

Rpt. 4.

REPORT ON MACHINERY.

Received at London Office

MON. 30 MAY, 1921

Date of writing Report

May 26th 1921

When handed in at Local Office

May 28th 1921

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Mallowend on Tyne

Date, First Survey

Nov 24th 1919

Last Survey

May 24th 1921

Reg. Book.

(Number of Visits)

10

36036 on the

S.S. Zenon

Master

Built at

Sunderland

By whom built

Sunderland S. B. Co

Gross

5379.02

Net

3199

When built

1921

Engines made at

Mallowend-on-Tyne

By whom made

North Eastern Marine Engineering Co.

when made

1921

Boilers made at

do

By whom made

do

when made

1921

Registered Horse Power

627

Owners

Cie de Nav d'Orbigny

Port belonging to

La Rochelle

Nom. Horse Power as per Section 28

626.82

Is Refrigerating Machinery fitted for cargo purposes

do

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

28-46 1/2 - 78"

Length of Stroke

54"

Revs. per minute

75

Dia. of Screw shaft

as per rule 15.56

Material of

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

5-9"

Dia. of Tunnel shaft

as per rule 14.28

Dia. of Crank shaft journals

as per rule 14.99

Dia. of Crank pin

15 1/2"

Size of Crank webs

24-9 1/2"

Dia. of thrust shaft under

collars

16"

Dia. of screw

18-3"

Pitch of Screw

18-0"

No. of Blades

4

State whether moveable

Yes

Total surface

104 sq ft

No. of Fuel pumps

one

Diameter of ditto

3 1/2"

Stroke

26"

Can one be overhauled while the other is at work

-

No. of Bilge pumps

2

Diameter of ditto

4 1/2"

Stroke

26"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

4

Sizes of Pumps

LANONTS DUPLEX BALLAST FEED - 11" x 10" x 10"
PAIR WEIRS FEED PUMPS - 9" x 11" x 21"
SINGLE WEIRS FEED - 5" x 4" x 15"
LANONTS DUPLEX FEED - 9" x 6" x 8"

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

In Engine Room

3-3 1/2" diam

In Holds, &c.

10-3 1/2" diam

1-3 1/2" tunnel well

No. of Bilge Injections

1

sizes

10"

Connected to condenser or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room & size

Yes 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

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 below the deep water line

Below

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

John Spencer

Total Heating Surface of Boilers

11652

Is Forced Draft fitted

do

No. and Description of Boilers

4 Simple ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

27.1.21

No. of Certificate

9523

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

74 sq ft

No. and Description of Safety Valves to

each boiler

2 Spring loaded

Area of each valve

7.0680"

Pressure to which they are adjusted

185

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

9-3"

Mean dia. of boilers

16-6"

Length

11-6"

Material of shell plates

steel

Thickness

1 3/8"

Range of tensile strength

28-32

Are the shell plates welded or flanged

do

Descrip. of riveting: cir. seams

6 Lap.

long. seams

8" A ships

Diameter of rivet holes in long. seams

1 7/16"

Pitch of rivets

9 3/4"

Lap of plates or width of butt straps

2 1/2"

Per centages of strength of longitudinal joint

89.9

Working pressure of shell by rules

183 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

do

No. and Description of Furnaces in each boiler

3 Brighton's

Material

steel

Outside diameter

50 1/2"

Length of plain part

top

bottom

Thickness of plates

19"

Description of longitudinal joint

Welded

No. of strengthening rings

-

Working pressure of furnace by the rules

187

Combustion chamber plates: Material

steel

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

1 1/2"

Pitch of stays to ditto: Sides

10 1/2" x 9"

Back

10 1/2" x 9"

Top

10 1/2" x 9"

If stays are fitted with nuts or riveted heads

Yes

Working pressure by rules

190

Material of stays

steel

Area at smallest part

2.030"

Area supported by each stay

97.0"

Working pressure by rules

183

End plates in steam space:

Material

steel

Thickness

1 7/16"

Pitch of stays

24 x 22

How are stays secured

8" x 1 1/4"

