

Rpt. 4.

REPORT ON MACHINERY.

No. 27910

Received at London Office

FRI. AUG. 27 1920

Date of writing Report

19

When handed in at Local Office

26 AUG 1920

Port of

SUNDERLAND.

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey

28 Jan '20 Last Survey 24 August 1920

on the 5/5 "SYDLAND"

(Number of Visits)

Tons

Gross 6563

Net 4079

When built 1920

Master H. J. Larsson Built at Sunderland

By whom built Messrs Wm Dorey & Sons (Sunderland)

Engines made at Sunderland

By whom made Messrs G. Clark & Co (1115)

when made 1920

Boilers made at Sunderland

By whom made Messrs G. Clark & Co (1115)

when made 1920

Registered Horse Power

Owners Anglo-Swedish Airfaring (Sunderland)

Port belonging to

Gothenburg

Nom. Horse Power as per Section 28

577

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders 27.44 1/2, 75 Length of Stroke 54 Revs. per minute 70

Dia. of Screw shaft

as per rule 15.6

Material of screw shaft

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

in the 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

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

Length of stern bush 5-10

Dia. of Tunnel shaft

as per rule 13.91

Dia. of Crank shaft journals

as per rule 14.6

Dia. of Crank pin 14 3/4

Size of Crank webs 20 1/2 x 9 1/2

Dia. of thrust shaft under

collars 14 3/4

Dia. of screw 18.0

Pitch of Screw 18.0

No. of Blades 4

State whether moveable

Yes

Total surface 102 sq

No. of Feed pumps 2

Diameter of ditto 5"

Stroke 30"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps 2

Diameter of ditto 5"

Stroke 30"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines 3

Sizes of Pumps 7 x 5 x 6

8 x 8 x 8

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

In Engine Room 4 @ 3 1/2, 1 in each of 2 1/2, 1 in each of 3 1/2

In Holds, &c. Nos. 1, 2, 2 each 3 1/2, Nos. 3, 2 @ 3 1/2, 2 @ 3 1/2

No. 4, 1 @ 3 1/2 in hold, 1 in hold, 1 in hold, 1 in hold

No. of Bilge Injections 1

sizes 9"

Connected to condenser, or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room & size

4 1/2 sq

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

13/14

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

Above

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

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from upper platform

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

Sunderland

Total Heating Surface of Boilers 8547 sq

Is Forced Draft fitted

Yes

No. and Description of Boilers

Three single ended

Working Pressure 180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test 20. 7. 20

No. of Certificate 3702

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

63 sq

No. and Description of Safety Valves to

each boiler Two spring valves

Area of each valve 11.04

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 way of Boiler Mean dia. of boilers 15-11

Length 12-0

Material of shell plates

S

Thickness 1 5/16

Range of tensile strength 28 1/2 - 32 3/8

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams Lap & dk

long. seams 15.15 to 16.15

Diameter of rivet holes in long. seams 1 5/16

Pitch of rivets 6 3/4

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

Per centages of strength of longitudinal joint

rivets 88

plate 85

Working pressure of shell by rules

188

Size of manhole in shell

12 x 16

Size of compensating ring

Flanged

No. and Description of Furnaces in each boiler

3 Dighton

Material

S

Outside diameter 4-5 3/4

Length of plain part

top

Thickness of plates

crown 3 3/8

bottom 6 1/4

Description of longitudinal joint

Welded

No. of strengthening rings

-

Working pressure of furnace by the rules

181

Combustion chamber plates: Material

S

Thickness: Sides

3/4

Back

5/8

Top

3/4

Bottom

3/4

Pitch of stays to ditto: Sides 7 1/2 x 7 1/2

Back 7 1/2 x 7 1/2

Top 7 1/2 x 7 1/2

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules 218

Material of stays

S

Area at smallest part 1.44 sq

Area supported by each stay

62 sq

Working pressure by rules 210

End plates in steam space:

