

Rpt. 4.

REPORT ON MACHINERY

No. 260

MON. OCT. 29 1917.

Date of writing Report

Oct 21

When handed in at Local Office

Oct 26

Port of

Sheffield

No. in
Reg. Book.

Survey held at

Halifax

Date, First Survey

25/11

Last Survey

17/12/17

1917

on the Admiralty Trawler Mersey Class

Richard Bulkeley

Tons

Gross

Net

22-11-17

Master

Built at

Selby

By whom built

Messrs Cochran & Co.

When built

1917-11

Engines made at

Halifax

By whom made

The Campbell Engine Co.

when made

1917-11

Boilers made at

Hull

By whom made

Chas. F. Hornby & Co. (Ld.)

when made

1917-11

Registered Horse Power

600

Owners

British Admiralty

Port belonging to

Nom. Horse Power as per Section 28

87

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

Lip Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

13" 23" 37"

Length of Stroke

26"

Revs. per minute

118

Dia. of Screw shaft

as per rule

7.25

Material of

screw shaft

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

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' 0"

Dia. of Tunnel shaft

as per rule

7.04

Dia. of Crank shaft journals

as per rule

7.39

Dia. of Crank pin

7.5

Size of Crank webs

4 1/2 x 4 1/2

Dia. of thrust shaft under

collars

7.5

Dia. of screw

9.7 1/2

Pitch of Screw

11' 0"

No. of Blades

4

State whether moveable

no

Total surface

33 sq

No. of Feed pumps

one

Diameter of ditto

2 1/2"

Stroke

14 1/2"

Can one be overhauled while the other is at work

No. of Bilge pumps

one

Diameter of ditto

2 1/2"

Stroke

14 1/2"

Can one be overhauled while the other is at work

No. of Donkey Engines

one 4 1/2" gals

Sizes of Pumps

6, 4 1/2 x 6" duplex

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

In Engine Room

two 2" dia

In Holds, &c. one 2" dia in each compartment

No. of Bilge Injections

one

size

3 1/2"

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

3' gals

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

no

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

found suction

How are they protected

strong casing

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

yes

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

1440 sq

Is Forced Draft fitted

no

No. and Description of Boilers

Working Pressure

200 lb

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets

plate

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

Steam dome: description of joint to shell

% 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

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

W708-0160

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—*Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air, feed and bilge pump valves, one main & one donkey check valve, two valves for donkey pump, 6 pump ring studs & nuts, one safety valve spring, 3 condenser tubes, one set of fire bars & a quantity of bolts & nuts & rivets of various sizes.*

The foregoing is a correct description,
p.p. The Campbell Gas Engine Co. Ltd.

W. Marsden

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 23/3 - 5-27/4 - 7-16/5 - 8-15-29/6 - 13-30/7 8/8 - 7-14-26/9 - 17/10/17
During erection on board vessel -- *see Hull Rpt No 30, 261*
Total No. of visits

Is the approved plan of main boiler forwarded herewith *yes already forwarded*
" " " donkey " " "

Dates of Examination of principal parts—Cylinders 23/3 4 17/10/17 Slides 23/3 4 17/10/17 Covers 23/3 4 17/10/17 Pistons 23/3 4 17/10/17 Rods 23/3 4 17/10/17
Connecting rods 23/3 4 17/10/17 Crank shaft 23/3 4 17/10/17 Thrust shaft 23/3 4 17/10/17 Tunnel shafts 2-8-17 Screw shaft 2-8-17 Propeller 2-8-17
Stern tube 2-8-17 Steam pipes tested 12-11-17 Engine and boiler seatings 15-8-17 Engines holding down bolts 1-11-17
Completion of pumping arrangements 16-11-17 Boilers fixed 14-11-17 Engines tried under steam 16-11-17
Completion of fitting sea connections 15-8-17 Stern tube 15-8-17 Screw shaft and propeller 15-8-17
Main boiler safety valves adjusted 14-11-17 Thickness of adjusting washers *7 3/8 & 1 1/32*

Material of Crank shaft *Steel* Identification Mark on Do. *12-761 RFM* Material of Thrust shaft *Steel* Identification Mark on Do. *12-762*
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *Steel* Identification Marks on Do. *12-763*
Material of Steam Pipes *solid drawn copper* Test pressure *40 lb* *1772 FL*

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 *Mersey Class*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery has been built under Special Survey and in accordance with the Specification and the Society's Rules, material and workmanship are sound and good.*

The Engine has been forwarded to Hull to be fitted on board the vessel.

The machinery has been properly fitted & secured on board the vessel & on completion tested under full power for two hours as required by the Admiralty & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 2 1/2 lb.

In our opinion the vessel is eligible for the record + L.R.C. 11-17

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 11-17.

The amount of Entry Fee ... £ : : When applied for,
Special ... £ *74 : 0* : *Oct 22 1917*
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ *3 : 9 : 9* : *Oct 26 1917*

Committee's Minute

TUE NOV. 27 1917.

Assigned

+ L.M.C. 11-17

MACHINERY CERTIFICATE
WRITTEN.



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Foundation