

## REPORT ON MACHINERY.

No. 20914

Port of

Glasgow

JUN 23 1903

Received at London Office

10

No. in Survey held at  
Reg. Book.

Penryn

Date, first Survey Aug 4<sup>th</sup> 1903Last Survey 9<sup>th</sup> June 1903

(Number of Visits 42)

on the

F.S.S. Sand Pump Hopper Dredger "Agnes"

Tons

Gross 1891  
Net 1161

Master

Built at Penryn

By whom built

Tom Simons &amp; Co Ltd

When built 1903

Engines made at

Penryn

By whom made

Tom Simons &amp; Co Ltd

when made 1903

Boilers made at

Glasgow

By whom made

London &amp; Glasgow E &amp; J S B Co

when made 1903

Registered Horse Power

Owners

East London Harbour Board Port belonging to East London

Nom. Horse Power as per Section 28

228

Is Refrigerating Machinery fitted

No

Is Electric Light fitted

Yes

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

Twin screws triple expansion

No. of Cylinders

6

No. of Cranks

6

Dia. of Cylinders

17" 27" 43"

Length of Stroke

27"

Revs. per minute

130

Dia. of Screw shaft

as per rule 9"

Material of

screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

no liner

Is the after end of the liner made water tight

in the propeller boss

✓

If the liner is in more than one length are the joints 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

54"

Dia. of Tunnel shaft

as per rule 8.1

as fitted 8.2

Dia. of Crank shaft journals

as per rule 8.39

as fitted 8.2

Dia. of Crank pin

8.2"

Size of Crank webs

16.2x16"

Dia. of thrust shaft under

collars

No. of Feed pumps

2

Diameter of ditto

3.2"

Stroke

15"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3.2"

Stroke

15"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2 (one in pump room)

Sizes of Pumps

7.2x6x6, 6x6x6 (2)

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

In Engine Room

size 2.2"

In Holds, &amp;c. size 2.2"

No. of bilge injections

2

sizes

4

Connected to condenser, or to circulating pump

pump

Is a separate donkey suction fitted in Engine room &amp; size

yes 2.2"

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

Steam to pump room &amp; bunks

How are they protected

iron 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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

by a launch

Is it fitted with a watertight door

✓

worked from

✓

## BOILERS, &amp;c.—

(Letter for record S)

Total Heating Surface of Boilers

3779 sq ft

Is forced draft fitted

no

No. and Description of Boilers

Two single ended return tube

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

17/12/02

Can each boiler be worked separately

yes

Area of fire grate in each boiler

65.78

No. and Description of safety valves to

each boiler

2 (spring loaded)

Area of each valve

8.30 sq

Smallest distance between boilers or uptakes and bunkers or woodwork

15"

Mean dia. of boilers

14.6"

Length

10.6"

Material of shell plates

steel

Thickness

1.4"

Range of tensile strength

27/32

Are they welded or flanged

no

Descrip. of riveting: cir. seams

lap &amp;

long. seams

butt

thru tube

Diameter of rivet holes in long. seams

1.4"

Pitch of rivets

8.2"

Lap of plates or width of butt straps

18.4"

Per centages of strength of longitudinal joint

rivets 86.1

plate 86.4

Working pressure of shell by rules

185.5

Size of manhole in shell

16"x12"

Size of compensating ring

M. T. 10"

No. and Description of Furnaces in each boiler

3 Dugtons

Material

steel

Outside diameter

48"

Length of plain part

top

bottom

Thickness of plates

crown 9"

bottom 7.6"

Description of longitudinal joint

welded

No. of strengthening rings

✓

Working pressure of furnace by the rules

183 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

9.8"

Back

9.8"

Top

4.8"

Bottom

3.4"

Pitch of stays to ditto: Sides

7.4x7.4

Back

7.4x7.4

Top

7.4x8.2

If stays are fitted with nuts or riveted heads

riveted

Working pressure by rules

181 lbs

End plates in steam space:

Material of stays

steel

Diameter at smallest part

1.19"

Area supported by each stay

62.2"

Working pressure by rules

182 lbs

Material of stays

steel

Thickness

1"

Pitch of stays

16.2x15.2"

Material of Lower back plate

steel

Thickness

1.3"

