

REPORT ON MACHINERY

No. 39597

WED. FEB. 11. 1920

Received at London Office

Date of writing Report

19

When handed in at Local Office

9. 2.

1920. Port of

Glasgow

No. in Survey held at

Glasgow

Date, First Survey

12th Sept 1918

Last Survey

23rd Jan 1920

Reg. Book.

on the

T.S.S. OTAKI

(Number of Visits)

96

Gross

4964

Tons

Net

4985

When built

1920

Master

Built at

Glasgow

By whom built

Barclay Curle & Co. Ltd

when made

1920

Engines made at

Glasgow

By whom made

No.

Boilers made at

No.

By whom made

Double ended

No.

when made

1920

Registered Horse Power

Owners

Federal Steamer Nav. Co. Ltd.

Port belonging to

Plymouth

Nom. Horse Power as per Section 28

1122

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

Length of Stroke

Revs. per minute

Dia. of Screw shaft

as per rule

14.6

Material of

Steel

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

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

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

Length of stern bush

5-3

Dia. of Tunnel shaft

as per rule

13.69

as fitted

13.8

Dia. of Crank shaft journals

as per rule

14.38

as fitted

14.4

Dia. of Crank pin

14.3

Size of Crank webs

9x28

Dia. of thrust shaft under

collars

15

Dia. of screw

17-3

Pitch of Screw

19-0

No. of Blades

4

State whether moveable

Yes

Total surface

904

No. of Feed pumps

4

Diameter of ditto

4 1/2

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

4

Diameter of ditto

4 1/2

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

5

Sizes of Pumps

10x7x12

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

In Engine Room

(3) 3 1/2

In Holds, &c.

200

1-2-3-4-5

200 each

3 1/2

No. of Bilge Injections

2

Connected to condenser, or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room & 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

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

For Suctions

How are they protected

Iron casings

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 E.R. to Platform

BOILERS, &c.—(Letter for record)

S

Manufacturers of Steel

Stewart

Lloyd

& Co.

Glasgow

See separate report on S.E.

200

2.5.3

Total Heating Surface of Boilers

16680

Is Forced Draft fitted

Yes

No. and Description of Boilers

2

Buckley

2

Scotch

14998

No. of Certificate

14996

Working Pressure

200

Tested by hydraulic pressure to

360

Date of test

20.11.19

No. of Certificate

14996

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

SE 63.3

No. and Description of Safety Valves to

each boiler

SE 2

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

1-6

Mean dia. of boilers

16-3

Length

20-6

Material of shell plates

Steel

Thickness

1 1/2

Range of tensile strength

28/32 ton

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Lap & J.

long. seams

TRDBS

Diameter of rivet holes in long. seams

1 1/2

Pitch of rivets

10 1/2

Lap of plates or width of butt straps

22 1/2

Per centages of strength of longitudinal joint

rivets

85.2

plate

85.7

Working pressure of shell by rules

207

Size of manhole in shell

16x12

No. of strengthening rings

—

Size of compensating ring

33 1/2 x 28 1/2 x 1 1/2

No. and Description of Furnaces in each boiler

SE 3

Material

Steel

Outside diameter

44 1/2

Length of plain part

top

Thickness of plates

bottom

Description of longitudinal joint

below

No. of strengthening rings

—

Working pressure of furnace by the rules

213

Combustion chamber plates: Material

Steel

Thickness: Sides

1 1/2

Back

Top

16

Bottom

16

Working pressure by rules

277

Pitch of stays to ditto: Sides

9 1/2 x 8 1/2

Back

Top

7 x 6 3/4

If stays are fitted with nuts or riveted heads

No

Working pressure by rules

241

End plates in steam space:

Material

Steel

Thickness

1 1/2

Pitch of stays

21 x 6

How are stays secured

No. & W.

