

Received at London Office

THUR. 17 NOV 1910

Date of writing Report *Nov. 9 1910* When handed in at Local Office11-11-1910 Port of *Hull*

No. in Survey held at

*Hull*

Date, First Survey

*July 25<sup>th</sup>*

Last Survey

*Nov. 7<sup>th</sup> 1910.*

Reg. Book.

(Number of Visits *34*)Gross *286*Net *112*When built *1910*

Master

Built at

*Selly.*

By whom built

*Bochrane & Sons*

Engines made at

*Hull*

By whom made

*Amos & Smith Ltd.*

when made

*1910.*

Boilers made at

*B*

By whom made

*B*

when made

*B*

Registered Horse Power

Owners

*Brown Steam Towing Co. Ltd.*

Port belonging to

*Grimsby*

Nom. Horse Power as per Section 28

*90*

Is Refrigerating Machinery fitted for cargo purposes

*No*

Is Electric Light fitted

*No*

## ENGINES, &amp;c.—Description of Engines

*Inverted triple expansion*

No. of Cylinders

*3*

No. of Cranks

*3*

Dia. of Cylinders

*13-22 $\frac{3}{4}$ -37*

Length of Stroke

*26*

Revs. per minute

*110*

Dia. of Screw shaft

*7-7 $\frac{3}{4}$* 

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

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

Length of stern bush

*33*

Dia. of Tunnel shaft

*as per rule 6-7 $\frac{1}{2}$* 

Dia. of Crank shaft journals

*as per rule 7-8 $\frac{1}{2}$* 

Dia. of Crank pin

*7 $\frac{3}{4}$* 

Size of Crank webs

*5 $\frac{1}{2}$  x 4 $\frac{3}{4}$* 

Dia. of thrust shaft under

collars

*7 $\frac{3}{4}$* 

Dia. of screw

*9-8*

Pitch of Screw

*11-0*

No. of Blades

*4*

State whether moveable

*No*

Total surface

*34 $\frac{1}{2}$* 

No. of Feed pumps

*2*

Diameter of ditto

*2 $\frac{3}{4}$* 

Stroke

*12*

Can one be overhauled while the other is at work

*Yes*

No. of Bilge pumps

*2*

Diameter of ditto

*2 $\frac{3}{4}$* 

Stroke

*12*

Can one be overhauled while the other is at work

*Yes*

No. of Donkey Engines

*One*

Sizes of Pumps

*6 x 3 x 6*

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

In Engine Room

*1-2 Aft.*

In Holds, &amp;c.

*2-2**Fore hold & stow well**2" Ejector suction connected to all bilges*

No. of Bilge Injections

*1*

sizes

*3"*

Connected to condenser, or to circulating pump

*pump*

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

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

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

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

What pipes are carried through the bunkers

*Hold suction*

How are they protected

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

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

Dates of examination of completion of fitting of Sea Connections

*5.9.10*

of Stern Tube

*5.9.10*

Screw shaft and Propeller

*5.9.10*

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

*Phoenix & Howard*

Total Heating Surface of Boilers

*1590 $\frac{1}{2}$* 

Is Forced Draft fitted

*No*

No. and Description of Boilers

*1. S.E. Multitubular*

Working Pressure

*180 lb.*

Tested by hydraulic pressure to

*360 lb.*

Date of test

*17.10.10*

No. of Certificate

*1777*

Can each boiler be worked separately

*Yes*

Area of fire grate in each boiler

*47.5 $\frac{1}{2}$* 

No. and Description of Safety Valves to

each boiler

*2 Spring loaded*

Area of each valve

*5.93 $\frac{1}{2}$* 

Pressure to which they are adjusted

*185 lb.*

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

*12"*

Mean dia. of boilers

*14-0"*

Length

*10-6"*

Material of shell plates

Thickness

*1 $\frac{3}{32}$ "*

Range of tensile strength

*29-33*

Are the shell plates welded or flanged

*No*

Descrip. of riveting: cir. seams

long. seams

*24.5*

Diameter of rivet holes in long. seams

*1 $\frac{5}{32}$ "*

Pitch of rivets

*7 $\frac{3}{4}$ "*

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

*85.9*

Working pressure of shell by rules

*180*

Size of manhole in shell

*16 x 12*

Size of compensating ring

*40 x 30 x 1 $\frac{1}{2}$ "*

No. and Description of Furnaces in each boiler

*3 plain*

Material

*Steel*

Outside diameter

Length of plain part

*top 28*

Thickness of plates

*bottom 27*

Description of longitudinal joint

*welded*

No. of strengthening rings

*one*

Working pressure of furnace by the rules

*196*

Combustion chamber plates: Material

*Steel*

Thickness: Sides

*2 $\frac{3}{32}$ "*

Back

*4 $\frac{1}{2}$ "*

Top

*4 $\frac{1}{2}$ "*

Bottom

Pitch of stays to ditto: Sides

*7 $\frac{3}{4}$  x 9*

Back

*9 $\frac{1}{2}$  x 9*

Top

*7 $\frac{3}{4}$  x 9*

If stays are fitted with nuts or riveted heads

Material of stays

*Steel*

Diameter at smallest part

*3-2 $\frac{1}{4}$ "*

Area supported by each stay

*107 $\frac{1}{2}$ "*

Working pressure by rules

*200*

End plates in steam space:

