

Rpt. 4.

REPORT ON MACHINERY.

No.

64119.

29 APR 1910.

Received at London Office

SAT. 30 APR 1910

Date of writing Report

When handed in at Local Office

29 APR 1910

Port of

LIVERPOOL.

No. in Survey held at
Reg. Book.

Pirkinhead

Date, First Survey

6th Apr 1909

Last Survey

20 Apr 1910

on the

S.S. "Highland Laddie"

Master

Andrews

Built at Pirkinhead

By whom built

Cammell Laird & Co. Ltd.

When built

1909

Engines made at

Pirkinhead

By whom made

Cammell Laird & Co. Ltd.

when made

1910

Boilers made at

do

By whom made

do

when made

1910

Registered Horse Power

Owners

Helson Line Ltd. Liverpool

Port belonging to

London

Nom. Horse Power as per Section 28

855

Is Refrigerating Machinery fitted for cargo purposes

yes

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Horizontal triple

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

31.5-86

Length of Stroke

54

Revs. per minute

75

Dia. of Screw shaft

as per rule 14.2

Material of

Screw

shaft

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

no

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

no

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

no

Length of stern bush

6.05

Dia. of Tunnel shaft

as per rule 16.1

as fitted 16.3

Dia. of Crank shaft journals

as per rule 16.8

as fitted 17.2

Dia. of Crank pin

17.2

Size of Crank webs

11.4

Dia. of thrust shaft under

collars

17.2

Dia. of screw

19.0

Pitch of Screw

19.6

No. of Blades

4

State whether moveable

yes

Total surface

115.5

No. of Feed pumps

2

Diameter of ditto

9

Stroke

21

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

6

Stroke

30

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

Four

Sizes of Pumps

See appended list

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

In Engine Room

Four 3 1/2" diam.

In Holds, &c.

Two 3 1/2" in each hold, and

No. of Bilge Injections

1

sizes

10

Connected to condenser, or to circulating pump

Pump

Is a separate Donkey Suction fitted in Engine room & size

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

What pipes are carried through the bunkers

none

How are they protected

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

12-10-09 of Stern Tube

12-10-09

Screw shaft and Propeller

30-10-09

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

Upper Platform

BOILERS, &c.—(Letter for record

(S))

Manufacturers of Steel

W. & A. Bell & Sons & Steel Co. of Scotland

Total Heating Surface of Boilers

10300

Is Forced Draft fitted

yes

No. and Description of Boilers

Three Single ended Steel

Working Pressure

210 lb

Tested by hydraulic pressure to

420 lb

Date of test

1-10-09, 13-10-09

No. of Certificate

1896-1898

Can each boiler be worked separately

yes

Area of fire grate in each boiler

74.4

No. and Description of Safety Valves in

each boiler

Two Spring

Area of each valve

12.18

Pressure to which they are adjusted

210 lb

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Mean dia. of boilers

16.6

Length

12.0

Material of shell plates

Thickness

1 1/2

Range of tensile strength

30.5-32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

long. seams

Butt

Diameter of rivet holes in long. seams

1 1/2

Pitch of rivets

10"

Lap of plates or width of butt straps

1-11 1/2

Per centages of strength of longitudinal joint

rivets 96.72

plate 83.34

Working pressure of shell by rules

244

Size of manhole in shell

16-12

Size of compensating ring

8 x 1 1/2

No. and Description of Furnaces in each boiler

4

Material

Steel

Outside diameter

Length of plain part

top 1

bottom 1

Thickness of plates

crown 2 1/2

bottom 3 1/2

Description of longitudinal joint

Butt

No. of strengthening rings

4

Working pressure of furnace by the rules

234.5

Combustion chamber plates: Material

Steel

Thickness: Sides

5/8

Back

5/8

Top

5/8

Pitch of stays to ditto: Sides

8 1/2 x 4 1/2

Back

8 1/2 x 4 1/2

Top

8 x 4 1/2

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

211 lb

Material of stays

Steel

Diameter at smallest part

1.46

Area supported by each stay

64

Working pressure by rules

210

End plates in steam space:

Material

Steel

Thickness

1 1/2

Pitch of stays

17.14 1/2

How are stays secured

Rivets

Working pressure by rules

213

Material of stays

Diameter at smallest part

3"

Area supported by each stay

298

Working pressure by rules

234

Material of Front plates at bottom

Steel

Thickness

1"