Working pressure by rules

201

Material of stays

8 steel

Area at smallest part

7.06

Area supported by each stay

33.6

Working pressure by rules

218

Material of Front plates at bottom

Steel

Thickness

1

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

2 1/2

Pitch of tubes

3 3/4

Material of tube plates

Steel

Thickness: Front

16 1/4

Back

4

Mean pitch of stays

9 1/4

Pitch across wide water spaces

13 1/2

Working pressures by rules

203

Girders to Chamber tops: Material

Steel

Thickness of girder at centre

8 x 3/4 (2)

Length as per rule

52 1/2

Distance apart

8 1/2 x 7

Number and pitch of stays in each

(6) 8 1/2 x 6 1/2

Working pressure by rules

235

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

Pressure to which each is adjusted

Is Easing Gear fitted

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

If not, state whether, and when, one will be sent?

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Top and bolts and nuts, 2 bottom end bolts and nuts 2 main bearing bolts and nuts set of coupling bolts and nuts 1 and 2 bilge Pump Valves 1 Iron bolts and nuts assorted sizes other articles

The foregoing is a correct description,
FOR BARCLAY, CURLE & CO., LTD.

John Alexander Manager

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1918 Sept 2-16-17-20 Oct 3-9-10-11-14-31 Nov 29 Dec 5-11-12 1919 Jan 8-10-11-16-20-23-29 Feb 11-12-13-24-27 Mar 14-20-21-25-26
During erection on board vessel -- Apr 1-3-9-29-30 May 4-20-23 Jun 4-2-12-23-24-28 July 1-9-10-11 Aug 5-8-15-16-20-21-24-25-27 Sept 4-8-17-18-24-30 Oct 4-2-13-15-16-21-22-27-30 Nov 4-16-11-12-13-20-26 Dec 1-2-14-26-28-29-30-31 1920 Jan 12-13-14-15-16-21-23
Total No. of visits 96
Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 20.5.19 Slides 1.4.19 Covers 2.6.19 Pistons 10.1.19 Rods 2.6.19
Connecting rods 10.1.19 Crank shaft 11.7.19 Thrust shaft 4.9.19 Tunnel shafts 4.9.19 Screw shaft 17.9.19 Propeller 9.10.19
Stern tube 25.8.19 Steam pipes tested 28.12.19 Engine and boiler seatings 18.9.19 Engines holding down bolts 17.12.19
Completion of pumping arrangements 21.1.20 Boilers fixed 17.12.19 Engines tried under steam 15.1.20 23.1.20
Completion of fitting sea connections 30.9.19 Stern tube 30.9.19-9.10.19 Screw shaft and propeller 30.9.19-9.10.19
Main boiler safety valves adjusted 15.1.20 Thickness of adjusting washers *cut to SE 5 1/2 P 1/2 cut to SE 5 1/2 P 1/2*
Material of Crank shaft *Steel* Identification Mark on Do. *11.7.19 TM* Material of Thrust shaft *Steel* Identification Mark on Do. *X*
Material of Tunnel shafts *Steel* Identification Marks on Do. *Δ* Material of Screw shafts *Steel* Identification Marks on Do. *⊗*
Material of Steam Pipes *Iron* Test pressure 600 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 (with minor differences)* If so, state name of vessel *Peshevan*

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

9485	9483	2629	2629	3600
2689	2529	9532 sta	9533 spare	301
AF	AF	AF	AF	JD
4.9.19	4.9.19	17.9.19	17.9.19	17.9.19
GLS	GLS	JE	JE	JE
Δ	2629	2629	2629	2629
PL	AF	AF	AF	AF
9504	4517	9515	9520	9513
2629	2629	2629	2629	2629
SL	AF	AF	AF	AF
9509	9519	9511	9516	9519
				9508-9526

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.

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.

The amount of Entry Fee ... £ 3 : 0 :
Special ... £ 73 : 1 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for,

10/2/1920

When received,

30/3/1920

Committee's Minute

GLASGOW

10 FEB 1920

Assigned + LMC 1,20.



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