

Rpt. 4.

REPORT ON MACHINERY

No. 42164

Date of writing Report 18.9.22

When handed in at Local Office 18.9.22

Received at London Office

11 SEP. 20 1922

No. in Survey held at

Glasgow

Port of

Glasgow

Reg. Book.

Date First Survey 29th Sept 1921

Last Survey 12th Sept 1922

(Number of Visits 52)

Master

Built at

Glasgow

By whom built

J. & W. Wood & Co. Ltd.

Tons

Gross 7335

Engines made at

Glasgow

By whom made

Dunoon & Co. Ltd.

When built

1922

Boilers made at

do

By whom made

do

540 when made

1922

Registered Horse Power

Owners

Shudean & Co.

Port belonging to

London

Nom. Horse Power as per Section 28

616

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines Triple Expansion

Dia. of Cylinders 25" 42 1/2" 42"

Length of Stroke 54"

Revs. per minute 81

No. of Cylinders 3

No. of Cranks 3

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

Yes

Dia. of Screw shaft

as per rule 15 1/4"

Material of screw shaft

S

Is the after end of the liner made water tight

Yes

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

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

If two

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

Yes

Length of stern bush

5.4"

Dia. of Tunnel shaft

as per rule 14 1/4"

Dia. of Crank shaft journals

as per rule 14 1/4"

Dia. of Crank pin

15 1/4"

Size of Crank web

29 1/2" x 10"

Dia. of thrust shaft under

collars

15 1/4"

Dia. of screw

18.0"

Pitch of Screw

18.6"

No. of Feed pumps

2

Diameter of ditto

4 1/4"

Stroke

26"

Can one be overhauled while the other is at work

Yes

Total surface

107 4

No. of Bilge pumps

2

Diameter of ditto

4 1/4"

Stroke

26"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

4

SIZES OF PUMPS

10 1/2" x 8"

10 1/2" x 8"

10 1/2" x 8"

10 1/2" x 8"

10 1/2" x 8"

10 1/2" x 8"

In Engine Room

2

3 1/2" Stroke

2

3 1/2" Stroke

2

3 1/2" Stroke

2

3 1/2" Stroke

2

3 1/2" Stroke

2

3 1/2" Stroke

2

3 1/2" Stroke

2

3 1/2" Stroke

No. of Bilge Injections

5

SIZES

8"

Connected

to circulating pump

Is a separate Donkey Suction fitted in Engine room

Yes

Size

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

Yes

Are all connections with the sea direct on the skin of the ship

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Yes

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

How are they protected

Yes

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

How

Is it fitted with a watertight door

Yes

worked from

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Shuman, Colville & Co. Ltd. Glasgow

Total Heating Surface of Boilers

9216 1/2

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 Single Ended

Working Pressure

2 1/5

Tested by hydraulic pressure to

430

Date of test

3.4.22

No. of Certificate

16041

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

each boiler

Doyle & Young

Area of each valve

11.04 1/2

Pressure to which they are adjusted

220

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

3.0

Mean dia. of boilers

16-1/2"

Length

2.0"

Material of shell plates

S

Thickenss

1/2"

Range of tensile strength

29, 33

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

DR

long. seams

TRIBS

Diameter of rivet holes in long. seams

17/32"

Pitch of rivets

10 1/2"

Lap plates or width of butt straps

1-10 3/4"

Per centages of strength of longitudinal joint

rivets

86.9%

plate

85.4%

Working pressure of shell by rules

2 1/5

Size of manhole in shell

16 1/2"

No. and Description of Furnaces in each boiler

3 Corrugated

Material

S

Outside diameter

4.3"

Length of plain part

top

Thickness of plates

crown

123/32"

Description of longitudinal joint

weld

No. of strengthening rings

—

Working pressure of furnace by the rules

218

Combustion chamber plates: Material

S

Thickness: Sides

3/4"

Back

3/4"

Pitch of stays to ditto: Sides

9 1/8"

Back

9 1/8"

Top

9 1/8"

If stays are fitted with nuts or riveted heads

Yes

Working pressure by rules

225

End plates in steam space:

Material

S

Thickness

125/64"

Pitch of stays

22 1/2" x 17 1/4"

Area at smallest part

820 1/2"

Area supported by each stay

41 1/2"

Working pressure by rules

216

Material of Front plates at bottom

S

Thickness

11/64"

Material of Lower back plate

S

Thickness

3/32"

Greatest pitch of stays

43/4" x 9 1/16"

Working pressure of plate by rules

Diameter of tubes

2 1/2"

Pitch of tubes

3 1/4" x 3 3/4"

Material of tube plates

S

Thickness: Front

11/64"

Back

27/32"

Mean pitch of stays

—

Pitch across wide water spaces

13 1/2"

Working pressures by rules

218

Girders to Chamber tops: Material

thickness of girder at centre

10 1/2" (2)

Length as per rule

26 1/4"

Distance apart

9

Number and pitch of stays in each

3 at 9"

Working pressure by rules

221

Steam dome: description of joint to shell

%

of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

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

UPPERHEATER.