Greatest pitch of stays

Diameter of tubes

2 1/2

Pitch of tubes

3 1/2

Material of tube plates

Steel

Thickness: Front

1"

Back

1 1/2"

Mean pitch of stays

Pitch across wide water spaces

13 1/2

Working pressures by rules

210.5

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

4 1/2 x 2 1/2

Length as per rule

2.6 1/2

Distance apart

Working pressure by rules

212

Superheater or Steam chest; how connected to boiler

none

Can the superheater be shut off and the boiler worked

separately

no

Diameter

no

Length

no

Thickness of shell plates

no

Material

no

Description of longitudinal joint

holes

no

Pitch of rivets

no

Working pressure of shell by rules

no

Diameter of flue

no

Material of flue plates

no

Thickness

If stiffened with rings

no

Distance between rings

no

Working pressure by rules

no

End plates: Thickness

no

How stayed

no

Working pressure of end plates

Area of safety valves to superheater

no

Are they fitted with easing gear

no

Working pressure of end plates

no

Area of safety valves to superheater

no

Are they fitted with easing gear

no

Working pressure of end plates

Area of safety valves to superheater

VERTICAL DONKEY BOILER— Manufacturers of Steel

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 Plates		
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:— *Crank Shaft, Propeller Shaft, two cast iron propeller blades, 1 set of crankshaft traps, 1 set of connecting rod traps, 2 connecting rod bolts & nuts, 2 top end bolts & nuts, 2 main bearing bolts & nuts, 1 set of shaft coupling bolts & nuts, six piston bolts, one spring for each valve, The foregoing is a correct description, 6 studs for each cylinder & bullock cheek covers, 1 set of feed bullock, 1 set of tiege bullock, 36 condenser tubes, nuts, bolts & rivets assorted.*

R. R. Peoni Manufacturer.

Dates of Survey while building	During progress of work in shops—	1909. April 6, 16, 21 May 13, 14, 15, 20, 26 June 2, 3, 7, 10, 11, 16, 17, 18, 24, 25, 29, 30 July 1, 2, 7, 8, 9, 12, 13, 15, 21, 22, 27, 28
	During erection on board vessel—	Sept 8, 15, 16, 20, 22 Oct 1, 4, 5, 14, 15, 16, 18, 22, 29, 30 Nov 2, 11, 15, 20, 22, 24, 30 Dec 7, 9, 13, 14, 16, 22 1910. Jan 12, 27, 7, 12, 20, 28 Feb 5
	Total No. of visits	March 12, 15, April 20 80

Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " *yes*

Dates of Examination of principal parts—Cylinders *24-8-09* Slides *18-8-09* Covers *12-8-09* Pistons *24-8-09* Rods *22-9-09*
 Connecting rods *24-8-09* Crank shaft *18-12-09* Thrust shaft *22-8-09* Tunnel shafts *14, 18, 24* Screw shaft *24, 16, 14* Propeller *22, 10, 29-10-09*
 Stern tube *22-9-09* Steam pipes tested *16-12-09* Engine and boiler seatings *13/8 2/11 09* Engines holding down bolts *22-11-09*
 Completion of pumping arrangements *22-12-09* Boilers fixed *15-11-09* Engines tried under steam *5-3-10 20-4-10*
 Main boiler safety valves adjusted *20-1-10* Thickness of adjusting washers *Part for 1/2 S.P. 40, 1/2 for 1/2 S.P. 40*
 Material of Crank shaft *Steel* Identification Mark on Do. *504 Y.1* Material of Thrust shaft *Steel* Identification Mark on Do. *517*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *501, 505, 514* Material of Screw shafts *Steel* Identification Marks on Do. *505 Y.101*
 Material of Steam Pipes *Steel* Test pressure *630 lbs*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery has been specially surveyed during construction the material and workmanship good and renders the vessel eligible in our opinion to have the Record + L.M.C. 4.10 in the Register Book of the Society.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 4.10

3513 (FD) + 1 and SK. ASD.
 Ref. machy. 3.5.10.

The amount of Entry Fee..	£	:	:	When applied for,
Special	£	:	:	19...
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	19...

Richard Hirst & R.D. Shilston
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

LIVERPOOL, 29 APR 1910

Assigned

L.M.C. 4.10

MACHINERY CERTIFICATE

WRITTEN 30.4.10 copy 19.10.11



© 2020

Lloyd's Register Foundation

Certificate (if required) to be sent to the Registrar of Shipping (The Registrar is requested not to write on or below the space for Committee's Minute.)