

REPORT ON MACHINERY

No. 15852

Received at London Office FRI. 3rd DEC. 1920

Date of writing Report 30th Nov 1920 When handed in at Local Office 2/12/20 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 30th Sept/19 Last Survey 16th Nov 1920

Reg. Book. 81334 on the steel screw steamer "Rigi" (Number of Visits)

Master Mr. Wilson Built at Middlesbro' By whom built The Furness S. B. Co. Ld. Tons Gross 5826
Net 3618 When built 1920

Engines made at Hartlepool By whom made Mac-Richardson, Westgarth & Co. Ld. when made 1920

Boilers made at Hartlepool By whom made Mac-Richardson, Westgarth & Co. Ld. when made 1920

Registered Horse Power 569 Owners Camillo Petron & Co. Port belonging to Christiania

Nom. Horse Power as per Section 28 569 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion (Inverted Cyls.) No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 24, 45, 75 Length of Stroke 51 Revs. per minute 73 Dia. of Screw shaft 15.01 Material of screw shaft 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 5-2

Dia. of Tunnel shaft 13.69 Dia. of Crank shaft journals 14.37 Dia. of Crank pin 15 Size of Crank webs 9 3/8 x 22 5/8 Dia. of thrust shaft under collars 15 1/4

Dia. of screw 18-0 Pitch of Screw 18-2 No. of Blades four State whether moveable No Total surface 100 sq ft

No. of Feed pumps two Diameter of ditto 8 Stroke 21 Can one be overhauled while the other is at work Yes

No. of Bilge pumps two Diameter of ditto 4 1/4 Stroke 27 Can one be overhauled while the other is at work Yes

No. of Donkey Engines two Sizes of Pumps General Service 6x8 stroke No. and size of Suctions connected to both Bilge and Donkey pumps one 3/2 port, one 3/2 st (three 3/2 in bilge)

In Engine Room one 3/2 port, one 3/2 st (three 3/2 in bilge) one 3/2 in holds, &c. two 3/2 in each hold

No. of Bilge Injections two sizes 8 Connected to condenser, or to circulating pump connected Is a separate Donkey Suction fitted in Engine room & size Yes 3/2

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 Yes

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 Below

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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel John Spencer & Sons Ld., The Brighton Fluor Tube Ld.

Total Heating Surface of Boilers 8491 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Three Single Ended Locomotive

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 16/8/20 No. of Certificate 3580

Can each boiler be worked separately Yes Area of fire grate in each boiler 62.55 sq ft No. and Description of Safety Valves to each boiler no, direct opening

Area of each valve 12.54 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2-3 Mean dia. of boilers 15-6 1/2 Length 12-0 Material of shell plates steel

Thickness 1 1/4 Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Lap SR

long. seams DRS - TR Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 1/2 Lap of plates or width of butt straps 1 1/2

Per centages of strength of longitudinal joint rivets 85.8% Working pressure of shell by rules 181 lbs Size of manhole in shell 13x16 1/2

plate 85.3% Size of compensating ring 8x1 1/4 No. and Description of Furnaces in each boiler Three Brighton Material steel Outside diameter 49 3/4

Length of plain part top Thickness of plates bottom 19 Description of longitudinal joint weld No. of strengthening rings —

Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material steel Thickness: Sides 19/32 Back 11/16 Top 19/32 Bottom 23/32

Pitch of stays to ditto: Sides 1/2 x 6 3/8 Back 8/4 x 8 Top 1/2 x 6 5/8 If stays are fitted with nuts or riveted heads Riveted Heads Working pressure by rules 184 lbs

Material of stays steel Area at smallest part 1.5 sq in Area supported by each stay 66 sq in Working pressure by rules 180 lbs End plates in steam space:

Material steel Thickness 1 1/8 Pitch of stays 19 1/2 x 15 3/4 How are stays secured DN Working pressure by rules 180.5 lbs Material of stays steel

Area at smallest part 6 1/2 x 5 5/8 Area supported by each stay 19 1/2 x 15 3/4 Working pressure by rules 207.5 lbs Material of Front plates at bottom steel

Thickness 15/16 Material of Lower back plate steel Thickness 1 3/16 Greatest pitch of stays 13 1/2 x 8 Working pressure of plate by rules 186 lbs

Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 3/4 Material of tube plates steel Thickness: Front 15/16 Back 13/16 Mean pitch of stays 9 3/8

Pitch across wide water spaces 13 1/2 Working pressures by rules 185 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 3/4 x 1 1/2

Length as per rule 32 1/4 Distance apart 4 1/2 Number and pitch of stays in each three 6 5/8

Working pressure by rules 180 1/2 lbs Steam dome: description of joint to shell — % of strength of joint —

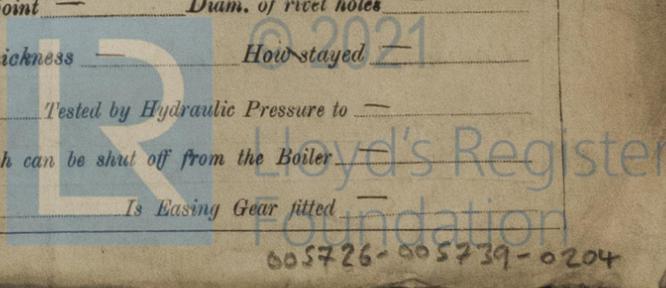
Diameter — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes —

Pitch of rivets — Working pressure of shell by rules — Crown plates — Thickness — How stayed —

SUPERHEATER. Type — Date of Approval of Plan — Tested by Hydraulic Pressure to —

Date of Test — Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler —

Diameter of Safety Valve — Pressure to which each is adjusted — Is Easing Gear fitted —



605726-605739-0204

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 1 screw shaft & propeller. 1 pair of main bearing bolts
 1 pair of top end bolts & nuts, 1 pair of bottom end bolts & nuts, 1 set of coupling bolts & nuts, 1 set
 of feed pump valves & seats, 1 set of bilge pump valves, 1 main & auxiliary feed check
 valve. Assorted bolts & nuts. Rod & sheet steel.

