

REPORT ON MACHINERY.

Port of *Glasgow*

Received at London Office

MON 5 SEP 1898

No. in Survey held at *Glasgow*
Reg. Book.Date, first Survey *28 February* Last Survey *25 August 1898*(Number of Visits *24*)

on the

S.S. "ACHROITE"

Tons { Gross *1195.88*
Net *709.62*When built *1898*Master *P. Walsh*

Built at

Glasgow

By whom built

J. Shearer & Sons

Engines made at

Glasgow

By whom made

*Muir & Houston*when made *1898*

Boilers made at

Glasgow

By whom made

*Muir & Houston*when made *1898*

Registered Horse Power

Owners

W. Robertson

Port belonging to

Glasgow

Nom. Horse Power as per Section 28

123

Is Electric Light fitted

Yes.

ENGINES, &c.—Description of Engines

Triple surface condensing

No. of Cylinders

3

No. of Cranks

3

Diameter of Cylinders

*17"**27 1/2"**44"*

Length of Stroke

33

Revolutions per minute

80

Diameter of Screw shaft

as per rule *8 1/2"*

Diameter of Tunnel shaft

as per rule *7 1/8"*as fitted *8 1/4"*

Diameter of Crank shaft journals

8 1/2"

Diameter of Crank pin

*8 1/2"*Size of Crank webs *5 3/4 x 14 3/4"*

Diameter of screw

11 1/4"

Pitch of screw

14 1/4"

No. of blades

4

State whether moveable

no

Total surface

44"

No. of Feed pumps

2

Diameter of ditto

2 1/2"

Stroke

*16 1/2"*Can one be overhauled while the other is at work *yes.*

No. of Bilge pumps

2

Diameter of ditto

3"

Stroke

*16 1/2"*Can one be overhauled while the other is at work *yes.*

No. of Donkey Engines

One

Sizes of Pumps

5 x 12 & 1-7/2

Pulsometer, and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

4 - 2 1/2"

In Holds, &c.

After hold 2 - 2 1/2", Fore hold 2 - 2 1/2"

No. of bilge injections

1

sizes

4"

Connected to condenser, or to circulating pump

pump

Is a separate donkey suction fitted in Engine room & size

yes

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

yes

Are all connections with the sea direct on the skin of the ship

yes

Are they Valves or Cocks

valves & cocks.

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

below.

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

none.

How are they protected

yes

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

before launch

Is the screw shaft tunnel watertight

yes

Is it fitted with a watertight door

*yes*worked from *upper platform*

BOILERS, &c.—

(Letter for record (*5*))

Total Heating Surface of Boilers

2040 sq. ft.

Is forced draft fitted

no.

No. and Description of Boilers

one Single Ended multitubular

Working Pressure

160 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

13/4/98

Can each boiler be worked separately

yes

Area of fire grate in each boiler

61 sq. ft.

No. and Description of safety valves to

each boiler

1 - 3" double spring

Area of each valve

7.068"

Pressure to which they are adjusted

165 lbs

Are they fitted

with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

13"

Mean diameter of boilers

15.0"

Length

10.6"

Material of shell plates

steel

Thickness

*1 1/8"*Description of riveting: circum. seams *lap. double* long. seams *butt, treble.*

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

7 3/4"

Lap of plates or width of butt straps

18"

Per centages of strength of longitudinal joint

rivets *93.0*plate *84.7*

Working pressure of shell by rules

164 lbs

Size of manhole in shell

12 x 16"

Are they fitted

Size of compensating ring

McNeil's

No. and Description of Furnaces in each boiler

3 plain

Material

steel

Outside diameter

46"

Length of plain part

top *6.0"*bottom *6.8"*

Thickness of plates

crown *49/64"*bottom *49/64"*

Description of longitudinal joint

welded.

No. of strengthening rings

none

Working pressure of furnace by the rules

212 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

9/16"

Back

9/16"

Top

9/16"

Bottom

7/8"

Pitch of stays to ditto: Sides

8 x 8"

Back

8 x 8"

Top

8 x 7 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

191 lbs

Material of stays

steel

Diameter at smallest part

1 1/8"

Area supported by each stay

64"

Working pressure by rules

181 lbs

End plates in steam space:

Material

steel

Thickness

7/8"

Pitch of stays

15 x 15"

How are stays secured

nuts

Working pressure by rules

165 lbs

Diameter at smallest part

2 5/16"

Area supported by each stay

225"

