

Rpt. 4.

REPORT ON MACHINERY.

No. 25040

WED. NOV. - 1. 1911

Received at London Office

WED. DEC. 27. 1911

Date of writing Report

19

When handed in at Local Office

3/10/11 Port of

SUNDERLAND.

No. in Survey held at

SUNDERLAND

Date, First Survey

20 Mar. Last Survey

16 Dec. 1911

Reg. Book.

on the

J. S. Chiltern & Co.

(Number of Visits)

Tons

Gross 4220

Net 2418

Master

Built at Newcastle.

By whom built North & S. B. Co. Ltd.

No. 187

When built 1911

Engines made at

Sunderland.

By whom made

Richardson & Westgarth & Co. Ltd.

when made

1911

Boilers made at

do.

By whom made

do.

do.

when made

1911

Registered Horse Power

Owners Hepburn Steam Navigation Co. Ltd.

Port belonging to West Hartlepool.

Nom. Horse Power as per Section 28 372

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted

ENGINES, &c.—Description of Engines

Tri. C.P.D.

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 25.41" 69"

Length of Stroke 48"

Revs. per minute 65

Dia. of Screw shaft

as per rule 14.97" as fitted 15.97"

Material of screw shaft S.

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no

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

If two

liners are fitted, is the shaft lapped or protected between the liners no

Length of stern bush 5' 1"

Dia. of Tunnel shaft as per rule 12.69" as fitted 13.5"

Dia. of Crank shaft journals as per rule 13.33" as fitted 14"

Dia. of Crank pin 14"

Size of Crank webs 20 1/2 x 8 1/2

Dia. of thrust shaft under

collars 14 1/4"

Dia. of screw 17' 6"

Pitch of Screw 17' 6"

No. of Blades 4

State whether moveable f

Total surface 89 f

No. of Feed pumps 2

Diameter of ditto 3 3/4"

Stroke 27"

Can one be overhauled while the other is at work yes

No. of Bilge pumps 2

Diameter of ditto 3 3/4"

Stroke 27"

Can one be overhauled while the other is at work yes

No. of Donkey Engines 2

Sizes of Pumps 11 x 10" & 6 1/2 x 4 x 6"

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

In Engine Room four 3 1/2"

In Holds, &c. 2 of 3 1/2" in each.

No. of Bilge Injections 1

sizes 6"

Connected to condenser, or to circulating pump C.P.

Is a separate Donkey Suction fitted in Engine room & size Yes 4"

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 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 21/9/11 of Stern Tube 5-10-11 Screw shaft and Propeller 5-10-11

Is the Screw Shaft Tunnel watertight yes

Is it fitted with a watertight door yes

worked from Engine top platform.

BOILERS, &c.—(Letter for record S.)

Manufacturers of Steel J. Spencer & Sons Ltd.

Total Heating Surface of Boilers 5940 f

Is Forced Draft fitted no

No. and Description of Boilers 3, S. E. 2

Working Pressure 180 lb

Tested by hydraulic pressure to 360 lb

Date of test 26.9.11

No. of Certificate 2954

Can each boiler be worked separately yes

Area of fire grate in each boiler 50 f

No. and Description of Safety Valves to

each boiler two Springs

Area of each valve 4.04"

Pressure to which they are adjusted 185

Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1' 9"

Mean dia. of boilers 14 ft

Length 10' 9"

Material of shell plates S

Thickness 1 3/32 Range of tensile strength 28.9-32

Are the shell plates welded or flanged Ends Descrip. of riveting: cir. seams d. r. lap

long. seams d. butt St. Diameter of rivet holes in long. seams 1 5/32

Pitch of rivets 8 1/4

Lap of plates or width of butt straps 1' 4"

Per centages of strength of longitudinal joint rivets 86.25 plate 85.98

Working pressure of shell by rules 181 lb

Size of manhole in shell End 16 x 12

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Morrison & Co. Material S

Length of plain part top bottom

Thickness of plates crown 1 1/32 bottom 1 1/32

Description of longitudinal joint weld

No. of strengthening rings

Working pressure of furnace by the rules 189

Combustion chamber plates: Material S

Thickness: Sides 3/4 Back 4/6 Top 3/4 Bottom 3/4

Pitch of stays to ditto: Sides 11 1/2 x 8 1/2 Back 10 x 8 1/2 Top 11 1/2 x 8 1/2

Material of stays S

Diameter at smallest part 1.5"

