

REPORT ON MACHINERY.

No. 15876

Received at London Office FRI. 18 MAR. 1921

WEST HARTLEPOOL

Date of writing Report 19 When handed in at Local Office 17/3/19 to 21. Port of WEST HARTLEPOOL
No. in Survey held at Hartlepool Date, First Survey 27th Oct. 1919. Last Survey 14th March 1921
Reg. Book. on the steel screw steamer "Sierra Cordoba" "Abodi Mend" (Number of Visits 72 + 2000 hrs.)

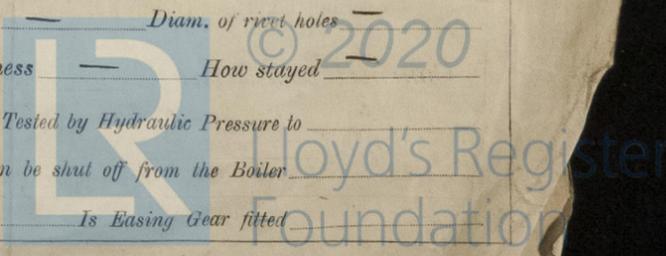
Master Built at Middleston By whom built The Furness S.S. Co. Ld. (2/10/4) Tons Gross 1200 Net 800
Engines made at Hartlepool By whom made Richardson, Westgate & Co. Ld. (4262) when made 1921
Boilers made at Hartlepool By whom made Richardson, Westgate & Co. Ld. when made 1921
Registered Horse Power Owners Sota y Anar Port belonging to Bilbao
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 (horizontal cylinder) No. of Cylinders Three No. of Cranks Three
Dia. of Cylinders 27-45-45 Length of Stroke 57 Revs. per minute 73 Dia. of Screw shaft as per rule 15.0 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 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 Yes. If two liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 5-2
Dia. of Tunnel shaft as per rule 13.69 as fitted 13.34 Dia. of Crank shaft journals as per rule 14.37 as fitted 14.58 Dia. of Crank pin 15 Size of Crank webs 9 3/8 x 23 Dia. of thrust shaft under collars 15 1/4 Dia. of screw 18-0 Pitch of Screw 18-0 No. of Blades four State whether moveable No Total surface 104
No. of Feed pumps 2 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 Inlet 12x10 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Three 3 1/2, Dry tank Three 3 1/2 In Holds, &c. No in. Each Hold 3 1/2 — one tunnel and 2 1/2 in.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spencer & Sons Ld & Deighton, Fife C. L.
Total Heating Surface of Boilers 8491 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Three single End Cap Mast.
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 27/1/21 No. of Certificate 3592
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 spring Area of each valve 12.59 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 Internal Mean dia. of boilers 15-6 1/2 Length 12-0 Material of shell plates steel
Thickness 1/4 Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap S.R. long. seams DRB-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 x 1/8 x 1/4
Per centages of strength of longitudinal joint rivets 85.8% plate 85.3% Working pressure of shell by rules 181 lbs Size of manhole in shell 13 x 16 1/2
Size of compensating ring 8 x 1 1/4 No. and Description of Furnaces in each boiler 3 Deighton Material steel Outside diameter 49 3/4
Length of plain part top — bottom — Thickness of plates crown 19 bottom 32 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 1/2 Top 19/32 Bottom 23/32
Pitch of stays to ditto: Sides 1/2 x 6 5/8 Back 8 1/4 x 8 Top 1/4 x 6 5/8 If stays are fitted with nuts or riveted heads Riveted Head. Working pressure by rules 184 lbs
Material of stays steel Area at smallest part 1 1/2 x 1 3/8 Area supported by each stay 8 1/2 x 8 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 1/2 lbs Material of stays steel
Area at smallest part 6 1/4 x 7 1/8 Area supported by each stay 19 1/2 x 15 3/4 Working pressure by rules 20 1/2 lbs Material of Front plates at bottom steel
Thickness 15/16 Material of Lower back plate steel Thickness 1/2 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 1/2 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 6 5/8 Number and pitch of stays in each Three 1/4
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 —

004093-004100-0038



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Oil propeller & shaft
Two Each Top End, Bottom End & Main Bearing Bolts & nuts, one set of coupling
Bolts & nuts, 1 set helix pump valves, 1 set valves for main feed pumps 1 main & 1 aux check
valve, 70 assorted bolts, studs & nuts. Iron of various sizes HP piston ring & springs
2 Safety valve springs

