

## REPORT ON MACHINERY.

No. 23718

Received at London Office

WED. 24 MAY 1911

Date of writing Report

19

When handed in at Local Office

20<sup>th</sup> May 1911

Port of Hull

No. in Survey held at

Selby &amp; Hull

Date, First Survey

Dec 12<sup>th</sup>

Last Survey

15<sup>th</sup> May 1911

Reg. Book.

26 Supp. on the

Shelby &amp; Hull

(Number of Visits)

37

Tons

Gross 264

Net 106

Master

Built at Selby

By whom built Cochrane Sons

When built 1911

Engines made at

By whom made

Messrs

when made 1911

Boilers made at

Hull

By whom made

Charles D. Holmes &amp; Co

when made 1911

Registered Horse Power

Owners Atlas &amp; Fishing Co. Ltd

Port belonging to Gumsby

Nom. Horse Power as per Section 28

73

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

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

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

12<sup>3</sup>/<sub>4</sub> - 22 - 36

Length of Stroke

24

Revs. per minute

105

Dia. of Screw shaft

as per rule 7.33

Material of screw shaft

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

burned

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

—

If two

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

Length of stern bush

36

Dia. of Tunnel shaft

as per rule 6.5

Dia. of Crank shaft journals

as per rule 6.82

Dia. of Crank pin

7.125

Size of Crank webs

13<sup>1</sup>/<sub>2</sub> x 4<sup>7</sup>/<sub>8</sub>

Dia. of thrust shaft under

collars

7<sup>1</sup>/<sub>2</sub>

Dia. of screw

9-0

Pitch of Screw

11-0

No. of Blades

4

State whether moveable

No

Total surface

29

No. of Feed pumps

1

Diameter of ditto

2<sup>1</sup>/<sub>2</sub>

Stroke

24

Can one be overhauled while the other is at work

—

No. of Bilge pumps

1

Diameter of ditto

2<sup>1</sup>/<sub>2</sub>

Stroke

24

Can one be overhauled while the other is at work

—

No. of Donkey Engines

One

Sizes of Pumps

5" x 2<sup>3</sup>/<sub>4</sub>" x 5"

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

In Engine Room

Two 2", One 3"

In Holds, &amp;c. One each to fore hold, fore slush well,

and aft slush well, all 2". There is also an Ejector suction to bilges. Injector for boilers. And a

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

Yes

2<sup>1</sup>/<sub>2</sub>"

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

Hold Suction

How are they protected

Wood 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

Dates of examination of completion of fitting of Sea Connections

27.3.11

of Stern Tube

27.3.11

Screw shaft and Propeller

27.3.11

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

—

worked from

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

Manufacturers of Steel

Phoenix &amp; Co. Gas. fur. Berg. Westfalen

Total Heating Surface of Boilers

1140

Is Forced Draft fitted

No

No. and Description of Boilers

One cyl. Multi

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

27.3.11

No. of Certificate

1807

Can each boiler be worked separately

—

Area of fire grate in each boiler

36

No. and Description of Safety Valves to

each boiler

Two Spring

Area of each valve

3.97

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

4"

Mean dia. of boilers

13-0

Length

10-6

Material of shell plates

Steel

Thickness

1<sup>1</sup>/<sub>2</sub>"

Range of tensile strength

29 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.D.

long. seams

D.B.S.L.R.

Diameter of rivet holes in long. seams

1<sup>1</sup>/<sub>2</sub>"

Pitch of rivets

6<sup>1</sup>/<sub>2</sub>"

Lap of plates or width of butt straps

15"

Per centages of strength of longitudinal joint

rivets 88

plate 85

Working pressure of shell by rules

182 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

7" x 1<sup>1</sup>/<sub>2</sub>"

No. and Description of Furnaces in each boiler

Two plain

Material

S

Outside diameter

44<sup>1</sup>/<sub>2</sub>"

Length of plain part

top 6-0

Thickness of plates

crown 25

bottom 32

Description of longitudinal joint

Welded

No. of strengthening rings

0

Working pressure of furnace by the rules

181 lbs

Combustion chamber plates: Material

S

Thickness: Sides

4<sup>5</sup>/<sub>8</sub>"

Back

7<sup>1</sup>/<sub>2</sub>"

Top

7<sup>1</sup>/<sub>2</sub>"

Bottom

4<sup>5</sup>/<sub>8</sub>"

Pitch of stays to ditto: Sides

10" x 8<sup>1</sup>/<sub>2</sub>"

Back

10" x 9"

Top

8<sup>1</sup>/<sub>2</sub>" x 9"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

181 lbs

Material of stays

S

Diameter at smallest part

2-75

Area supported by each stay

120

Working pressure by rules

205 lbs

End plates in steam space:

Material

S

Thickness

1<sup>1</sup>/<sub>2</sub>"

Pitch of stays

18 x 18

How are stays secured

D.T.W.

