

## REPORT ON MACHINERY.

No. 30435

Received at London Office

Date of writing Report 14-3-18

When handed in at Local Office

20/3/18 Port of Hull

No. in Survey held at Hull

Date, First Survey 23-9-17

Last Survey

Mar 19<sup>th</sup> 1918

Reg. Book.

(Number of Visits) 38

on the

steel screw tugboat James Wright

Master

Built at

Lilly

By whom built

Cochrane Bros Ltd

Tons

Gross 325

Net 149

When built 1912-3

Engines made at

Hull

By whom made

Chas. D. Holmes &amp; Co Ltd (H.A.15)

when made

1912-3

Boilers made at

Hull

By whom made

Chas. D. Holmes &amp; Co Ltd (H.A.28)

when made

1912-3

Registered Horse Power

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, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders

Three

No. of Cranks

3

Dia. of Cylinders

13-23-37

Length of Stroke

26

Revs. per minute

115

Dia. of Screw shaft

as per rule 7.9"

Material of

Iron

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

35 1/2"

Dia. of Tunnel shaft

as per rule 7.04"

Dia. of Crank shaft journals

as per rule 7.39"

Dia. of Crank pin

7 1/2"

Size of Crank web

4 1/2" x 11"

Dia. of thrust shaft under

collars

7 1/2"

Dia. of screw

9-7 1/2"

Pitch of Screw

11-0"

No. of Blades

4

State whether moveable

no

Total surface

33 sq ft

No. of Feed pumps

one

Diameter of ditto

2 5/8"

Stroke

14 3/4"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

one

Diameter of ditto

2 5/8"

Stroke

14 3/4"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

one &amp; 3 ejecta

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, &amp;c. one 2" 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 &amp; size

3" ejecta

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

Toward suction

How are they protected

strong casings

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

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

S)

Manufacturers of Steel

J. Spence &amp; Sons &amp; Pat. Labor

Total Heating Surface of Boilers

1440

Is Forced Draft fitted

no

No. and Description of Boilers

one single ended

Working Pressure

200 lbs

Tested by hydraulic pressure to

400 lbs

Date of test

22-2-18

No. of Certificate

3273

Can each boiler be worked separately

yes

Area of fire grate in each boiler

48 sq ft

No. and Description of Safety Valves to

each boiler

two spring loaded

Area of each valve

4.9 sq

Pressure to which they are adjusted

205

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

8 1/2"

dia. of boilers

165"

Length

10-8"

Material of shell plates

steel

Thickness

1 15/16"

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

double

long. seams

J.R.D.B.1

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 3/8"

Lap of plates or width of butt straps

18"

Per centages of strength of longitudinal joint

rivets 85.9

plate 85.5

Working pressure of shell by rules

202

Size of manhole in shell

12" x 16"

Size of compensating ring

7" x 1 15/16"

No. and Description of Furnaces in each boiler

Three plain

Material

steel

Outside diameter

40"

Length of plain part

top 7 1/2"

Thickness of plates

crown 3 13/16"

Description of longitudinal joint

welded

No. of strengthening rings

yes

Working pressure of furnace by the rules

206

Combustion chamber plates: Material

steel

Thickness: Sides

3/4"

Back

2 3/32"

Top

3/4"

Bottom

3/4"

Pitch of stays to ditto: Sides

10" x 8"

Back

9 3/4" x 8 3/4"

Top

11" x 8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

208

Material of stays

steel

Area at smallest part

2.07 sq

Area supported by each stay

88 sq

Working pressure by rules

211

End plates in steam space:

Material

steel

Thickness

1 7/32"

Pitch of stays

19 x 17 3/8"

How are stays secured

D. &amp; W.

Working pressure by rules

210

Material of stays

steel

Area at smallest part

7.5 sq

Area supported by each stay

335 sq

Working pressure by rules

233

Material of Front plates at bottom

steel

Thickness

1 9/16"

Material of Lower back plate

steel

Thickness

1 5/16"