Working pressure by rules

185

Material of stays

steel

Area at smallest part

9.62

Area supported by each stay

5.280"

Working pressure by rules

189

Material of Front plates at bottom

steel

Thickness

3/32"

Material of Lower back plate

steel

Thickness

3/32"

Greatest pitch of stays

15"

Working pressure of plate by rules

183

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 3/8"

Material of tube plates

steel

Thickness: Front

3/32"

Back

3/32"

Mean pitch of stays

11 1/8"

Pitch across wide water spaces

15"

Working pressures by rules

182

Girders to Chamber tops: Material

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 top & 2 bottom end and 2 main bearing bolts & nuts. one set of coupling bolts & nuts. 4 helge pump valves. one set of lockwood & Carlisle rings for each cylinder and for the P.B.P. slide valve. 180 bolts & nuts assorted. 2 cut of iron plate. 1 cut of iron bars & sundry other parts.

One propeller shaft. 2 bronze propeller blades. $\frac{1}{2}$ crank shaft & HP. valve spindle, piston rod & nut. Eccentric rod, air pump rod, bucket & nut. Eccentric sheave & strap complete. 1 pair of crank pin bearings. a crosshead bearing & guide shoe for one engine.

The foregoing is a correct description,

THE NORTH EASTERN MARINE ENGINEERING CO., LTD.

J. J. Harrison

Manufacturer.

Secretary.

Dates of Survey while building { During progress of work in shops -- 1919 Jan 24-25-26-28 Dec 17-18-19-24-1920 Jan 5-6-9-13-15 Sept 24-30 Oct 8-11 Jan 1-18-24-26 Dec 7-9-10-13-16-17-29-30
During erection on board vessel -- 1921 Jan 13-20-21-23-24-25 Feb 9-14-20 March 2-9-7-14-18-22-24 April 19
Total No. of visits 70
Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 31/12/20 Slides 21/1/21 Covers 30/12/20 Pistons 13/1/21 Rods 22/2/21
Connecting rods 4/3/21 Crank shaft 8/10/20 Thrust shaft 15/1/20 Tunnel shafts 17/12/20 Screw shaft 9/12/20 Propeller 22/2/21
Stern tube 29/12/20 Steam pipes tested 7/12/20 Engine and boiler seatings 11/5/21 Engines holding down bolts 11/5/21
Completion of pumping arrangements 2-11-21 Boilers fixed 11/5/21 Engines tried under steam 16-6-21
Completion of fitting sea connections 23-2-21 Stern tube 23-2-21 Screw shaft and propeller 13-4-21
Main boiler safety valves adjusted 16-6-21 Thickness of adjusting washers PORT 3/8" ST 3/8" CENTRE 3/8" S 3/8" STARBOARD 3/8" S 3/8" FORWARD 3/8" S 3/8"
Material of Crank shaft steel Identification Mark on Do. 8/10/20 Material of Thrust shaft steel Identification Mark on Do. TF-1/20
Material of Tunnel shafts steel Identification Marks on Do. 17/12/20 CHS Material of Screw shafts steel Identification Marks on Do. CHS-1/20
Material of Steam Pipes S.D. Copper Test pressure 400 lbs/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

no

If so, state name of vessel

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

This vessel's machinery has been surveyed during construction, and the materials and workmanship are good, and in accordance with the rules requirements & the approved plans. The Engines & boilers were fitted in place & bolted down, and the vessel has been towed to Sunderland where the survey will be completed & the usual steam trial held. On completion the machinery will be eligible in our opinion to be classed + LMC with date.

SUNDERLAND

Survey complete.

The machinery is eligible in our opinion

for classification and the record + LMC 11/21

It is submitted that this vessel is eligible for THE RECORD.

F.L.M.C. - 11.21

C.L.

The amount of Entry Fee ... £ 6 :
Special ... £ 106 :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When applied for, May 28th 1921
When received, 24/6/1921

Committee's Minute

Assigned

+ LMC 11.21

TUE. 29 NOV. 1921

CERTIFICATE



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