The foregoing is a correct description,
 FOR RICHARDSONS, WESTGARTH & CO. LIMITED.

L. D. Wignate GENERAL MANAGER. Manufacturer.
 (HARTLEPOOL WORKS)

Dates of Survey while building	During progress of work in shops --	1919. Sep 30. Oct 8. 11. 16. 27. Nov 10. 25. Dec 8. 19. 19. 20. 1920. Jan 27. Feb 2. 28. Mar 23. 31. Apr 16.
		26. 28. May 8. 10. 15. 17. 18. 21. 26. June 1. 2. 5. 8. 9. 11. 14. 16. 17. 18. 22. 24. 26. 28. 29. July 2. 6. 7. 8. 9. 11. 14. 16. 17. 18. 22. 24. 26. 28. 29. Aug 1. 3. 6. 8. 10. 13. 15. 16. 22. 27. 30. Oct 1. 6. 7. 8. 13. 14. 15. 16. 17. 18. 22. 24. 26. 28. 29. Nov 1. 4. 5. 8. 9. 11. 12. 13. 16.
Total No. of visits	During erection on board vessel --	18. 20. 21. 22. 27. 28. Nov 1. 4. 5. 8. 9. 11. 12. 13. 16.
		93 + 15. { 1921. Jan 5. 11. 13. 17. 21. 25. 28. Feb 1. 4. 5. 8. 9. 11. 12. 13. 16. 19. 20. 1920 Aug 25. Nov 24. 26. Dec 6. 10. 15. 20. at Inds. 1920 Oct 1. 1920 Aug 25. Nov 24. 26. Dec 6. 10. 15. 20.

Dates of Examination of principal parts—Cylinders 8/8/20 to 5/9/20 Slides 27/10/19 to 22/1/20 Covers 22/1/20 Pistons 10/8/20 Rods 8/10/20 to 3/6/20
 Connecting rods 19/1/20 to 17/2/20 Crank shaft 30/1/19 to 18/1/20 Thrust shaft 23/3/20 to 1/1/20 Tunnel shafts 8/6/20 to 26/1/20 Screw shaft 18/1/20 to 1/9/20 Propeller 24/5/20
 Stern tube 18/8/20 Steam pipes tested 27/10/20 to 28/10/20 Engine and boiler seatings 14/10/20 Engines holding down bolts 1/11/20
 Completion of pumping arrangements 26. 1. 21. Boilers fixed 5/11/20 Engines tried under steam 16/11/20
 Completion of fitting sea connections 25. 8. 20 Stern tube 14/10/20 Screw shaft and propeller 20/10/20
 Main boiler safety valves adjusted 16/11/20 Thickness of adjusting washers 5/16 5/16 3/8 5/16 3/8 3/8
 Material of Crank shaft steel Identification Mark on Do. (6172/18/8/20) Material of Thrust shaft steel Identification Mark on Do. (6172/21/10/20)
 Material of Tunnel shafts iron Identification Marks on Do. (6172/8/10/20) Material of Screw shafts iron Identification Marks on Do. (6172/27/10/20) (6172/8/10/20)
 Material of Steam Pipes Lap mild iron Test pressure 540 lb
 Is an installation fitted for burning oil fuel Yes. Is the flash point of the oil to be used over 150°F. Yes.
 Have the requirements of Section 49 of the Rules been complied with. Yes.
 Is this machinery duplicate of a previous case yes. If so, state name of vessel "Reveries" No. 1. Vind

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

The Engines, Boilers & Auxiliary Machinery of this Vessel have been constructed under special survey the material & workmanship sound & good. The Boilers & Steam pipes have been tested by Hydraulic pressure in accordance with the Rules. The whole of the propelling machinery worked satisfactorily under steam raised from end, the Safety Valves have been adjusted to their working pressure & Easing gear fitted.

The vessel has proceeded to the Builders yard for completion. To complete the survey for record of * LMC 180th FD the oil burning installation is to be fitted also the pumping arrangement tried & the Electric Light installation to be fitted & steering Engine & gear fitted & tried

The oil pumping and burning arrangement & also the general pumping arrangement satisfactorily completed (L.M.C. 1, 21) Fitted for oil fuel 1, 21. G.P. above 150°F.

The amount of Entry Fee ...	£ 3	When applied for,	
Special ...	£ 48 : 9/	2/24 1920.	
Donkey Boiler Fee ...	£ :	When received,	
Travelling Expenses (if any) £	:	14. 12 1920.	

A. Boyd *Wm. Coors*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. FEB 22 1921

Assigned + L.M.C 1, 21 F.D. Fitted for oil fuel 1, 21, G.P. above 150°F.