Greatest pitch of stays

13 3/4" x 9 3/8"

Working pressure of plate by rules

216

Diameter of tubes

3 1/2"

Pitch of tubes

4 7/8"

Material of tube plates

steel

Thickness: Front

1 5/16" + 3 dbh

Back

7/8"

Mean pitch of stays

10"

Pitch across wide water spaces

14"

Working pressures by rules

275

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

11" x 1 3/4"

Length as per rule

36.218

Distance apart

11"

Number and pitch of stays in each

Three

8"

Working pressure by rules

201

Steam dome: description of joint to shell

yes

% of strength of joint

yes

Diameter

yes

Thickness of shell plates

yes

Material

yes

Description of longitudinal joint

yes

Diam. of rivet holes

yes

Pitch of rivets

yes

Working pressure of shell by rules

yes

Crown plates

yes

Thickness

yes

How stayed

yes

## SUPERHEATER.

Type

yes

Date of Approval of Plan

yes

Tested by Hydraulic Pressure to

Date of Test

yes

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

yes

Pressure to which each is adjusted

yes



IS A DONKEY BOILER FITTED? *Yes*

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 main & one donkey check valve, one set of air, feed & bilge pump valves, six gunn ring studs & nuts, two valves for donkey pump, one safety valve spring, 3 condenser tubes, one set of fire bars & a quantity of bolts & nuts & iron of various sizes*

The foregoing is a correct description,

for **CHARLES D. HOLMES & CO. LTD.**

*Arthur Holmes*

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } *1917: Nov 23. Dec 4, 8, 12, 15, 17, 28, 31. 1918: Jan 3, 10, 16, 21, 24, 25, 30, 31.*  
{ During erection on board vessel -- } *Feb. 4, 6, 8, 12, 19, 20, 22, 28. Mar 2, 7, 9, 11, 12, 14.*  
Total No. of visits *30.*

Is the approved plan of main boiler forwarded herewith *dup already sent.*

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *10-1-18* Slides *24-1-18* Covers *4-2-18* Pistons *16-1-18* Rods *24-1-18*  
Connecting rods *31-1-18* Crank shaft *24-1-18* Thrust shaft *31-1-18* Tunnel shafts *✓* Screw shaft *12-12-17* Propeller *12-12-17*  
Stern tube *12-12-17* Steam pipes tested *2-3-18* Engine and boiler seatings *15-12-17* Engines holding down bolts *19-2-18*  
Completion of pumping arrangements *12-3-18* Boilers fixed *7-3-18* Engines tried under steam *12-3-18*  
Completion of fitting sea connections *15-12-17* Stern tube *15-12-17* Screw shaft and propeller *15-12-17*  
Main boiler safety valves adjusted *9-3-18* Thickness of adjusting washers *7 5/16 & 9/32*

Material of Crank shaft *Iron* Identification Mark on Do. *2086 FLS* Material of Thrust shaft *Steel* Identification Mark on Do. *2088 FLS*

Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *Iron* Identification Marks on Do. *2041 FLS*

Material of Steam Pipes *solid drawn copper* Test pressure *400 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 *yes* If so, state name of vessel *Thames Class.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this society, the materials & workmanship are good. The boiler & steam pipes have been tested as above & found sound & tight. The machinery has been properly fitted & secured on board the vessel & on completion was tried under full speed 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 1/4 lbs. In my opinion the vessel is eligible for the record & L.M.C. 3, 18*

It is submitted that  
this vessel is eligible for  
THE RECORD. + L.M.C. 3, 18.

*APR*

*22/3/18*

*Frank L. Stanger*

Engineer-Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ *2* : *0* :  
Special ... £ *26* : *2* :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, *18/3 1918*  
When received, *20/3 1918*

Committee's Minute

TUE. MAR 26 1918.

Assigned

*+ L.M.C. 3, 18*

MACHINERY CERTIFICATE  
WRITTEN.



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Foundation