Working pressure by rules

194

Material of Front plates at bottom

steel

Thickness

3/4"

Material of Lower back plate

steel

Thickness

3/4"

Greatest pitch of stays

13"

Working pressure of plate by rules

166 lbs

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4 x 4 3/4"

Material of tube plates

steel

Thickness: Front

7/8 x 3/4"

Back

3/4"

Mean pitch of stays

9 1/2"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

228 lbs

Girders to Chamber tops: Material

iron

Depth and

thickness of girder at centre

8 x 2 1/4"

Length as per rule

36"

Distance apart

7 1/2"

Number and pitch of Stays in each

3 - 8"

Working pressure by rules

191 lbs

Superheater or Steam chest; how connected to boiler

none

Can the superheater be shut off and the boiler worked

separately

yes

Diameter

yes

Length

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

Diameter of flue

yes

Material of flue plates

yes

Thickness

yes

If stiffened with rings

yes

Distance between rings

yes

Working pressure by rules

yes

End plates: Thickness

yes

How stayed

yes

Working pressure of end plates

yes

Area of safety valves to superheater

yes

Are they fitted with easing gear

DONKEY BOILER— Description *one vertical. 3 cross tubes.*
 Made at *Glasgow* By whom made *Hume & Co* When made *1898* Where fixed *in stokehold*
 Working pressure *80* tested by hydraulic pressure to *160 lbs* No. of Certificate *4675* Fire grate area *17* Description of safety valves *Pakut Spring*
 No. of safety valves *1* Area of each *9.62* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *5.6* Length *13.0* Material of shell plates *steel* Thickness *7/16*
 Description of riveting long. seams *lap, double* Diameter of rivet holes *15/16* Whether punched or drilled *drilled* Pitch of rivets *3 1/4*
 Lap of plating *5* Per centage of strength of joint Rivets *82.4* Thickness of shell crown plates *5/8* Radius of do. *4.6* No. of Stays to do. *none*
 Dia. of stays *✓* Diameter of furnace Top *4.4* Bottom *4.10* Length of furnace *5.3* Thickness of furnace plates *9/16* Description of joint *lap* Thickness of furnace crown plates *5/8* Stayed by *uptake only* Working pressure of shell by rules *104 lbs*
 Working pressure of furnace by rules *90 lbs* Diameter of uptake *15* Thickness of uptake plates *1/2* Thickness of water tubes *7/16*

SPARE GEAR. State the articles supplied:— *2 Connecting rod top end bolts. 2 bottom end bolts. 2 main bearing bolts. 1 set coupling bolts. 1 set feed & bilge pump valves. etc.*

The foregoing is a correct description,
Mur Thomson & Co Manufacturer.

Dates of Survey while building
 During progress of work in shops— *1898. Feb. 28. Mar. 7. 11. 15. Apr. 8. 21. 25. May. 7. 14. 26. June. 20. 30.*
 During erection on board vessel— *July. 13. 14. 22. 26. 27. Aug. 1. 4. 12. 17. 18. 22. 25.*
 Total No. of visits *24*

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

ENGINES—Length of stern bush *3.0* Diameter of crank shaft journals *as per rule 8.38* as fitted *8 1/2* Diameter of thrust shaft under collars *8 1/2*

BOILERS—Range of tensile strength *28-32* Are they welded or flanged *✓* **DONKEY BOILERS**—No. *1* Range of tensile strength *27-32*

Is the approved plan of main boiler forwarded herewith *Yes.* Is the approved plan of donkey boiler forwarded herewith *Yes.*

The Engines & Boilers of this vessel have been constructed under special survey and securely fastened on board, & the material & workmanship is of good quality.

In my opinion the machinery of this vessel is eligible to be classed in the Register Book & to have a record of +L.M.C. 8.98.

It is submitted that this vessel is eligible for THE RECORD.

+L.M.C. 8.98 8 Dec Light.

HA

5/9/98

The amount of Entry Fee. £ *2*
 Special „ „ „ „ £ *18.9*
 Donkey Boiler Fee „ „ „ „ £
 Travelling Expenses (if any) £

When applied for,

31.8.98

When received,

24.10.98

Committee's Minute

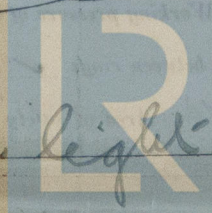
TUES. 6 SEP 1898

Assigned

+L.M.C. 8.98 8 Dec Light.

J.W. Dimmock

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



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