Greatest pitch of stays

18.2"

Working pressure of plate by rules

420 lbs

Material of Front plates at bottom

steel

Thickness

1.3"

Mean pitch of stays

10.8"

Diameter of tubes

3.4"

Pitch of tubes

4.2x4.2"

Material of tube plates

steel

Thickness: Front

1.3"

Back

1.3"

Mean pitch of stays

10.8"

Pitch across wide water spaces

14.4"

Working pressures by rules

282 lbs

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

8.3x1.3"

Length as per rule

31.2"

Distance apart

8.2"

Number and pitch of Stays in each

thru 7.4"

Working pressure by rules

188 lbs

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

End plates: Thickness

How stayed

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

yes

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Lloyd's Register  
Foundation

W1367-0185



**DONKEY BOILER**— No. *101* Description *Portugal*  
 Made at *Salisbury* By whom made *Clark Chapman* When made *1903* Where fixed *in stockhold*  
 Working pressure *100 lbs* Tested by hydraulic pressure to *200 lbs* No. of Certificate *6478* Fire grate area *9 3/4* Description of safety valves *spring loaded*  
 No. of safety valves *1* Area of each *4 9/16* Pressure to which they are adjusted *100 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *4 1/2* Length *8 0* Material of shell plates *steel* Thickness *3/8* Range of tensile strength *27/32* Descrip. of riveting long. seams *D.R. Lap* Dia. of rivet holes *3/4* Whether punched or drilled *drilled* Pitch of rivets *2 3/4*  
 Lap of plating *3 5/8* Per centage of strength of joint *72.7* Rivets *72.5* Thickness of shell crown plates *9/16* Radius of do. *5 ft* No. of Stays to do. *3*  
 Dia. of stays. *1 9/8* Diameter of furnace Top *3 5/8* Bottom *3 10* Length of furnace *3 6* Thickness of furnace plates *9/16* Description of joint *D.R. Lap* Thickness of furnace crown plates *9/16* Stayed by *as above* Working pressure of shell by rules *104 lbs*  
 Working pressure of furnace by rules *144 lbs* Diameter of uptake *12* Thickness of uptake plates *3/8* Thickness of water tubes *3/8*

**SPARE GEAR.** State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, 1 set of coupling bolts, 1 set of fuel & bidge pump valves, iron of various sizes, bolts & nuts assorted, 2 propellers, 1 propeller shaft, 1 thrust shaft, 1 crank shaft, etc.*

The foregoing is a correct description,  
 FOR **WM. SIMONS & CO., LTD.**

*Wm. Simons* Manufacturer.  
**DIRECTOR**

Dates { During progress of work in shops— 1902 Aug 4, 18, 19, 26. Oct 1, 3, 7, 13, 18, 20. Nov 27, 18, 24, 25, 26. Dec 1, 4, 8, 10, 16, 17. 1903 Jan 8, 16, 27.  
 of Survey { During erection on board vessel— Feb 4, 9, 11, 16, 20. Mar 18, 19, 20, 25, 30, 31. Apr 9, 17, 27. May 1. Jun 2, 9  
 while building { Total No. of s 42.

Is the approved plan of main boiler forwarded herewith *yes*  
 " " donkey " " " *no*

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

**L.M.C 6.03.**

*These engines & boilers have been constructed under special survey the materials and workmanship are of good description they have been well fitted on board and tried under steam. In our opinion this machinery is eligible to have the above notification in the Register Book.*

It is submitted that  
 this vessel is eligible for  
**THE RECORD.** — L.M.C 6.03. ELEC LIGHT.

*Bak.*  
*13.6.03.*

*R.S.*  
*24.6.03*

The amount of Entry Fee.. £ *2* : : :  
 Special .. .. £ *21* : *8* : :  
 Donkey Boiler Fee .. .. £ : : :  
 Travelling Expenses (if any) £ : : :  
 When applied for, *18.6.1903*  
 When received, **JUN 22 1903**

*per A.M. Leand* *Jos. M. Buchanan.*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

**Committee's Minute** *Glasgow 22 JUN 1903*

**Assigned**

**+ L.M.C. 6.03.**

**MACHINERY CERTIFICATE**  
 WRITTEN 22.6.03



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