Date of Test

Diameter of Safety Valve

Lloyd's Register Foundation

W675-8186

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Connecting Rod bolts, nuts for top end, ditto for bottom end. 2 Main Bearing bolts. 1 Set of Coupling bolts. 1 Set of Feed & Bilge Pump Valves. 1 Set of L.P. Piston Rings. Springs on Propeller Shaft. 1/3" Crank Shaft. a quantity of assorted bolts, nuts & iron of various sizes.

The foregoing is a correct description,

For DUNSMUIR & JACKSON, Limited.

Jas. F. Adam Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1921 Sep 3, 9, 13, 16, 17, 25 Nov 22 1922 Jan 11, 12, 17, 20 Feb 10, 17 Mar 18, 20, 27 Apr 3, 7, 19, 21, 27 May 8, 10, 15, 16, 18, 19, 22, 24, 27, 29, 30 June 6, 22
During erection on board vessel - - 230 Jul 3, 4, 5, 6 Aug 1, 2, 4, 9, 10, 16, 21, 24 Sep 6, 12
Total No. of visits 52

Is the approved plan of main boiler forwarded herewith yes with the plan 41853
" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 14, 2, 22 Slides 5, 5, 22 Covers 14, 2, 22 Pistons 12, 1, 22 Rods 12, 1, 22
Connecting rods 12, 1, 22 Crank shaft 14, 1, 22 Thrust shaft 14, 1, 22 Tunnel shafts 14, 4, 22 Screw shaft 10, 3, 22 Propeller 10, 3, 22
Stern tube 10, 3, 22 Steam pipes tested 7, 7, 22 Engine and boiler seatings 10, 5, 22 Engines holding down bolts 1, 8, 22
Completion of pumping arrangements 4, 8, 22 Boilers fixed 1, 8, 22 Engines tried under steam 12, 9, 22
Completion of fitting sea connections 10, 5, 22 Stern tube 10, 5, 22 Screw shaft and propeller 10, 5, 22
Main boiler safety valves adjusted 4, 5, 22 Thickness of adjusting washers S 3/8 P 3/8 A 3/4 F 3/8 B 5/16 P 7/16
Material of Crank shaft S Identification Mark on Do. 110VDS Material of Thrust shaft S Identification Mark on Do. 110VDS
Material of Tunnel shafts S Identification Marks on Do. 540 M Material of Screw shafts S Identification Marks on Do. 540 M
Material of Steam Pipes Lap welded iron Test pressure 645 lb

Is an installation fitted for burning oil fuel yes

Is the flash point of the oil to be used over 150°F. No

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

Is this machinery duplicate of a previous case yes

If so, state name of vessel S/S TOCO - 41853

General Remarks (State quality of workmanship, opinions as to class, &c.) These Engines & Boilers have been built under Special Survey in accordance with the approved plans & the workmanship & material are of good quality & they have been tried under steam & found satisfactory. The machinery is eligible in my opinion for the record of L.M.C. 9.22 Fitted for Low Flash Oil Fuel 9.22

Note On Main Pump Room on Discharge side of Cargo Pumps. Two oil heaters are fitted & these have been made by the Borden Boiler & Arm Co. Ltd. Glasgow. Heaters tried & stamped as follows

No. 3043
Type of Fuel
Steam Span 430 lb
Oil 300 lb
Working oil pressure 150 lb
W.G.M. 27. 7. 22

No. 3044
Type of Fuel
Steam Span 430 lb
Oil 300 lb
Working oil pressure 150 lb
W.G.M. 28. 8. 22

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 9.22. F.D.C.L. "Fitted for Low Flash Oil Fuel" 9.22.

The amount of Entry Fee ... £ 6 : - :
Special ... £ 105 : 16 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for,

When received,

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 19 SEP 1922

Assigned + L.M.C. 9.22

Fitted for Low Flash Oil Fuel 9.22.

MACHINERY DEPT.
WRITTEN
22. 9. 22



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