

REPORT ON MACHINERY.

No. 62568

Date of writing Report 24th June 1912 When handed in at Local Office 28th June 1912 Port of Newcastle on Tyne
No. in Survey held at Newcastle Date, First Survey 11th Dec. 1911 Last Survey 21st Jan 1912
Reg. Book. 96 on the Machinery of the S.S. "Port Lincoln" (Number of Visits 7)
Master W. Milburn Built at Newcastle By whom built Hawthorn Leslie & Co. Ltd When built 1912
Engines made at Newcastle By whom made North Eastern Marine Eng. Co. when made 1912
Boilers made at " By whom made (2) R. W. Hawthorn Leslie & Co. when made 1912
Registered Horse Power 777 Owners W. Milburn & Co. Port belonging to London
Nom. Horse Power as per Section 28 777 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple No. of Cylinders 4 No. of Cranks 4
Dia. of Cylinders 27 1/2", 39", 56" & 81 1/2" Length of Stroke 54" Revs. per minute 75 Dia. of Screw shaft as per rule 16.23 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 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 6'-0"
Dia. of Tunnel shaft as per rule 14.8 Dia. of Crank shaft journals as per rule 15.6 Dia. of Crank pin 16 1/4" Size of Crank webs 2'7" x 10 1/4" Dia. of thrust shaft under
collars 16 Dia. of screw 18'-9" Pitch of Screw 18'-9" No. of Blades 4 State whether moveable Yes Total surface 120 sq
No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 5" Stroke 30" Can one be overhauled while the other is at work Yes
No. of Donkey Engines 2 Sizes of Pumps 8" x 10" x 10" & 8" x 5 1/2" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 4 of 3 1/2" In Holds, &c. 2 of 3 1/2" in each hold &
1 of 3" in tunnel well
No. of Bilge Injections 1 sizes 10 1/2" Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & 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 none
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 none How are they protected Yes
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 2/4/12 of Stern Tube 2/4/12 Screw shaft and Propeller 2/4/12
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record 15) Manufacturers of Steel J. Spencer & Sons
Total Heating Surface of Boilers 11420 Is Forced Draft fitted Yes No. and Description of Boilers 4 Single-ended
Working Pressure 220 lbs Tested by hydraulic pressure to 440 lbs Date of test 8/23/4, 9/10/3/12 No. of Certificate 8306, 8307
Can each boiler be worked separately Yes Area of fire grate in each boiler 69 sq No. and Description of Safety Valves to
each boiler 2 direct spring Area of each valve 11.04 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 18" Mean dia. of boilers 16'-0" Length 12'-0" Material of shell plates steel
Thickness 1 1/16" Range of tensile strength 30-33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap
long. seams z. r. d. butt Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 24 1/4"
Per centages of strength of longitudinal joint rivets 93.8 Working pressure of shell by rules 257.4 lbs Size of manhole in shell 16" x 12"
Size of compensating ring flanged No. and Description of Furnaces in each boiler 4 Dightons Material steel Outside diameter 41 1/2"
Length of plain part top Thickness of plates crown 5/8" Description of longitudinal joint welded No. of strengthening rings ✓
Working pressure of furnace by the rules 241 lbs Combustion chamber plates: Material steel Thickness: Sides 2 3/32" Back 2 3/32" Top 2 3/32" Bottom 1 1/8"
Pitch of stays to ditto: Sides 8" x 8" Back 8" x 8" Top 8" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 278 lbs
Material of stays steel Diameter at smallest part 2.36 Area supported by each stay 90 Working pressure by rules 236 lbs End plates in steam space:
Material steel Thickness 1 1/32" Pitch of stays 20 3/4" x 15 1/4" How are stays secured d. n. & w. Working pressure by rules 251 lbs Material of stays steel
Diameter at smallest part 8.29 Area supported by each stay 326.8 Working pressure by rules 264 lbs Material of Front plates at bottom steel
Thickness 1 1/16" Material of Lower back plate steel Thickness 1 1/32" Greatest pitch of stays 14 1/2" x 8" Working pressure of plate by rules 266 lbs
Diameter of tubes 2 3/4" Pitch of tubes 4" x 4" Material of tube plates steel Thickness: Front 1 1/16" Back 1 3/16" Mean pitch of stays 8" x 8"
Pitch across wide water spaces 14 1/2" Working pressures by rules 220 Girders to Chamber tops: Material steel Depth and
thickness of girder at centre 9 7/8" x 2" Length as per rule 36" Distance apart 8" Number and pitch of stays in each 3; 8"
Working pressure by rules 256 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 ✓ 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 ✓

