

REPORT ON MACHINERY.

No. 25670.

Port of *Glasgow*Received at London Office **WED. 4 SEP 1907**

No. in Survey held at

*Glasgow*Date, first Survey *14th October* Last Survey *17th Aug 1907*

Reg. Book.

938 on the

S S Huanchaco(Number of Visits *34*)

Master

Built at

Dalmuir

By whom built

H^m Beardmore & Co Ltd

When built

1907

Engines made at

Dalmuir

By whom made

H^m Beardmore & Co Ltd

When made

1907

Boilers made at

do

By whom made

do

When made

1907

Registered Horse Power

Owners

Pacific Steam Navigation Co

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

463

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

*Triple Expansion*No. of Cylinders *Three*No. of Cranks *3*Dia. of Cylinders *25 1/2, 42 & 70*Length of Stroke *51*Revs. per minute *70*

Dia. of Screw shaft

as per rule *14 1/2*

Material of

Steel

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

Yes

If two

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

Yes

Length of stern bush

60 1/2

Dia. of Tunnel shaft

as per rule *13 3/8*

Dia. of Crank shaft journals

as per rule *14 1/8*

Dia. of Crank pin

14 1/8

Size of Crank webs

26 1/2 x 10

Dia. of thrust shaft under

collars

14 1/8

Dia. of screw

17-6

Pitch of Screw

18-0

No. of Blades

4

State whether moveable

Yes

Total surface

88 sq

No. of Feed pumps

Double

Diameter of ditto

10 1/2 x 18

Stroke

25 1/2

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

10 1/2 x 18

Stroke

25 1/2

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Four

Sizes of Pumps

one duplex 8 x 5 1/2 x 5

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

one 3 1/2 in 8 in 5 and one 2 1/2 in tunnel well

In Engine Room

Four 3 1/2 in 8 in 5 and one 2 1/2 in tunnel well

In Hold, &c

No. of Bilge Injections

1

sizes

8

Connected to condenser, or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room

Yes

size

6

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

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

Four in holds

How are they protected

Hard boxing

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

7/6-11/6

of Stern Tube

7/6-11/6

Screw shaft and Propeller

11/6-10/8

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Engine room top platform

BOILERS, &c.—(Letter for record)

3

Manufacturers of Steel

H^m Beardmore & Co Ltd

No. and Description of Boilers

Three, Single Ended

Total Heating Surface of Boilers

8621 sq

Forced Draft fitted

No

Working Pressure

190 lb

Tested by hydraulic pressure to

380 lb

Date of test

15/2/07

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

73 1/2 sq

Pressure to which they are adjusted

195 lb

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

15

Mean dia. of boilers

16-6

Length

11-3

Material of shell plates

Steel

Thickness

1 3/8

Range of tensile strength

29/32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

DR Lap

long. seams

Double

Diameter of rivet holes in long. seams

8 9/16

Pitch of rivets

10

Lap of plates or width of butt straps

22 1/2

Per centages of strength of longitudinal joint

89.5

Working pressure of shell by rules

225 lb

Size of manhole in shell

16" x 12"

Size of compensating ring

McNish

No. and Description of Furnaces in each boiler

1

Material

Steel

Outside diameter

46"

Length of plain part

19 1/2

Thickness of plates

1 3/8

Description of longitudinal joint

Welded

No. of strengthening rings

15/16

Working pressure of furnace by the rules

205

Combustion chamber plates: Material

Steel

Thickness: Sides

7/32

Back

9/16

Top

7/32

Pitch of stays to ditto: Sides

8 x 8

Back

7/8 x 7/8

Top

8 x 8

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

190

Material of stays

Steel

Diameter at smallest part

1 1/4

Area supported by each stay

265 sq

Working pressure by rules

268

Material of stays

Steel

Material

Steel

Thickness

7/8

Pitch of stays

16 1/2 x 16 1/2

How are stays secured

DR nuts

Material of Front plates at bottom

Steel

with double

Diameter at smallest part

1 1/4

Area supported by each stay

265 sq

Working pressure by rules

242

Material of Lower back plate

Steel

Thickness

1

Greatest pitch of stays

Thickness

7/8

Material of tube plates

Steel

Thickness: Front

7/8

Back

7/8

Mean pitch of stays

10"

Diameter of tubes

3 1/2

Pitch of tubes

1 1/2

Working pressures by rules

270 lb

Girders to Chamber tops: Material

Steel

Depth and

8"

Pitch across wide water spaces

11 3/4

Length as per rule

30 1/2

Distance apart

8"

Number and pitch of stays in each

*Three**8"*

Working pressure by rules

203 lb

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

Yes

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Thickness

holes

Pitch of rivets

Working pressure of shell by rules

270 lb

Diameter of flue

Material of flue plates

Thickness

8"

If stiffened with rings

Yes

Distance between rings

VERTICAL DONKEY BOILER—

Manufacturers of Steel

None

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
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 Stayed by
Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied: *Two top & 2 bottom end bolts & nuts, 2 main bearing & one set of coupling bolts & nuts. one set of feed & bilge pump valves, assorted bolts & nuts, a few bars of iron, propeller shaft, propeller blades, bottom end brasses, eccentric strap & pulley, valve spindle, piston rod, rings & springs. The foregoing is a correct description, for each cylinder, shaft for Centrifugal pump*
Manufacturer. *C. F. Boulton*

Dates of Survey while building
During progress of work in shops - 1906. Oct. 4. 17. 22. 1907. Jan. 8. 17. Feb. 15. 20. 28.
During erection on board vessel - March 1. 14. 22. 26. 28. April 5. 8. 15. 23. May 15. June 19. 20. 27. July 3. 4. 25. Aug. 4. 5.
Total No. of visits 34. Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders 24/3-23/3 Slides 27/3 etc Covers 27/3 etc Pistons 24/3 etc Rods 27/3 etc
Connecting rods 24/3 etc Crank shaft 24/3-27/3 Thrust shaft 27/3 Tunnel shafts 27/3 etc Screw shaft 27/3-15/3 Propeller 15/3 etc
Stern tube 15/3 etc Steam pipes tested 23/5 4/6 Engine and boiler seatings 27/6 etc Engines holding down bolts 27/6 etc
Completion of pumping arrangements 5/8/07 Boilers fixed 27/6/07 Engines tried under steam 17/8/07
Main boiler safety valves adjusted 4/7/07 Thickness of adjusting washers 14/97
Material of Crank shaft *Steel* Identification Mark on Do. 15/5/07 6M Material of Thrust shaft *Steel* Identification Mark on Do. 15/5/07 6M
Material of Tunnel shafts *Steel* Identification Marks on Do. do Material of Screw shafts *Steel* Identification Marks on Do. do
Material of Steam Pipes *Copper* Test pressure 475 lb per sq. in.

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under special survey. The materials and workmanship are of good quality. It has been securely fitted on board and satisfactorily tested under full steam. (Sped on trial about 15 3/4 knots).*

In my opinion the machinery of this vessel is now eligible for record of L.M.C. 8-07 (in red) in register book.

Approved & amended boiler plans, forging report, and copies of reports on Fitter, Carpenter & Painter now attached.

There are no feed pumps on the main engines. The double drains have automatic gear and two other donkey pumps have connections for feeding the boilers.

The amount of Entry Fee. £ 3 : : When applied for, 3 SEP. 307
Special . . . £ 43 : 3 :
Donkey Boiler Fee . . . £ : : :
Travelling Expenses (if any) £ : : : When received, 7.9.07

Committee's Minute Glasgow - 3 SEP 1907

Assigned + L.M.C. 8.07

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 8-07. ELEC. LIGHT.

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

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