Working pressure by rules

185 lbs

Material of stays

S

Diameter at smallest part

6-33

Area supported by each stay

324

Working pressure by rules

203 lbs

Material of Front plates at bottom

S

Thickness

7<sup>1</sup>/<sub>2</sub>"

Material of Lower back plate

S

Thickness

15"

Greatest pitch of stays

15" x 10"

Working pressure of plate by rules

186 lbs

Material of tube plates

S

Diameter of tubes

3<sup>1</sup>/<sub>2</sub>"

Pitch of tubes

4<sup>1</sup>/<sub>2</sub>" x 5"

Material of tube plates

S

Thickness: Front

7<sup>1</sup>/<sub>2</sub>"

Back

7<sup>1</sup>/<sub>2</sub>"

Mean pitch of stays

9<sup>1</sup>/<sub>2</sub>"

Pitch across wide water spaces

14<sup>3</sup>/<sub>4</sub>"

Working pressures by rules

233 lbs

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

8<sup>1</sup>/<sub>2</sub>" x 1"

Length as per rule

2-11<sup>1</sup>/<sub>2</sub>"

Distance apart

9"

Number and pitch of stays in each

Three 8<sup>1</sup>/<sub>2</sub>"

Working pressure by rules

185 lbs

Superheater or Steam chest; how connected to boiler

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



# 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 each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set air, circulating feed & bilge pump valves, one set piston studs, Assorted bolts nuts and iron, spare check and donkey valves, and safety valve springs

The foregoing is a correct description,  
 J. PRO CHARLES S. HOLMES & Co. LTD.  
 Harold Shearwater Manufacturer.

Dates of Survey while building	During progress of work in shops --	1910 - Dec 12, 15, 17, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, Jan 2, 6, 13, 25, 27, Feb 3, 9, 11, 14, 16, 20, 23, 28, Mar 2, 7, 8, 9.
	During erection on board vessel --	Mar 13, 15, 21, 27, 28, Apr 3, 6, 10, 21, 27, May 2, 4, 5, 8, 9, 15.
	Total No. of visits	37

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

Dates of Examination of principal parts—	Cylinders 3.4.11	Slides 6.4.11	Covers 21.3.11	Pistons 20.2.11	Rods 3.4.11
Connecting rods	3.4.11	Crank shaft 8.3.11	Thrust shaft 13.3.11	Tunnel shafts	Screw shaft 15.3.11
Propeller	27.3.11	Stern tube 15.3.11	Steam pipes tested 5.5.11	Engine and boiler seatings 27.3.11	Engines holding down bolts 9.5.11
Completion of pumping arrangements	15.5.11	Boilers fixed 9.5.11	Engines tried under steam	15.5.11	
Main boiler safety valves adjusted	9.5.11	Thickness of adjusting washers	3/8" 3/8"		
Material of Crank shaft	Steel	Identification Mark on Do.	739 B.	Material of Thrust shaft	Steel
Identification Mark on Do.	9.3.11	Material of Screw shafts	Iron	Identification Marks on Do.	15.3.11
Material of Tunnel shafts	Identification Marks on Do.	Material of Steam Pipes	Solid drawn Copper	Test pressure	400 lbs per sq inch

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are good, the boiler tested by hydraulic pressure, and with the engines secured on board and tested under steam, they are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of  $\frac{1}{2}$  L.M.C. 5-11 in the Register Book

It is submitted that  
 this vessel is eligible for  
 THE RECORD, + L.M.C. 5-11

A.P.S.  
 24-5-11

The amount of Entry Fee	£ 1	When applied for,	23-5-11
Special	£ 10	When received,	31-5-11
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£ 8		

Committee's Minute

FRI 26 MAY 1911

Assigned

MACHINERY CERTIFICATE  
 WRITTEN

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

Lloyd's Register  
 Foundation