

## REPORT ON MACHINERY.

No. 21148

Port of GlasgowNo. in Survey held at Glasgow

Reg. Book.

Date, first Survey 6th MarchLast Survey 14th Sept 1903(Number of Visits 33)

on the

S. S. "Pylades"

Master

Built at WorkingtonBy whom built R. Williamson

Engines made at

Glasgow

By whom made

Ross & Duncan

Boilers made at

Glasgow

By whom made

Ross & Duncan

Registered Horse Power

Owners

R. Williamson

Nom. Horse Power as per Section 28

109

Is Refrigerating Machinery fitted

☒

Is Electric Light fitted

☒Port belonging to Workington

ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders

No. of Cranks

Dia. of Cylinders

15" 25"

Length of Stroke

30"

Revs. per minute

99

Dia. of Screw shaft

8"

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

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

fitting galleons

Dia. of Tunnel shaft

7 1/2"

Dia. of Crank shaft journals

7 1/2"

Dia. of Crank pin

7 3/8"

Size of Crank webs

5 1/2" x 11 1/2"

Dia. of thrust shaft under

collars

7 7/8"

Dia. of screw

10-3"

Pitch of screw

12-6"

No. of blades

4

State whether moveable

no

Total surface

39 ft

No. of Feed pumps

2

Diameter of ditto

2 1/2"

Stroke

15"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3"

Stroke

15"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

3

Sizes of Pumps

6 x 46 x 83 x 28"

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

2-2"

In Engine Room

1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"1-2 1/2"1-2"

No. of bilge injections

1

sizes

3 1/2"

Connected to condenser, or to circulating pump

no

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

1-2"

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

yes

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

bilge suctions

How are they protected

under ceiling

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 launching

the screw shaft tunnel watertight

☒

Is it fitted with a watertight door

☒

worked from

☒

BOILERS, &amp;c.—

(Letter for record S)

Total Heating Surface of Boilers

1889 ft

Is forced draft fitted

no

No. and Description of Boilers

1Single-ended

Working Pressure

160 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

11-7-03

Can each boiler be worked separately

☒

Area of fire grate in each boiler

57 ft

No. and Description of safety valves to

each boiler

2 Direct spring

Area of each valve

6 sq

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

15"

Mean dia. of boilers

14-3 3/4"

Length

10-6"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

27-32

Are they welded or flanged

no

Descrip. of riveting: cir. seams

L. & R.

long. seams

D.B.S. & R.

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

8"

Lap of plates or width of butt straps

17"

Per centages of strength of longitudinal joint

rivets

91.6

plate

85.2

Working pressure of shell by rules

167 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

6 3/4" x 1 1/2"

No. and Description of Furnaces in each boiler

3 plain

Material

steel

Outside diameter

4 3/4"

at bottom

4 3/4"

No. of strengthening rings

partial

Length of plain part

top 6' 7"

Thickness of plates

bottom 9' 3"

Description of longitudinal joint

weld

Working pressure of furnace by the rules

178 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

9"

Back

9"

Top

9"

Bottom

5"

Pitch of stays to ditto: Sides

8 1/2" x 8 1/2"

Back

7 1/2" x 7 1/2"

Top

7 1/2" x 8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

160 lbs

Material of stays

steel

Diameter at smallest part

1 1/2"

Area supported by each stay

62 sq

Working pressure by rules

160 lbs

End plates in steam space:

steel

Material of stays

steel

Diameter at smallest part

4 1/2"

Area supported by each stay

256 sq

Working pressure by rules

160 lbs

Thickness

3/4"

Material of Lower back plate

steel

Thickness

1/2"

Greatest pitch of stays

18 1/2"

Working pressure of plate by rules

185 lbs

Diameter of tubes

3 1/2"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

steel

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

9' 5"

Pitch across wide water spaces

14"

Working pressures by rules

185 + 223 lbs

Girders to Chamber tops: Material

iron

Depth and

thickness of girder at centre

6 1/4" x 2 1/4"

