

Date of writing Report

19

When handed in at Local Office

16/4/1921 Port of

No. in Survey held at  
Reg. Book.

Newcastle-on-Tyne

Date, First Survey 2<sup>nd</sup> Sept. 1920 Last Survey 14<sup>th</sup> April 1921

on the

s.s. 'Ethylene'

(Number of Visits 19)

Gross

Master

Built at

Newcastle

By whom built

Wood Skinner &amp; Co. Ltd

When built

1921

Engines made at

Walsend.

By whom made

North Eastern Marine Engineering Co. Ltd

when made

1921

Boilers made at

do

By whom made

do

[Contract No. 2592]

when made

1921

Registered Horse Power

Owners

Gaslight &amp; Coke Co.

Port belonging to

Nom. Horse Power as per Section 28

116.85

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

No.

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

Triple Expansion.

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

16", 26", 43"

Length of Stroke

27"

Revs. per minute

Dia. of Screw shaft

as per rule

8.83

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

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

Yes

If two

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

Yes

Length of stern bush

3'-3 1/2"

Dia. of Tunnel shaft

as per rule

17.75

Dia. of Crank shaft journals

as per rule

8.14

Dia. of Crank pin

8 1/4"

Size of Crank webs

13 1/2" x 5 1/4"

Dia. of thrust shaft under

collars

8 1/4"

Dia. of screw

11'-0"

Pitch of Screw

11'-0"

No. of Blades

4

State whether moveable

No

Total surface

38 sq

No. of Feed pumps

2

Diameter of ditto

2 1/2"

Stroke

13 1/2"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

2 1/2"

Stroke

13 1/2"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

Ballast: 9 1/2" x 11" x 10"  
Feed: 4 1/2" x 3" x 6"

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

In Engine Room

E.R. 1-3

Stokehold

1-3

In Holds, &amp;c.

Ford.

2-2 1/2"

Aft

4-3"

No. of Bilge Injections

1

sizes

5"

Connected to

circulating pump

Yes

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

1'-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

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

Same level.

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

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

None

Is it fitted with a watertight door

Yes

worked from

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

Manufacturers of Steel

John Spencer &amp; Sons.

Total Heating Surface of Boilers

2,000 sq

Is Forced Draft fitted

No

No. and Description of Boilers

One S.E. Multitubular.

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

26. 11. 20

No. of Certificate

9489

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

57 sq

No. and Description of Safety Valves to

each boiler

2 Spring Loaded.

Area of each valve

5.94 sq

Pressure to which they are adjusted

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

1'-2"

outside

Mean dia. of boilers

14'-6"

Length

10'-6"

Material of shell plates

Steel.

Thickness

1 1/8"

Range of tensile strength

28 1/2" - 32 1/2"

Are the shell plates welded or flanged

No.

Descrip. of riveting: cir. seams

D.R.-L.

long. seams

TR. D.B.

Diameter of rivet holes in long. seams

1 1/32"

Pitch of rivets

9 3/4"

Top of plates on

width of butt straps

1'-7 1/2"

Per centages of strength of longitudinal joint

rivets

87.4%

Working pressure of shell by rules

180

Size of manhole in

16" x 12"

Size of compensating ring

Flanged.

No. and Description of Furnaces in each boiler

3. Deighton.

Material

Steel

Outside diameter

3'-7"

Length of plain part

top

bottom

Thickness of plates

crown

17 1/2"

Description of longitudinal joint

Welded.

No. of strengthening rings

Yes

Working pressure of furnace by the rules

190

Combustion chamber plates: Material

Steel

Thickness: Sides

23 1/32"

Back

23 1/32"

Pitch of stays to ditto: Sides

9 3/8" x 10 1/2"

Back

9 3/8" x 10 1/2"

Top

10 3/8" x 10 1/2"

If stays are fitted with nuts or riveted heads

Hub.