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

L. S. Wright GENERAL MANAGER. Manufacturer.
(HARTLEPOOL WORKS)

Dates of Survey while building
During progress of work in shops --
During erection on board vessel --
Total No. of visits
1919. Oct 27. Nov 17. 1920 Jan 24. Feb 5. 18. Mar 23. Apr 13. 26. May 17. 21. 28. June 3. 11. July 12. 30.
Sep 16. 27. 29. Oct 1. 6. 11. 13. 14. 15. 20. 21. 27. Nov 2. 4. 8. 9. 11. 19. 22. Dec 1. 3. 6. 7. 8. 10. 16. 22. 23. 29.
30. 1921. Jan 6. 7. 10. 11. 13. 14. 18. 20. 24. 26. 27. Feb 1. 2. 4. 7. 10. 14. 15. 22. 24. 25. Mar 2. 7. 9. 10. 12. 14.
Mdb. 1920. 8. 16. 24. 26. Nov. 6. 10. 15. 21. Dec. 19. 21. 5. 11. 17. 21. Jan. 15. 22. 31. Mar. 7. 26. Apr. 7. 26. Apr.
12 May 30 June 7. Total 21 Mdb. Is the approved plan of main boiler forwarded herewith ^{sent to London with duplicate 20-8-20}

Dates of Examination of principal parts—Cylinders 29/10 to 9/11/20 Slides 27/10 to 18/11/20 Covers 11/10/20 Pistons 16/11/20 Rods 11/11/20 to 3/12/20
Connecting rods 6/10/20 to 10/11/20 Crank shaft 18/10 to 10/11/20 Thrust shaft 2/11/20 Tunnel shafts 17/10 to 11/11/20 Screw shaft 1/11/20 to 14/11/20 Propeller 27/11/20
Stern tube 27/10/20 to 7/11/20 Steam pipes tested 1-4-20 Engine and boiler seatings 22/2/21 to 27/2/21 Engines holding down bolts 17/2/21
Completion of pumping arrangements 16. 4. 21 Boilers fixed 2/3/21 Engines tried under steam 10-3-21
Completion of fitting sea connections 10-3-21 Stern tube 4/2/21 Screw shaft and propeller 4/2/21
Main boiler safety valves adjusted 10-3-21 Thickness of adjusting washers Port Bolts P 1/2 5 1/2
Centre " P 2 1/2 5 1/2
Star " P 3/8 5 1/2
Material of Crank shaft steel Identification Mark on Do. (11100's 6241 10/12/20) Material of Thrust shaft steel Identification Mark on Do. 5197 N WC
Material of Tunnel shafts iron Identification Marks on Do. (1241 2/2/21) Material of Screw shafts iron Identification Marks on Do. (1169 10/12/21) (1241 2/2/21)
Material of Steam Pipes Hot Iron Test pressure 540 lbs Feed Water tank fitted with 110 lbs
Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. Evaporator tank fitted with 110 lbs, coming to 50th March (1173 10/12/21) (14/2/21)
Have the requirements of Section 49 of the Rules been complied with Evaporator tank fitted with 110 lbs, coming to 50th March (1173 10/12/21) (14/2/21)
Is this machinery duplicate of a previous case Yes. If so, state name of vessel 5/5 Rigi 5/5 Revers

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 as required by the Rules the machinery has been tried by steam at the working pressure & the safety valves have been adjusted under steam to their working pressure & being so fitted rendering this Vessel eligible in our opinion to have the Notation * L M Certified F. D. 180th in the Register Book.

To Complete the Survey — Electric Light installation to fit & steering Engine & gearing to fit & try. Pumping arrangement to test. Evaporator Safety valve to adjust, and spare gear to check over. Electric light installation, steering engine & gearing & pumping arrangement satisfactorily fitted & tried. Evaporator safety valve adjusted & spare gear checked 4.2.21

The amount of Entry Fee ... £ 6 : : : When applied for,
Special ... £ 103 : 9/ : : 17/3/1921.
Donkey Boiler Fee ... £ : : : When received,
Travelling Expenses (if any) £ : : : 31.3. 1921.

W. Boyd & Robert Rae
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned + LMC 7.21
7D. C.L.



WEST HARTLEPOOL
Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.