

## REPORT ON MACHINERY.

No. 32483.

Date of writing Report

19

When handed in at Local Office

1912. 13. Port of Glasgow

Received at London Office

No. in Survey held at  
Reg. Book.

Glasgow

Date, First Survey

31. 1. 12

Last Survey

21. 3. 1913

1913

on the

J. I. "Colusa"

(Number of Visits 53)

Master E. J. Minister R.R.

Built at Port Glasgow

By whom built W. Hamilton &amp; Co

Tons Gross 5732

Net 3622

When built 1913

Engines made at

Glasgow

By whom made

David Rowan &amp; Co

when made 1913

Boilers made at

do

By whom made

do

when made 1913

Registered Horse Power

Owners New York Pacific S.S. Co Ltd

Port belonging to London

Nom. Horse Power as per Section 28

580

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

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

Quadruple Expansion

No. of Cylinders 4

No. of Cranks 4

Dia. of Cylinders

25, 35, 51, 74

Length of Stroke

51

Revs. per minute

Dia. of Screw shaft

as per rule 15.1

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

in the propeller boss

Yes

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

Yes

If two

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

Length of stern bush

5' 9"

Dia. of Tunnel shaft

as per rule 13.68

Dia. of Crank shaft journals

as per rule 14.35

Dia. of Crank pin

1 1/4"

Size of Crank webs

9 3/4"

Dia. of thrust shaft under

collars

15"

Dia. of screw

18' 0"

Pitch of Screw

18' 9"

No. of Blades

4

State whether more or less

No. of Feed pumps

2

Diameter of ditto

10 1/2"

Stroke

21"

Can one be overhauled while the other is at work

Yes

Wins

No. of Bilge pumps

2

Diameter of ditto

4 3/4"

Stroke

30"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps

8 1/2 x 10 x 10, 9 x 6 x 6, 9 1/2 x 10

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

In Engine Room

4 - 3 1/2"

In Holds, &amp;c.

2 - 3 1/2" each hold

No. of Bilge Injections

1 sizes 10"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room &amp; size

Yes 3 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

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

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

For 2 Suctions

How are they protected

Wood covering

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

9

of Stern Tube

Screw shaft and Propeller S.R. Rpt.

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Top galley

## BOILERS, &amp;c.—(Letter for record (5))

Manufacturers of Steel

Wm. Beardmore &amp; Co Ltd

Total Heating Surface of Boilers

8190

Is Forced Draft fitted

Yes

No. and Description of Boilers

Three Single Ended

Working Pressure

220 lbs

Tested by hydraulic pressure to

440 lbs

Date of test

26/5/12

No. of Certificate

11735

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

57.3

No. and Description of Safety Valves to

each boiler

Cockburn Double

Area of each valve

11

Pressure to which they are adjusted

225 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

10"

Mean dia. of boilers

15' 3"

Length

12-10 1/2"

Material of shell plates

Thickness

1 7/8"

Range of tensile strength

30-34 lbs

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

long. seams

9 B.S.

Diameter of rivet holes in long. seams

1 1/16"

Pitch of rivets

10.5"

Lap of plates or width of butt straps

2 1/4"

Per centages of strength of longitudinal joint

rivets 97.2

plate 83.9

Working pressure of shell by rules

270

Size of manhole in shell

16 x 12"

Size of compensating ring

Flanged

No. and Description of Furnaces in each boiler

3 Morrison

Material

slit

Outside diameter

Length of plain part

top 1 1/2"

bottom 1 1/2"

Thickness of plates

crown 1 1/16"

Description of longitudinal joint

weld

No. of strengthening rings

Working pressure of furnace by the rules

245

Combustion chamber plates: Material

slit

Thickness: Sides

3/4"

Back

3/4"

Pitch of stays to ditto: Sides

8 3/8 x 8 3/4"

Back

8 3/8 x 8 3/4"

Top

8 3/8 x 8 3/4"

If stays are fitted with nuts or riveted heads

Yes

Working pressure by rules

Material of stays

slit

Diameter at smallest part

2.07"

Area supported by each stay

70

Working pressure by rules

265

End plates in steam space:

Material

slit

Thickness

1 5/16"

Pitch of stays

22 x 20 1/2"