Working pressure by rules

180

Material of stays

Steel

Area at smallest part

2.03

Area supported by each stay

10 1/2" x 9 3/8"

Working pressure by rules

185

End plates in steam space:

Material

Steel

Thickness

1 1/32"

Pitch of stays

25" x 22 1/2"

How are stays secured

D.N. &amp; W.

Working pressure by rules

182

Area at smallest part

9.62

Area supported by each stay

556.25

Working pressure by rules

180

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

Steel

Thickness

1 5/16"

Greatest pitch of stays

14 1/2" x 10 1/2"

Working pressure of plate by rules

189

Diameter of tubes

3 1/4"

Pitch of tubes

4 3/8" x 4 1/2"

Material of tube plates

Steel

Thickness: Front

1"

Back

1 3/16"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

182

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

9 3/8" x 15 1/8"

Length as per rule

2'-10"

Distance apart

10 3/8"

Number and pitch of stays in each

2'-10 1/2"

Working pressure by rules

182

Steam dome: description of joint to shell

Yes

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

002241-002248-0101

Register

Foundation



IS A DONKEY BOILER FITTED?

yes.

If so, is a report now forwarded?

yes.

SPARE GEAR. State the articles supplied:—

1. C.I. propeller, 2 Bottom and bolts & nuts.  
2 feed pump valves. 20 shaft & nut assorted (var) 2 Top " " "  
2 Pilys " " 20 " " " (var) 2 Main Bearing " " "  
50 Bolt & nut assorted. 50 Split pins. 6 Coupling " " "

The foregoing is a correct description,

THE NORTH EASTERN MARINE ENGINEERING CO., LTD.

G. J. Harrison

Manufacturer.

Dates of Survey while building

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

1920

Sept. 2. 8. Nov. 8. 11. 24. 26. Dec. 20. 23. Jan. 13. 14. 24. Feb. 9. 16. 21. 23. 24. Mar. 27. 22. Apr. 14.

19

Is the approved plan of main boiler forwarded herewith

yes.

" " " donkey " " " yes.

Dates of Examination of principal parts—Cylinders 21/12/20. Slides 11/11/20 Covers 11/11/20 Pistons 11/11/20 Rods 24/11/20

Connecting rods 24/11/20 Crank shaft 11/11/20 Thrust shaft 8/9/20 Tunnel shafts none. Screw shaft 23/9/20 Propeller 13/1/21

Stern tube 13/1/21 Steam pipes tested 21/2/21 Engine and boiler seatings 23/2/21 Engines holding down bolts 24/2/21

Completion of pumping arrangements 22/3/21 Boilers fixed 23/2/21 Engines tried under steam 22/3/21

Completion of fitting sea connections 19/1/21 Stern tube 13/1/21 Screw shaft and propeller 17/3/21

Main boiler safety valves adjusted 22/3/21 Thickness of adjusting washers P = 23/64 " S = 25/64 "

Material of Crank shaft steel. Identification Mark on Do. 11. 11. 20 MR Material of Thrust shaft steel. Identification Mark on Do. 8. 9. 20 MR

Material of Tunnel shafts none. Identification Marks on Do. ✓ Material of Screw shafts none. Identification Marks on Do. 23/9/20 MR

Material of Steam Pipes Copper Test pressure 360 lbs.

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 No. If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The Engines & Boilers of this vessel

were built under special survey, & the materials & workmanship are good.

After putting in place on board they were examined under steam &

found to work satisfactorily.

The machinery throughout is now in good & efficient condition & capable

in my opinion to have record of L.M.C. 4.20. Marked in the Society's

Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 4.21. C.L.

Reff 23/5/21

The amount of Entry Fee ... £ 3 : 0 :  
Special ... £ 29 : 0 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 19 May 1921  
When received, 28.5.19

Committee's Minute

Assigned

MAY 27 1921

+ L.M.C. 4.21 C.L.

L. W. Stuart

Francis Peterson

Engineer Surveyor to Lloyd's Register of Shipping.



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