Area supported by each stay 83.75

Working pressure by rules 182 End plates in steam space:

Material S

Thickness 1 1/4

Pitch of stays 19 1/2, 19 1/2 How are stays secured d. nuts

Working pressure by rules 183 Material of stays S

Diameter at smallest part 3.05

Area supported by each stay 385

Working pressure by rules 195

Material of Front plates at bottom S

Thickness 25/32

Material of Lower back plate S

Thickness 3/4

Greatest pitch of stays 13 1/4 x 8 1/2 Working pressure of plate by rules 297

Diameter of tubes 3 1/4

Pitch of tubes 4 1/2, 4 1/2

Material of tube plates S

Thickness: Front 25/32 Back 25/32 Mean pitch of stays 11

Pitch across wide water spaces 14 1/2

Working pressures by rules 181

Girders to Chamber tops: Material S

Depth and

thickness of girder at centre 9 1/2 x 1 1/2

Length as per rule 222

Distance apart 8 1/2

Number and pitch of stays in each 8 @ 8 1/2

Working pressure by rules 187

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

How stayed

Lloyd's Register

Foundation

W 305-10010

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:— *Two top and bottom end bolts & nuts, two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, half set air & live pump valves, one safety valve spring, assorted iron bolts & nuts*

The foregoing is a correct description,

FOR RICHARDSONS, WESTGARTH & CO., LTD

Manufacturer.

Nedric H. Russell
ASSISTANT MANAGER.

Dates of Survey while building	During progress of work in shops—	1911 Mar 20.29 May 16.30 Jun 1.7 Jul 7.11.17 Aug 3.10.18.28
	During erection on board vessel—	Sep 1.6.11 20.25.26. Oct 2.3.5.6.7.12.16
	Total No. of visits	26

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—	Cylinders	30.5.11	Slides	7.6.11	Covers	28.8.11	Pistons	28.8.11	Rods	28.8.11	
Connecting rods	14.9.11	Crank shaft	20.9.1911	Thrust shaft	20.9.1911	Tunnel shafts	20.9.11	Screw shaft	5.10.11	Propeller	5.10.11
Stern tube	5.10.11	Steam pipes tested	7.10.11.	Engine and boiler seatings	6.10.11	Engines holding down bolts	6.10.11				
Completion of pumping arrangements	6/11/11	Boilers fixed	6.10.11.	Engines tried under steam	12.10.11						
Main boiler safety valves adjusted	12.10.11.	Thickness of adjusting washers	P.Blr. p 7/32" s 5/16" C.Blr. p 7/16" s 5/8" S.Blr. p 3/8" s 7/16"								
Material of Crank shaft	Steel	Identification Mark on Do.	5047 A.B	Material of Thrust shaft	Steel	Identification Mark on Do.	7056 J.M.				
Material of Tunnel shafts	Steel	Identification Marks on Do.	6714.6+7	Material of Screw shafts	Steel	Identification Marks on Do.	373+4 14B.				
Material of Steam Pipes	Copper		272.5+6.HB	Test pressure	400 lbs.						

General Remarks (State quality of workmanship, opinions as to class, &c. *Machinery and boilers built under Special Survey. Materials and workmanship good. Engines and boilers examined under full steam at Engine Works and found satisfactory.*

It is submitted that this vessel is eligible for the record of L.M.C with date on completion

It is submitted that
this vessel is eligible for
THE RECORD + LMC 10.11.

JWD
28/12/11

J. G. Findlay & C. Cropper
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	£ 3 : - :	When applied for,	
Special	£ 38 . 12 :		31.10.1911
Donkey Boiler Fee	£ :	When received,	
Travelling Expenses (if any)	£ :		as per letter from London 27.11.1911
Committee's Minute	FRI. DEC. 29. 1911		
Assigned	Thurs 10.11		

MACHINERY CERTIFICATE
UNITED



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