How are stays secured

D. Nut

Working pressure by rules

260

Material of Front plates at bottom

slit

Diameter at smallest part

9.62"

Area supported by each stay

450

Working pressure by rules

240

Material of Front plates at bottom

Thickness

1 1/8"

Material of Lower back plate

slit

Thickness

1 1/16"

Greatest pitch of stays

12 1/4"

Working pressure of plate by rules

Diameter of tubes

2 3/4"

Pitch of tubes

4"

Material of tube plates

slit

Thickness: Front

1 1/8"

Back

7/8"

Pitch across wide water spaces

1 1/4"

Working pressures by rules

222

Girders to Chamber tops: Material

slit

Depth and

thickness of girder at centre

10 3/4 x 1" x 2"

Working pressure by rules

220

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

separately

Yes

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

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

Lloyd's Register

Foundation

W508-0047



Multitubular

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. 1 Description Cylindrical Return Tube — See Attached Report  
Made at Glasgow By whom made Lindsay Burnett & Co. When made 1913 Where fixed Main Deck  
Working pressure 120 tested by hydraulic pressure to 240 Date of test 19/4/12 No. of Certificate 11533 Fire grate area 11.5 Description of Safety  
Valves Lockdown No. of Safety Valves 2 Area of each 3.14 Pressure to which they are adjusted 120 Date of adjustment 21/3/13  
If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 6.6 Length 9.0  
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  
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 top end bolts, 2 bottom end bolts, 2 main bearing bolts  
set of coupling bolts & all with nuts, feed & bilge pump valves, assorted bolts, iron,  
Also propeller shaft, C.S. propeller, top & bottom end bushes, eccentric rod & top  
half strap, thrust block shoe, safety valve springs, etc.  
The foregoing is a correct description,

for David Rowan & Co. Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1912 Jan. 31 Feb. 16 Mar. 6-8-18-20-29 April 2-11-15 May 1-9-13-21-31 June 14-18-24-27 July 2-5-12-19-26-28 Aug. 12-15-16-19-20-26-28 Sept. 4-23 Oct. 1-18-22 Nov. 11-13-15 Dec. 5-8  
During erection on board vessel -- 1913 Jan. 6-10-13-16-21-28 Feb. 7-11-21-27-28 Mar. 7-10-17-21  
Total No. of visits 53  
Is the approved plan of main boiler forwarded herewith Yes  
" " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 27/6/12 Slides 22/10/12 Covers 22/10/12 Pistons 22/10/12 Rods 22/10/12  
Connecting rods 22/10/12 Crank shaft 4/9/12 Thrust shaft 15/11/12 Tunnel shafts 24/1/13 Screw shaft 15/11/12 Propeller 15/11/12  
Stern tube 4/9/12 Steam pipes tested 10/3/13 Engine and boiler seatings 11/2/13 Engines holding down bolts 21/2/13  
Completion of pumping arrangements 17/3/13 Boilers fixed 21/2/13 Engines tried under steam  
Main boiler safety valves adjusted Thickness of adjusting washers  
Material of Crank shaft steel Identification Mark on Do. H96 Material of Thrust shaft steel Identification Mark on Do. H96  
Material of Tunnel shafts steel Identification Marks on Do. H96 Material of Screw shafts Iron Identification Marks on Do. H96  
Material of Steam Pipes Wrought iron Test pressure 660 lbs.

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

The engines & boilers of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board.

This vessel is in my opinion eligible for notation \* L M C 3, 13 in the Register Book provided that the safety valves be adjusted & the engines tried under steam as arranged. See note attached

It is submitted that this vessel is eligible for THE RECORD. + L M C 4.13. See telegram 3/4/13  
F.D.

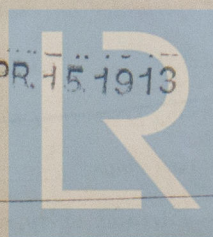
JWD  
3/4/13

The amount of Entry Fee .. £ 3 : - : When applied for, 19/3/13  
Special .. £ 49. - : When received, 22/3/13  
Donkey Boiler Fee .. £ : :  
Travelling Expenses (if any) £ : :  
Committee's Minute  
Assigned

FRI. APR. 4-10-13

H. Gardner-Smith.  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

TUE. APR. 15-1913



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