

Date of writing Report

19

When handed in at Local Office

2nd May 1919. Port of

Sunderland 1919

No. in Survey held at

West Hartlepool

Date, First Survey

May 24th 1918.

Last Survey

1st May 1919.

Reg. Book.

on the Screw Tug "Orethawser"

(Number of Vessels

74

Gross 262

Master

Built at Sunderland By whom built Wear Concrete S.B.C. & Co.

When built 1919

Engines made at

West Hartlepool By whom made Central Marine Engine Works

when made 1919

Boilers made at

ditto

By whom made

ditto

when made 1919

Registered Horse Power

Owners (H.M. Govt.) Shipping Controller

Port belonging to

London

Nom. Horse Power as per Section 28 120

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines Triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders

15"-25"-40"

Length of Stroke

27"

Revs. per minute

120

Dia. of Screw shaft

as per rule 8.69

Material of Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

no

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

Short liner in way of

Length of stern bush

3'-4"

Dia. of Tunnel shaft

as per rule 7.46

as fitted 7.2

Dia. of Crank shaft journals

as per rule 7.83

as fitted 7.8

Dia. of Crank pin

7.6

Size of Crank webs

12.5

collars

8"

Dia. of screw

10'-0"

Pitch of Screw

9'-9"

No. of Blades

4

State whether moveable

no

Total surface

34 ft²

No. of Feed pumps

2

Diameter of ditto

2.5"

Stroke

14"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

2.5"

Stroke

14"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

Donkey 5" x 5" x 6"

Feed 6" x 4" x 6"

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

In Engine Room

One of 2.5", two of 2.5"

In Holds, &c.

One of 2.5" in fore comp. One of 2.5" in main comp. One of 2.5" in after comp.

No. of Bilge Injections

1

size

5"

Connected to condenser, or to circulating pump

C.P.

Is a separate Donkey Suction fitted in Engine room & size

2.5"

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

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

Dates of examination of completion of fitting of Sea Connections

7.10.18, 20.1.19

of Stern Tube

14.3.19

Is the Screw Shaft Tunnel watertight

none

Is it fitted with a watertight door

yes

worked from

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

J. Spencer & Sons Ltd.

Total Heating Surface of Boilers

1820

Is Forced Draft fitted

yes

No. and Description of Boilers

Two single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

29-8-18

No. of Certificate

3511

Can each boiler be worked separately

yes

Area of fire grate in each boiler

24.65 ft²

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

4.91 ft²

Smallest distance between boilers or uptakes and bunkers or woodwork

8"

Mean dia. of boilers

9'-6"

Length

11'-0"

Material of shell plates

Steel

Thickness

2.5"

Range of tensile strength

29.7/34

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR lap.

long. seams

J.R. DR S

Diameter of rivet holes in long. seams

1.3"

Pitch of rivets

5.34"

Lap of plates or width of butt straps

12.24"

Per centages of strength of longitudinal joint

rivets 85.8

plate 85.8

Working pressure of shell by rules

186 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

35.3/4 x 31.3/4 x 2.5/32

No. and Description of Furnaces in each boiler

2 Deighton

Material

S

Outside diameter

36.8"

Length of plain part

top

bottom

Thickness of plates

1.5

Description of longitudinal joint

Welded

No. of strengthening rings

yes

Working pressure of furnace by the rules

191

Combustion chamber plates: Material

S

Thickness: Sides

1.16"

Back

1.16"

Top

1.16"

Pitch of stays to ditto: Sides

9.4" x 9"

Back

9.2" x 9"

Top

10" x 9"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

180 lbs

Material of stays

S

Diameter at smallest part

2.066"

Area supported by each stay

10" x 9"

Working pressure by rules

206

End plates in steam space:

Material

S

Thickness

1.16"

Pitch of stays

19" x 16"

How are stays secured

DR rivet

Working pressure by rules

187

Material of stays

S

Diameter at smallest part

5.05"

Area supported by each stay

17.4" x 16.2"

