

## REPORT ON MACHINERY.

NEWCASTLE-UPON-TYNE

72384

No. 15671

Date of writing Report

When handed in at Local Office

19/9/19 Port of

Received at London Office

No. in  
Reg. Book.

Survey held at West Hartlepool

Date, First Survey

25 June 18

Last Survey

2nd Sept 1919

1919

Master

Built at Newcastle

By whom built

Armstrong Whitworth &amp; Co. When built 1919.

Engines made at West Hartlepool

By whom made

Central Marine Engine Works Ltd when made 1919

Boilers made at

ditto

By whom made

ditto

Registered Horse Power 430

Owners

Cleaves, Western Valley &amp; Co. Ltd

when made

1919

Horse Power as per Section 28 430

Is Refrigerating Machinery fitted for cargo purposes

No

Port belonging to

Swansea

Engines, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders 25"-41"-68"

Length of Stroke 45"

Revs. per minute 74

Dia. of Screw shaft

as per rule 13.57

Material of

Lang. Std.

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

Yes

the propeller boss

Yes

If the liner does not fit tightly at the part

Yes

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

Yes

If two

Yes

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

Yes

Length of stern bush

60"

Dia. of Tunnel shaft

as per rule 12.41

Dia. of Crank shaft journals

as per rule 13.04

Dia. of Crank pin

as fitted 13 1/4"

Size of Crank webs

20 1/2" x 8 1/2"

No. of Feed pumps

2

Diameter of ditto

3 1/2"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps

Feed 9 1/2" x 7" x 18" single

Gen. Service 9 1/2" x 7" x 18"

Ballast 10 1/2" x 12 1/2" x 24"

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

In Holds, &amp;c. Forehold 2" x 3" transverse hold 2" x 3"

Engine Room

Five of 3"

Main hold

2" x 3"

No. of Bilge Injections

1 size 11"

Connected to condenser, or to circulating pump

C.P.

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

3 1/2"

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

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

Yes

Are they Valves or Cocks

Both

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

Both

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

at pipes are carried through the bunkers

None

How are they protected

Yes

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

Yes

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

Yes

as of examination of completion of fitting of Sea Connections

14/4/19

of Stern Tube

19-8-19

Screw shaft and Propeller

19-8-19

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

Stewarts &amp; Lloyds

Steel Co. of Scotland &amp; Spencer

Heating Surface of Boilers

6336 sq ft

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

1/5/19

No. of Certificate

3530

each boiler be worked separately

Yes

Area of fire grate in each boiler

51 sq ft

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

8.29 sq in

least distance between boilers or uptakes and bunkers or woodwork

1' 6"

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes

Range of tensile strength

28 3/4/33

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

DR lap

Material of shell plates

Steel

seams

J.R. D.B.S.

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

8 1/2"

Lap of plates or width of butt straps

18"

Advantages of strength of longitudinal joint

rivets 89.4

Working pressure of shell by rules

187.5

Size of manhole in shell

12" x 16"

compensating ring

flanged

No. and Description of Furnaces in each boiler

3 Daylight

Material

Steel

Outside diameter

43"

of plain part

top

Thickness of plates

crown 17

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

1/6"

Back

3/4"

Top

1/6"

of stays to ditto: Sides

9 3/8" x 9"

Back

10 1/2" x 9"

Top

9 3/8" x 9"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

193

Material of stays

Steel

Diameter at smallest part

2.066

Area supported by each stay

9 3/8" x 9"

Working pressure by rules

221

End plates in steam space

Yes

Material of stays

Steel

Thickness

1 1/32"

Pitch of stays

23 3/4" x 19 1/2"

How are stays secured

Nuts &amp; Washers

Working pressure by rules

181

Material of stays

Steel

Diameter at smallest part

8.49

Area supported by each stay

23 3/4" x 19 1/2"

Working pressure by rules

195

Material of Front plates at bottom

Steel

Material of Lower back plate

Steel

Thickness

2 1/32"

Greatest pitch of stays

13 1/2" x 9"

Working pressure of plate by rules

187

Mean pitch of stays

10 x 8"

Pitch of tubes

4"

Material of tube plates

Steel

Thickness: Front

3 1/32"

Back

3/4"

Mean pitch of stays

10 x 8"

across wide water spaces

13 1/2"

Working pressures by rules

184

Girders to Chamber tops: Material

Steel

Depth and

Distance apart

9 3/8"

Number and pitch of stays in each

three 9"

Pressure of girder at centre

10 1/2" x 1 1/2"

Length as per rule

35 1/2"