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	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:— 2 top end & 2 bottom end bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, 1 set of rings for each piston, a quantity of assorted bolts nuts & washers, set of top end & bottom end bearings, propeller shafts, 2 propeller blades, air pump bucket & rod &c.

The foregoing is a correct description,

S. T. Harrison

Manufacturer.

Dates of Survey while building	During progress of work in shops --	<div style="text-align: center;">  Dec. 11. 28 Jan. 4. 9. 11. 20. 22 23 30. Feb. 2. 8. 9. 15. 17. 23. 26. 27. 29 Mar. 5. 6. 8. 11. 12. </div>
	During erection on board vessel --	
	Total No. of visits	

13. 14. 15. 18. 19. 20. 22. 26. 28. 30. Apr. 2. 3. 4. 10. 12. 15. 16. 18. 19. 22. 23. 25. 26. 29 May. 1. 2. 6. 7. 9. 10. 13. 20. 21. 28. 29. 30 Jun. 5. 6. 13. 14. 17. 19. 21.

Is the approved plan of main boiler forwarded herewith Yes

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 6/3/12 Slides 20/3/12 Covers 13/3/12 Pistons 2/4/12 Rods 22/3/12
Connecting rods 22/3/12 Crank shaft 14/3/12 Thrust shaft 4/4/12 Tunnel shafts 23/2/12 Screw shaft 11/12/11 Propeller 22/4/12
Stern tube 6/3/12 Steam pipes tested 17/6/12 Engine and boiler seatings 2/4/12 Engines holding down bolts 13/6/12
Completion of pumping arrangements 19/6/12 Boilers fixed 13/6/12 Engines tried under steam 19/6/12
Main boiler safety valves adjusted 19/6/12 Thickness of adjusting washers For PF $\frac{1}{2}$ A $\frac{1}{2}$ SF $\frac{1}{2}$ A $\frac{1}{2}$ A $\frac{1}{2}$ PF $\frac{1}{2}$ A $\frac{1}{2}$ SF $\frac{1}{2}$ A $\frac{1}{2}$
Material of Crank shaft steel Identification Mark on Do. 31/3/12 66 Material of Thrust shaft steel Identification Mark on Do. 9/4/12 66
Material of Tunnel shafts steel Identification Marks on Do. 26/2/12 66 Material of Screw shafts iron Identification Marks on Do. 30/4/12 66
Material of Steam Pipes solid drawn steel Test pressure 660 lb

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

The machinery of this vessel has been built under special survey, the materials used are good, and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been seen running under full power. In our opinion this vessel is eligible to have the record of \times L.M.C. 6/12

It is submitted that
this record is eligible for
THE RECORD. + L

THE RECORD. + LMC 6.12

F. D.

3. 7. 12

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|------------------------------|-----------|----|---|----|-------------------|
| The amount of Entry Fee | .. £ | 3 | : | 0 | When applied for, |
| Special | £ | 58 | : | 17 | JUN 26 1912 |
| Donkey Boiler Fee | £ | : | : | : | When received, |
| Travelling Expenses (if any) | £ | : | : | : | JUL 2 1912 |

When applied for,

JUN 26 1912

When received,

JUL 2 1912

Committee's Minute

FRI. JUL. 5-1912

Assigned

+ L. 66 12

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Charles Cooper & W. Coombe.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

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

Lloyd's Register
Foundation

A large, stylized, light-colored letter 'R' is centered on a dark, textured background. The letter has a slightly distressed or hand-painted appearance. The background is a dark, mottled grey or black with visible texture and some lighter patches. The letter 'R' is a simple, bold, sans-serif style.