Material

S

Thickness

1 1/4

Pitch of stays 21 3/4 x 16

How are stays secured

D. N. & W.

Working pressure by rules 222

Material of stays

S

Area at smallest part

7.06 sq

Area supported by each stay

348 sq

Working pressure by rules 222

Material of Front plates at bottom

S

Thickness

2 1/2

Material of Lower back plate

S

Thickness

2 1/2

Greatest pitch of stays 15 1/2

Working pressure of plate by rules

184

Diameter of tubes 2 1/2

Pitch of tubes 3 3/4 x 3 5/8

Material of tube plates

S

Thickness: Front

2 1/2

Back

3/4

Mean pitch of stays 7 1/2 x 7 1/2

Pitch across wide water spaces 12 1/2

Working pressures by rules 202

Girders to Chamber tops: Material

S

Depth and

Thickness of girder at centre

9 1/4 x 1 1/2

Length as per rule 34 5/8

Distance apart 7 1/2

Number and pitch of stays in each

3

7 1/2

Working pressure by rules

187

Steam dome: description of joint to shell

-

% 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

-

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

-

002784-002789-0167

IS A DONKEY BOILER FITTED? NO

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two top end & two bottom end connecting rod bolts and nuts, two main bearing bolts, one set coupling bolts, one set fuel and lidge pump valves, assorted bolts and nuts, two of various sizes on propeller shaft

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED

W. R. Spence

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1920 Jan 25 Feb 2 26 Mar 8 22 23 24 Apr 8 13 14 17 19 22 May 6 10 31 Jun 2 4 15 18 21 25 29
{ During erection on board vessel -- } Jul 14 20 30 Aug 6 10 13 13 17 19 20 24
Total No. of visits (34)

Is the approved plan of main boiler forwarded herewith YES

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 15.6.20 Slides 30.7.20 Covers 15.6.20 Pistons 15.6.20 Rods 14.4.20

Connecting rods 15.6.20 Crank shaft 8.3.20 Thrust shaft 26.2.20 Tunnel shafts 26.2.20 Screw shaft 14.4.20 Propeller 4.6.20

Stern tube 14.4.20 Steam pipes tested 13.6.20, 19.8.20 Engine and boiler seatings 10.8.20 Engines holding down bolts 12.8.20

Completion of pumping arrangements 10.8.20 Boilers fixed 17.8.20 Engines tried under steam 24.8.20

Completion of fitting sea connections 17.4.20 Stern tube 10.8.20 Screw shaft and propeller 10.8.20

Main boiler safety valves adjusted 24.8.20 Thickness of adjusting washers P 5 13 1/2 P 3 5 3/8 Lute 13 1/2 P 3 5 3/8 Str 13 1/2 P 3 5 3/8

Material of Crank shaft Steel Identification Mark on Do. 1115 L.C.D Material of Thrust shaft Steel Identification Mark on Do. 1115 L.C.D

Material of Tunnel shafts Steel Identification Marks on Do. 1115 L.C.D Material of Screw shafts Steel Identification Marks on Do. 1115 G.A.H.

Material of Steam Pipes Iron Test pressure 5-40 lbs sq in

Is an installation fitted for burning oil fuel YES Is the flash point of the oil to be used over 150°F. YES

Have the requirements of Section 49 of the Rules been complied with YES, as approved

Is this machinery duplicate of a previous case NO If so, state name of vessel

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

The machinery of this vessel has been built under special survey, the materials and workmanship are sound and good and render the vessel eligible in my opinion to have
rank of 1-L.M.C. 8.20. Fitted for burning oil fuel 8.20 F.P. above 150°F.

The oil fuel installation has been fitted in a satisfactory manner and in accordance with the approved plans.

It is submitted that this vessel is eligible for

THE RECORD + L.M.C. 8.20. F.P.

Fitted for oil fuel 8.20 F.P. above 150°F.

APR RCH
29/8/20

The amount of Entry Fee ... £ 3 :
Special ... £ 48 : 17 :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When applied for, 26 AUG 1920
When received, 4/9/20

W. R. Spence
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

+ L.M.C. 8.20 F.P.
Fitted for oil fuel 8.20
F.P. above 150°F.

MACHINERY CERT.
WRITTEN.



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Foundation