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

Yes

Diameter

Length

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

Description of longitudinal joint

Diam. of rivet

End plates: Thickness

How stayed

Area of safety valves to superheater

Are they fitted with easing gear

Pressure of end plates

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Area of safety valves to superheater

Are they fitted with easing gear

Pressure of end plates

Distance between rings

Working pressure by rules

End plates: Thickness

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Working pressure by rules

End plates: Thickness

How stayed

Area of safety valves to superheater

Are they fitted with easing gear

Pressure of end plates

Distance between rings

Working pressure by rules

End plates: Thickness

Pressure of end plates

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Area of safety valves to superheater

Are they fitted with easing gear

Pressure of end plates

Distance between rings

Working pressure by rules

End plates: Thickness



# IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 2 bolts & nuts for connecting rod top & bottom ends and for main bearings 6 coupling bolts. 1 set air feed & bilge pump valves 6 feed check valves. 12 condenser tubes & 50 ferrules. Propeller 12 boiler tubes Various spare parts for circulating & fan engines, and winches Assorted bolts, studs, nuts and iron.

The foregoing is a correct description,  
FOR THE CENTRAL MARINE ENGINE WORKS,  
(Ed. Gray & Co. (1918) Ltd.)

Maurice S. Gribble

Manufacturer.

MANAGING DIRECTOR, D.M.E.W.  
Dates of Survey while building: During progress of work in shops - 1918 June 25, 26, 27 July 18, 24 Aug 13, Sep 11, Oct 3, 8, 9, 16, 17, 18, 21, 25, 31 Nov 4, 5, 8  
During erection on board vessel - 19, 20, 21, 26, 27, 29 Dec 3, 1919 Jan 28, 31 Feb 3, 4, 6, 10, 13, 17, 18, 19, 21, 24, 27 Mar 5, 6, 7, 10, 11, 12  
Total No. of visits 14, 17, 21, 24, 26, 27, 28, 31, Apr 7, 8, 9, 10, 14, 16, 17, 23, 25, 29 May 1, 2, 8, 13, 30 July 17, 28  
At Newcastle, 1919 July 14, Sep 29 Oct 10

Is the approved plan of main boiler forwarded herewith with duplicate

Dates of Examination of principal parts: Cylinders 31.3.19 Slides 17.3.19 Covers 11.3.19 Pistons 17.3.19 Rods 17.3.19  
Connecting rods 5.3.19 Crank shaft 11.3.19 Thrust shaft 21.3.19 Tunnel shafts 30.5.19 Screw shaft 14.4.19 Propeller 8.5.19  
Stern tube 14.8.19 Steam pipes tested 29.8.19 Engine and boiler seatings 15.8.19 Engines holding down bolts 22.8.19  
Completion of pumping arrangements 2.9.19 Boilers fixed 22.8.19 Engines tried under steam 2.9.19  
Main boiler safety valves adjusted 2.9.19 Thickness of adjusting washers P  $\frac{7}{16}$  &  $\frac{7}{16}$  C.  $\frac{25}{64}$  &  $\frac{25}{64}$  S  $\frac{1}{2}$  &  $\frac{15}{32}$   
Material of Crank shaft Ing. Ptl Identification Mark on Do. 6066 Material of Thrust shaft Ing. Ptl Identification Mark on Do. 6066  
Material of Tunnel shafts Ing. Ptl Identification Marks on Do. 6066 Material of Screw shafts Ing. Ptl Identification Marks on Do. 6066  
Material of Steam Pipes Lap welded steel Test pressure 600 lb.  
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.S. War Torrent

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

An evaporator has been fitted, the shell of which was tested by hydraulic pressure to 50 lb and the coils to 400 lb per sq. inch. This vessels machinery has been constructed and installed under Special Survey. The materials and workmanship are good. On completion the machinery was examined under steam and found satisfactory, and in our opinion are eligible to have notation **LMC** with date on completion of the survey.

To complete the survey the pumping connections from holds are to be completed and spare gear checked. The vessel has returned to Newcastle. Surveyors advised

The pumping connections from holds have been examined & found complete and spare gear has been checked. g. McWilliam, Newcastle, 29<sup>th</sup> September 1919

The amount of Entry Fee ... £ 3 : : :  
Special ... £ 41 : 10 :  
Donkey Boiler Fee ... £ 12 : : :  
Travelling Expenses (if any) £ : : :  
When applied for, 2/11/19  
When received, 11/11/19

R.D. Philston & J. G. J. Munro  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI 31 OCT 1919

Assigned

+ LMC 10-19

FRONT CERTIFICATE



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