

TUE. JUL. 6 1920

Received at London Office

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

26 Aug 19

Last Survey

1920

on the new steel

S/S "NIOBE"

Master

Built at

Blyth

By whom built

Blyth SBC Co (S/S No 214)

When built

1920

Engines made at

Sunderland

By whom made

North Eastern Marine Engineering Co (No 245)

when made

1920

Boilers made at

Sunderland

By whom made

North Eastern Marine Engineering Co (No 245)

when made

1920

Registered Horse Power

Owners

Port belonging to

Glen

Nom. Horse Power as per Section 28

244

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

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

Triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders

21" 34" 56"

Length of Stroke

36"

Revs. per minute

78

Dia. of Screw shaft

as per rule 11 1/2"

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' 2"

Dia. of Tunnel shaft

as per rule 10 1/2"

Dia. of Crank shaft journals

as per rule 10 1/2"

Dia. of Crank pin

11 1/2"

Size of Crank webs

11 1/2"

Dia. of thrust shaft under

collars

11 1/2"

Dia. of screw

14 1/2"

Pitch of Screw

13 1/2"

No. of Blades

4

State whether moveable

no

Total surface

630 ft

No. of Feed pumps

2

Diameter of ditto

3"

Stroke

21"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2"

Stroke

21"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

1 1/2" 2" 3" 4" 5" 6" 8" 10" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30" 32" 34" 36" 38" 40" 42" 44" 46" 48" 50" 52" 54" 56" 58" 60" 62" 64" 66" 68" 70" 72" 74" 76" 78" 80" 82" 84" 86" 88" 90" 92" 94" 96" 98" 100"

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

In Engine Room

3 @ 3"

In Holds, &amp;c.

7 @ 2 1/2" 2 @ 3" after hold - 2 @ 3"

No. of Bilge Injections

1

sizes

6"

Connected to condenser, or to circulating pump

b.p.

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

yes 3"

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

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

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

for main hole suction

How are they protected

under timber boards

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

Top platform

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

S

Manufacturers of Steel

John G. &amp; Sons Ltd.

Total Heating Surface of Boilers

4224 sq ft

Is Forced Draft fitted

no

No. and Description of Boilers

2 S.S.

Working Pressure

190

Tested by hydraulic pressure to

380

Date of test

23-12-19

No. of Certificate

3643

Can each boiler be worked separately

yes

Area of fire grate in each boiler

530 ft

No. and Description of Safety Valves to

each boiler

two direct spring

Area of each valve

10 1/2" 10"

Pressure to which they are adjusted

195

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

2' 6"

Mean dia. of boilers

15' 0"

Length

10' 6"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR

Long. seams

DRS. TR

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

10 1/2"

Lap of plates or width of butt straps

20 1/2"

Per centages of strength of longitudinal joint

86.4

Working pressure of shell by rules

190

Size of manhole in shell

16" x 12"

Size of compensating ring

flange

No. and Description of Furnaces in each boiler

3 Brighton

Material

steel

Outside diameter

39 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

welded

No. of strengthening rings

25"

Back

3 1/2"

Top

3 1/2"

Bottom

3 1/2"

Working pressure of furnace by the rules

195

Combustion chamber plates: Material

steel

Thickness: Sides

2 1/2"

Back

3 1/2"

Top

3 1/2"

Bottom

3 1/2"

Pitch of stays to ditto: Sides

11 1/2" x 9"

Back

10 1/2" x 9"

Top

11 1/2" x 9"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

195

Material of stays

steel

Area at smallest part

2' 0" 3' 0"

Area supported by each stay

960"

Working pressure by rules

190

End plates in steam space:

Material

steel

Thickness

1 1/2"

Pitch of stays

19 1/4" x 1 1/2"

Area at smallest part

7' 6" 10"

Area supported by each stay

4060"

Working pressure by rules

196

Material of Front plates at bottom

steel

Thickness

1 1/2"