Length as per rule

2' 4 1/2"

Distance apart

8"

Number and pitch of Stays in each

2 - 7 1/2"

Working pressure by rules

171 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



**DONKEY BOILER—** No. *One* Description *Vertical. Cross-tube.*  
 Made at *Motherwell* By whom made *J. Marshall & Co.* When made *1903.* Where fixed *Stockholm.*  
 Working pressure *90 lbs.* Tested by hydraulic pressure to *180 lbs.* No. of Certificate *6684* Fire grate area *12.5* Description of safety valves *Direct spring.*  
 No. of safety valves *one* Area of each *4.91* Pressure to which they are adjusted *90 lbs.* If fitted with easing gear *yes.* If steam from main boilers can enter the donkey boiler *no.* Dia. of donkey boiler *5' 0"* Length *10' 6"* Material of shell plates *steel* Thickness *3"* Range of tensile strength *27-32.* Descrip. of riveting long. seams *Cap. J. R.* Dia. of rivet holes *1 1/8"* Whether punched or drilled *drilled.* Pitch of rivets *2 1/8"*  
 Lap of plating *5 1/4"* Per centage of strength of joint *Rivets 120.5* Thickness of shell crown plates *9"* Radius of do. *5' 0"* No. of Stays to do. *5.*  
 Dia. of stays *1 1/2" W. S.* Diameter of furnace Top *14' 4"* Bottom *14' 6"* Length of furnace *14' 9"* Thickness of furnace plates *1 1/2"* Description of joint *weld.* Thickness of furnace crown plates *3 1/2"* Stayed by *above.* Working pressure of shell by rules *94 lbs.*  
 Working pressure of furnace by rules *124 lbs.* Diameter of uptake *14"* Thickness of uptake plates *1 1/2"* Thickness of water tubes *3/8"*

**SPARE GEAR.** State the articles supplied:— *2 Top end bolts & nuts. 2 Bottom end bolts & nuts. 2 Main bearing bolts & nuts. 1 Set of Coupling bolts. 1 Set of Bilger. Feed pump valves. 1 Set of Air & Circulating pump valves. 35 Firebars. An assortment of iron, bolts & nuts &c.*

The foregoing is a correct description,

*Jos. Duncan* Manufacturer.

Dates of Survey while building { During progress of work in shops— *1903: Mar. 6, 8, 16, 17, 18, 24, 26 Apr. 1, 3, 6, 9, 15, 17, 23 May 7, 12, 19, 22, 26, 28 June 23, 25, 30 July 2, 6, 11, 30 August 27, 28 Sep 2, 4, 8, 14.*  
 { During erection on board vessel —  
 Total No. of s *33.* Is the approved plan of main boiler forwarded herewith *yes.*  
 " " " donkey " " " *yes.*

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

*The materials have been tested, & the work carried out under special survey, both materials & workmanship being of good description. on completion this machinery was securely fastened on board & tried under steam with satisfactory results.*

*In my opinion this machinery is eligible to be classed with record of **L.M.C. 9.03.***

It is submitted that this vessel is eligible for **THE RECORD—L.M.C. 9.03.**

*Bal.*

*23.9.03*

*24.9.03*

Certificate (if required) to be sent to

The amount of Entry Fee.. £ *2:* : When applied for, *19' 9' 1903.*  
 Special .. £ *16:7:* :  
 Donkey Boiler Fee .. £ *2:2:* : When received, *26.9.03.*  
 Travelling Expenses (if any) £ *1:* :  
*Due Barrow & Co. 27.8.03.* *25/9/03*  
 Committee's Minute *Glasgow 21 SEP 1903* *FRI. 25 SEP 1903*  
*A. J. Barnett.*  
*Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.*

Assigned

*L.M.C. 9.03.*  
*(Subject to classification of hull)*

When fee is paid

MACHINERY CERTIFICATE  
 WRITTEN



© 2020

Lloyd's Register  
 Foundation