Material

*Steel*

Thickness

*1 $\frac{3}{32}$ "*

Pitch of stays

*20 $\frac{1}{2}$  x 5*

How are stays secured

*Washer*

Working pressure by rules

*180*

Material of stays

Diameter at smallest part

*6-1*

Area supported by each stay

*307.5*

Working pressure by rules

*206*

Material of Front plates at bottom

*Steel*

Thickness

*27 $\frac{1}{32}$ "*

Material of Lower back plate

*Steel*

Thickness

*27 $\frac{1}{32}$ "*

Greatest pitch of stays

*4 $\frac{3}{4}$  x 9 $\frac{1}{2}$ "*

Working pressure of plate by rules

*270*

Diameter of tubes

*3 $\frac{1}{2}$ "*

Pitch of tubes

*4 $\frac{1}{2}$  x 4 $\frac{3}{4}$ "*

Material of tube plates

*Steel*

Thickness: Front

*27 $\frac{1}{32}$ "*

Back

*27 $\frac{1}{32}$ "*

Mean pitch of stays

Pitch across wide water spaces

*14 $\frac{3}{4}$ "*

Working pressures by rules

*197*

Girders to Chamber tops: Material

*Steel*

Depth and

thickness of girder at centre

*9 x 2 $\frac{1}{2}$ "*

Length as per rule

*3-0"*

Distance apart

*9"*

Number and pitch of stays in each

*30 7 $\frac{3}{4}$ "*

Working pressure by rules

*188*

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

&lt;



VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description	Made at	By whom made	When made	Where fixed
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length		
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— Two top & two bottom end connecting rod bolts & nuts, two main bearing bolts, one set of coupling bolts, one set of feed & bilge pump valves, one main & one donkey feed check valve, one set of air pump valves, assorted bolts & nuts.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

Manufacturer.

Managing Director.

Dates of Survey while building: During progress of work in shops -- 14.10. - July 25.28.30 Aug 2.4.10.15.19.22.27.29. Sep 3.5.8.10.14.17.21.23.26 Oct 3.6. Oct 8.13.14.17.18.24.25.27.29. Nov 1.4.7. Total No. of visits 34.

Is the approved plan of main boiler forwarded herewith

yes

Dates of Examination of principal parts—Cylinders 17.9.10 Slides 8.10.10. Covers 17.9.10. Pistons 6.10.10. Rods 6.10.10. Connecting rods 6.10.10. Crank shaft 23.9.10 Thrust shaft 27.8.10 Tunnel shafts. Screw shaft 27.8.10. Propeller 27.8.10. Stern tube 27.8.10. Steam pipes tested 29.10.10 Engine and boiler seatings 5.9.10 Engines holding down bolts 25.10.10. Completion of pumping arrangements 7.11.10. Boilers fixed 25.10.10. Engines tried under steam 1.11.10. Main boiler safety valves adjusted 1.11.10. Thickness of adjusting washers S<sup>11</sup>/<sub>32</sub> P<sup>3</sup>/<sub>8</sub>. Material of Crank shaft Steel. Identification Mark on Do. 23.9.10. Material of Thrust shaft Steel. Identification Mark on Do. 27.8.10. Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Iron Identification Marks on Do. 27.8.10. Material of Steam Pipes Solid drawn copper. Test pressure 360.

General Remarks

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

The machinery & boiler of this vessel have been constructed under Special Survey. They are of good material & workmanship & have been fitted & secured on board in accordance with the Rules. They are now in good working condition and are respect fully submitted as being eligible in my opinion to have the notation of L. M. C. 11-10 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 11.10.

J.W.D. 17/11/10

The amount of Entry Fee .. £ 1 : 0 : 0 When applied for, 16.11.1910. Special .. £ 13 : 10 : 0 Donkey Boiler Fee .. £ : : : When received, 30.11.1910. Travelling Expenses (if any) £ : 10 : 0

Committee's Minute

FRI. 18 NOV 1910

Assigned

John W. Fyfe

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

+ L.M.C. 11.10

MACHINERY CERTIFICATE WRITTEN



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