

## REPORT ON MACHINERY.

No. 27860

Received at London Office

TUE: JUL. 6 1920

Date of writing Report

19

When handed in at Local Office

5 JUL 1920

Port of Sunderland

No. in Survey held at  
Reg. Book.

Sunderland

Date, First Survey

23 Oct 1919

Last Survey

19

on the

Hs "Winsum."

(Number of Visits)

Master

Built at

Hoboken

By whom built

Antwerp Engineering Co. Ltd (S/N 74)

When built

1920

Engines made at

Sunderland

By whom made

North Eastern Marine Engineering Co. Ltd (N 2178)

When made

1920

Boilers made at

Sunderland

By whom made

North Eastern Marine Engineering Co. Ltd (N 2178)

When made

1920

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

320

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

## ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

23.38.62

Length of Stroke

42

Revs. per minute

Dia. of Screw shaft

as per rule 13.1

Material of

Screw shaft

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

yes

If two

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

✓

Length of stern bush

4-5

Dia. of Tunnel shaft

as per rule 11.47

11.49

Dia. of Crank shaft journals

as per rule 12.05

12.06

Dia. of Crank pin

12.3

Size of Crank webs

17x7.5

Dia. of thrust shaft under

collars

12.2

Dia. of screw

16-3

Pitch of Screw

16-0

No. of Blades

4

State whether moveable

no

Total surface

810 ft

No. of Feed pumps

2

Diameter of ditto

3.4

Stroke

2.0

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4

Stroke

2.0

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

10 &amp; 12 &amp; 12

7 &amp; 5 &amp; 8

No. and size of Suctions connected to

In Engine Room

In Holds, &amp;c.

No. of Bilge Injections

sizes

Connected to condenser, or to circulating pump

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

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

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

Are they Valves or Cocks

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

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

Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers

How are they protected

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

## BOILERS, &amp;c.—(Letter for record

S)

Manufacturers of Steel

John Spencer &amp; Sons Ltd.

Total Heating Surface of Boilers

44960 ft

Is Forced Draft fitted

yes

No. and Description of Boilers

Two single ended marine

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

21-5-20

No. of Certificate

3690

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Two direct spring

Area of each valve

9.62 ft

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

14.4

Length

11.6

Material of shell plates

steel

Thickness

1.3

Range of tensile strength

29-33 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR

long. seams

DBS. TR

Diameter of rivet holes in long. seams

1.2

Pitch of rivets

9.9

Lap of plates or width of butt straps

19

Per centages of strength of longitudinal joint

rivets 87.8

plate 86.9

Working pressure of shell by rules

180

Size of manhole in shell

16x12

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3 Deighton

Material

steel

Outside diameter

3.5

Length of plain part

top

bottom

Thickness of plates

crown 1.2

bottom 1.2

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

181

Combustion chamber plates: Material

steel

Thickness: Sides

3/4

Back

3/4

Top

3/4

Bottom

3/4

Pitch of stays to ditto: Sides

10.5x9.2

Back

10.5x10.5

Top

10.5x9

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

180

Material of stays

steel

Area at smallest part

2.030

Area supported by each stay

1010

Working pressure by rules

181

End plates in steam space:

Material

steel

Thickness

1.3

Pitch of stays

25x19

How are stays secured

DN &amp; W

Working pressure by rules

181

Material of stays

steel

Area at smallest part

8290

Area supported by each stay

4750

Working pressure by rules

181

Material of Front plates at bottom

steel

Thickness

1.3

Material of Lower back plate

steel

Thickness

1.5

Greatest pitch of stays

14.7x10.5

Working pressure of plate by rules

182

Diameter of tubes

2.2

Pitch of tubes

3.2x3.2

Material of tube plates

steel

Thickness: Front

1.3

Back

3/4

Mean pitch of stays

9.3

Pitch across wide water spaces

14.2 (5.0 ft)

Working pressures by rules

216

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

2@8.8x1

Length as per rule

35

Distance apart

9

Number and pitch of stays in each

2@10.3

Working pressure by rules

183

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

## UPERHEATER. 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

003450-003457-0155



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

*Geo. A. Beer*

Manufacturer.

Dates of Survey while building  
During progress of work in shops --  
During erection on board vessel --  
Total No. of visits

Is the approved plan of main boiler forwarded herewith yes  
" " " donkey " " " no

Dates of Examination of principal parts—Cylinders 16-1-20 Slides 9-4-20 Covers 24-3-20 Pistons 12-4-20 Rods 12-4-20  
Connecting rods 24-3-20 Crank shaft 8-1-20 Thrust shaft 1-5-20 Tunnel shafts 24-3-20 Screw shafts 2-7-20 Propeller 5-5-20  
Stern tube 4-3-20 Steam pipes tested                      Engine and boiler seatings                      Engines holding down bolts                       
Completion of pumping arrangements                      Boilers fixed                      Engines tried under steam                       
Completion of fitting sea connections                      Stern tube                      Screw shaft and propeller                       
Main boiler safety valves adjusted                      Thickness of adjusting washers                     

Material of Crank shaft Steel Identification Mark on Do. LLOYD'S N°2178 L.C.D. Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S N°2178 L.C.D.  
Material of Tunnel shafts Steel Identification Marks on Do. L.C.D. Material of Screw shafts Steel Identification Marks on Do. L.C.D.

Material of Steam Pipes                      Test pressure                     

Is an installation fitted for burning oil fuel                      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 no If so, state name of vessel                     

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

The machinery is being sent to Antwerp to be fitted in the vessel.  
The materials and workmanship are good.  
The machinery has been constructed under special survey and will, in my opinion, be eligible for classification and the record of L.M.C. (with date) when it has been satisfactorily fitted in the vessel.

SUNDERLAND.

Certificate (if required) to be sent to

The amount of Entry Fee ... £ 3 :  
Special Fee ... £ 24 :  
Donkey Boiler Fee ... £ 12 :  
Travelling Expenses (if any) £                      :  
When applied for, 5 JUL 1920  
When received, 7-8-1920

*S. Davis*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. MAR. 18 1921  
Assigned See minute on Ant rpt No 11502