Material of Lower back plate

steel

Thickness

1 1/2"

Diameter of tubes

3 1/2"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

steel

Thickness: Front

1 1/2"

Back

3 1/2"

Mean pitch of stays

9"

Pitch across wide water spaces

41 1/2" (4' 0")

Working pressures by rules

195

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

20 1/2" x 1 1/2"

Length as per rule

2' 6"

Distance apart

11 1/2"

Working pressure by rules

192

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

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

Lloyd's Register

Foundation

W1200-0026



IS A DONKEY BOILER FITTED? ☒

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:—

Two connecting rod top and bottom end bolts, one set of coupling bolts, two main bearing bolts iron and bolts of various sizes, one propeller, one air pump rod, one bottom end bearing, one top end bearing, two pump links, 1 set of feed and tilge pump valves, 1 main feed & 1 aux feed check valves, a quantity of assorted bolts, nuts and iron of various sizes.

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

Geo D Weir

Manufacturer.

Dates of Survey while building

During progress of work in shops --  
During erection on board vessel --  
Total No. of visits

1919 Aug 16, 29 Oct 12, 23, 28, 29, 30, 31 Nov 11, 12, 14, 20, 26 Dec 1, 2, 9, 12, 15, 16, 17 Jan 7, 8, 14, 19 Feb 12, 20 Mar 2, 24 May 14, 19 Jun 13, 17, 21, 22, 28 July 1, 20

Is the approved plan of main boiler forwarded herewith

yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 2-3-20 Slides 24-3-20 Covers 24-5-20 Pistons 24-5-20 Rods 24-3-20

Connecting rods 16-12-19 Crank shaft 20-11-19 Thrust shaft 20-11-19 Tunnel shafts 29-1-20 Screw shaft 31-5-20 Propeller 9-12-19

Stern tube 14-6-20 Steam pipes tested 28-6-20 Engine and boiler seatings 13-8-20 Engines holding down bolts 21-6-20

Completion of pumping arrangements 31-7-20 Boilers fired 21-6-20 Engines tried under steam 2-7-20

Completion of fitting sea connections 16-5-20 Stern tube 17-6-20 Screw shaft and propeller 21-6-20

Main boiler safety valves adjusted 2-7-20 Thickness of adjusting washers Rods 1 1/2" A 5/8" : Slide 1 1/2" A 5/8"

Material of Crank shaft Steel Identification Mark on Do. LLOYD'S NO 2451 L.C.D. Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S NO 2451 L.C.D.

Material of Tunnel shafts Steel Identification Marks on Do. LLOYD'S NO 2451 L.C.D. Material of Screw shafts Steel Identification Marks on Do. LLOYD'S NO 2451 L.C.D.

Material of Steam Pipes Separable wrought iron Test pressure 570 lbs per sq in

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 If so, state name of vessel "S Hebe" (sl. R.P. No. 27782)

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

The materials and workmanship are good. The machinery has been constructed under special survey and will in our opinion be eligible for classification and the record + LMC 8-20 when the survey is complete.

To complete the survey the shaft tunnel requires to be made watertight and the suction pipes fitted in same. Spare feed and tilge pump valves to be supplied. The vessel has left for the builders quay, Newcastle Surveys advised. How done:—The tunnel made watertight, the pumping arrangements completed, and the spare feed and tilge pump valves supplied, rendering the vessel eligible for the record of + LMC 8-20 as stated above.

THE RECORD + LMC 8-20 RCM 27/8/20

The amount of Entry Fee £ 2 : : When applied for  
Special £ 32 : 4 : :  
Donkey Boiler Fee £ : : :  
Travelling Expenses (if any) £ : : :  
When received, 1920

Committee's Minute TUE. AUG. 31 1920  
Assigned + LMC 8-20  
MACHINERY CERT  
WRITTEN.

SUNDERLAND.

The Surveys are requested not to write on or below the space for Committee's Minute.