

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

SPARE GEAR. State the articles supplied:— 2 top end bolts & nuts 2 bottom end bolts & nuts
 2 main bearing bolts & nuts 6 coupling bolts & nuts set of fuel and bilge
 Pump Valves assorted Iron bolts & nuts and other spares as
 required by specification

The foregoing is a correct description,

David Rowan & Co. Ltd. Manufacturer.

Dates of Survey while building
 During progress of work in shops:— 1917 Nov 9 1918 April 14 Oct 4 7 8 28 Nov 4 18 22 Dec 11 12 19 1919 Jan 8 22 Feb 6 10 17 Mar 6 14
 During erection on board vessel:— April 1 16 14 May 2 7 16 22 June 3 4 23 30 July 8 Aug 11 14 15 18 19 21
 Total No. of visits 39

Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 6.2.19 Slides 11.2.19 Covers 11.2.19 Pistons 11.3.19 Rods 11.3.19
 Connecting rods 11.3.19 Crank shaft 10.3.19 Thrust shaft 17.4.19 Tunnel shafts 22.5.19 Screw shaft 22.5.19 Propeller 22.5.19
 Stern tube 4.6.19 Steam pipes tested 12.12.18 Engine and boiler seatings 30.6.19 Engines holding down bolts 11.8.19
 Completion of pumping arrangements 19.8.19 Boilers fixed 11.8.19 Engines tried under steam 19.8.19 21.8.19
 Main boiler safety valves adjusted 19.8.19 Thickness of adjusting washers $P \frac{1}{2} \times 8 \frac{3}{8}$ $P \frac{1}{2} \times 8 \frac{1}{4}$ $P \frac{1}{2} \times 5 \frac{3}{8}$
 Material of Crank shaft Steel Identification Mark on Do. 708 Material of Thrust shaft Steel Identification Mark on Do. 114
 Material of Tunnel shafts Iron Identification Marks on Do. 272 Material of Screw shafts Iron Identification Marks on Do. 22.5.19
 Material of Steam Pipes Iron Test pressure 540 lb sq in

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

* (6) $\frac{2708}{AF}$ 22.5.19 JE. (3) $\frac{272}{AF}$ 22.5.19 JE. (1) $\frac{2018}{AF}$ 22.5.19 JE

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

The machinery is eligible in my opinion to be classed + LMC 8.19 and to have record of Fitted for oil fuel 8.19 F.P. above 150° F.

It is submitted that this vessel is eligible for THE RECORD + LMC 8.19. F.D.

Fitted for oil fuel 8.19. F.D above 150° F.

The amount of Entry Fee .. £ : : When applied for, 2/9/19
 Special .. £ 146.11 : :
 Donkey Boiler Fee .. £ : : When received, 6/9/19
 Travelling Expenses (if any) £ : : 19/19

as Easthope Engineer Surveyor to Lloyd's Register of British & Foreign Ships

Committee's Minute

Assigned + LMC 8.19

MACHINERY CERTIFICATE
 DATED 3/9/19

Fitted for oil fuel 8.19. F.D above 150° F.

Lloyd's Register Foundation

Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

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 20.8.19