Working pressure by rules

184

Material of Front plates at bottom

S

Thickness

1.16"

Material of Lower back plate

S

Thickness

1.16"

Greatest pitch of stays

13.5" x 9.5"

Working pressure of plate by rules

286

Diameter of tubes

2.5"

Pitch of tubes

3.5" x 3.5"

Material of tube plates

S

Thickness: Front

1.16"

Back

3.4"

Mean pitch of stays

10.5" x 7"

Pitch across wide water spaces

13.5"

Working pressures by rules

253

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

9.5" x 1.4"

Length as per rule

30.96"

Distance apart

10"

Number and pitch of stays in each

Two

9"

Working pressure by rules

182

Superheater or Steam chest; how connected to boiler

none

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

yes

Foundation

009527-009534-0189

IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— One set of bolts and nuts for connecting rods top and bottom ends. 2 main bearing bolts & nuts. One set coupling bolts and nuts. One set of air, circulating, feed and bilge pump valves. 1 set of L.P. piston springs. 1 set feed check valves. 1 escape valve spring of each size. Condenser ferrules. firebars. assorted bolts, nuts and iron. 1 set water valves and rings for pistons for both donkey pumps. M.P. & L.P. piston rings. A propeller supplied but not put on board.

The foregoing is a correct description.

THE CENTRAL MARINE ENGINE WORKS

(M. Gray & Co. (1918) Ltd.)

John Smith

Manufacturer.

Managing Director, C.M.E.W.

Dates of Survey while building { During progress of work in shops - - 1918 May 24, 27, 30. June 3, 4, 6, 7, 10, 12, 13, 17, 19, 20, 21, 27. July 12, 14, 9, 10, 11, 12, 15, 16, 17, 18, 19, 23, 24, 25. During erection on board vessel - - 26, 27, 28, 29. Aug. 2, 12, 14, 15, 16, 20, 23, 27, 29. Sep. 3, 4, 5, 6, 9, 11, 12, 13. Oct. 2, 4, 17, 18, 22. 1919 Feb. 13, 14. Mar. 18, 19, 20. Total No. of visits (71 + 3)

Is the approved plan of main boiler forwarded herewith

yes

Sld. Oct. 7 Jan 20 Mar 14

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 2-8-18 Slides 9-9-18 Covers 11-4-19 Pistons 3-9-18 Rods 1-8-18 Connecting rods 7-6-18 Crank shaft 16-8-18 Thrust shaft 16-8-18 Tunnel shafts 11-9-18 Screw shaft 9-9-18 Propeller 2-10-18 Stern tube 14-2-19 Steam pipes tested 27-3-19 Engine and boiler seatings 18-3-19 Engines holding down bolts 20-3-19 Completion of pumping arrangements 11-4-19 Boilers fixed 2-4-19 Engines tried under steam 24-4-19 Main boiler safety valves adjusted 11-4-19 Thickness of adjusting washers Forward $\frac{3}{8}$ & $\frac{3}{8}$ Aft $\frac{3}{8}$ & $\frac{5}{16}$ Material of Crank shaft Steel Identification Mark on Do. 6007 Material of Thrust shaft I. Steel Identification Mark on Do. 6007 Material of Tunnel shafts Scrap Identification Marks on Do. 6007 Material of Screw shafts Scrap Identification Marks on Do. 6007 Material of Steam Pipes Lap welded steel Test pressure 600 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.)

This vessel's machinery

has been made and fitted on board under special survey

The materials and workmanship are good.

On completion the machinery was tried under full steam at sea satisfactorily.

The machinery is now in good and safe working condition and eligible in my opinion to have the notation

✠ L.M.C. 5. 19. in the register book.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 5. 19. F.D.

W.D.
12/5/19

W.D.

The amount of Entry Fee ... £ 6

Special ... £ 54

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for,

17/6/1919

When received,

16/4/19

R.D. Philston

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute

Assigned

FRI. 6 JUN. 1919

+ L.M.C. 5. 19 J.D.

MACHINERY CERTIFICATE
WRITTEN.



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Foundation