

REPORT ON MACHINERY.

No. 75945
THU. SEP. 21 1922

Received at London Office

Date of writing Report Sept 13th 1922 When handed in at Local Office Sept 14th 1922 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at Newcastle-on-Tyne Date, First Survey Feb 21st 1921 Last Survey Sept 12th 1922
Reg. Book. 72348 on the Steamer "San Roberto" (Number of Visits 62)

Master Walter Built at Waller By whom built Armstrong Whitworth & Co When built 1922
Tons { Gross 5890-AR
Net not known

Engines made at Wallsend By whom made Wallsend Shipway Co Ltd when made 1922

Boilers made at W By whom made W when made 1922

Registered Horse Power 538 Owners Eagle Oil Co Ltd Port belonging to London

Nom. Horse Power as per Section 28 538 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 27-45-75 Length of Stroke 48 Revs. per minute 68 Dia. of Screw shaft 15.19 Material of screw shaft steel
as per rule 15.19 as fitted 15.19

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 - If two liners are fitted, is the shaft lapped or protected between the liners - Length of stern bush 5-4

Dia. of Tunnel shaft as per rule 13.29 Dia. of Crank shaft journals as per rule 14.06 Dia. of Crank pin 14.98 Size of Crank webs 23 1/2 x 9 1/8 Dia. of thrust shaft under collars 14 7/8 Dia. of screw 18-9 Pitch of Screw 14-9 No. of Blades 4 State whether moceable Yes Total surface 110 7/8

No. of Feed pumps 2 Diameter of ditto 4 1/2 Stroke 26 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 26 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 2 1/2" Boiler space No. and size of Suctions connected to both Bilge and Donkey pumps 2-3 1/2" Boiler space In Holds, &c. -

No. of Bilge Injections 14 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes x 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 above & 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 None Is it fitted with a watertight door - worked from -

BOILERS, &c.—(Letter for record (v)) Manufacturers of Steel John Spencer

Total Heating Surface of Boilers 8045 Is Forced Draft fitted Yes No. and Description of Boilers 3 S.B. Multitubular

Working Pressure 180 psi Tested by hydraulic pressure to 310 psi Date of test 13.1.22 No. of Certificate 9640

Can each boiler be worked separately Yes Area of fire grate in each boiler 62 sq ft No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 22.09 sq in Pressure to which they are adjusted 185 psi Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2-0 Mean dia. of boilers 15-9 Length 12-2 1/8 Material of shell plates steel

Thickness 1/32 Range of tensile strength 30-34 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. Lap

long. seams D.B. Straps Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 8 15/16 Lap of plates or width of butt straps 19 1/2

Per centages of strength of longitudinal joint rivets 89.5 Working pressure of shell by rules 184 psi Size of manhole in shell 16" x 12"

Size of compensating ring 9 1/2 x 10 1/2 x 1 1/2 No. and Description of Furnaces in each boiler 3 Horizontal Material steel Outside diameter 48 3/8

Length of plain part top - bottom - Thickness of plates crown 5/8 Description of longitudinal joint weld No. of strengthening rings -

Working pressure of furnace by the rules 180 Combustion chamber plates: Material steel Thickness: Sides 7/8 Back 7/8 Top 7/8 Bottom 3/4

Pitch of stays to ditto: Sides 8 2/3 x 9 1/8 Back 8 1/8 x 8 1/2 Top 8 2/3 x 8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 196

Material of stays Iron Area at smallest part 2.03 sq in Area supported by each stay 69 Working pressure by rules 244 psi End plates in steam space: 244 psi

Material steel Thickness 1 1/16 Pitch of stays 23 1/2 x 22 1/2 How are stays secured D. Nuts Working pressure by rules 191.75 Material of stays steel

Area at smallest part 9.8 sq in Area supported by each stay 529 sq in Working pressure by rules 208.25 Material of Front plates at bottom steel

Thickness 1 Material of Lower back plate steel Thickness 7/8 Greatest pitch of stays 14 1/4 x 8 5/8 Working pressure of plate by rules 250

Diameter of tubes 2 1/2 Pitch of tubes 3 1/16 x 3 3/4 Material of tube plates steel Thickness: Front 1 Back 13/16 Mean pitch of stays 9 5/16

Pitch across wide water spaces 13 3/4 x 4 3/8 Working pressures by rules 205 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 1/2 x 1 1/2 Length as per rule 35 1/2 Distance apart 8 1/2 Number and pitch of stays in each 3-8 5/8

Working pressure by rules 180 Steam dome: description of joint to shell None % of strength of joint -

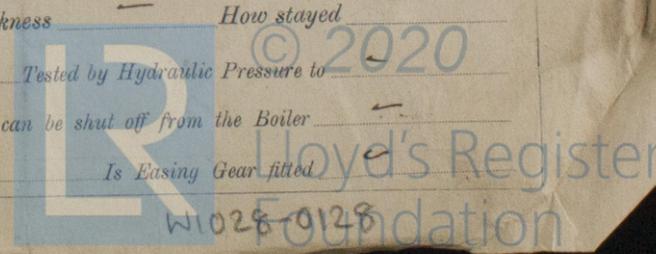
Diameter - Thickness of shell plates - Material - Description of longitudinal joint - Diam. of rivet holes -

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

SUPERHEATER. Type None 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 -



IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - one propeller shaft, and 2 spare blades. one pair of bottom end bearings. 2 top end, 2 bottom end + 2 main bearing bolts. one set of coupling bolts. 12 studs for fine rings. one slide valve spindle. one eccentric strap. 53 condenser tubes. 100 ferrules. one air pump rod. one spring for each HP-MP-LP piston. one spring for HP piston valve. one set of air pump valves. one set of valves + seats for one hotwell pump, and one bridge pump. 2 springs for HP + MP cylinder escape valves. 20 plain tubes for boilers. one stay tube for boiler. one dozen water gauge glasses + 4 dozen washers for the same. one valve bit for each main + auxiliary feed check valve. 2 main safety valve springs. one set of valves and seats for one main feed pump. one set of bucket rings for one main feed pump. 4 valves and seats for auxiliary feed pump. for general service pump, and for ballast pump.

The foregoing is a correct description.

FOR THE WALLINGFORD ROAD & ENGINEERING CO., LIMITED.

A. L. Ainsley

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1921. Feb 21. March 10. April 4. Aug 22. Sept 2. 9.13.29. Oct 6. 9.12. 26. 28. Nov 1. 3. 8. 10. 15. Dec 1. 8. 9. 10. 14. 1922. Jan 9. 13. 20. 24. Feb 21. 24. 27. March 14. 17. 29. 30. April 6. 10. 19. May 4. 10. 24. 30. June 13. 30. 1922. July 3. 6. 14. 18. 19. 25. 28. During erection on board vessel - 1922. Aug 1. 3. 9. 10. 11. 14. 30. Sept 4. 6. 7. 8. 12. Total No. of visits 62

Is the approved plan of main boiler forwarded herewith

yes

" " " donkey " " "

none

Dates of Examination of principal parts - Cylinders 9.9.21 Slides 9.1.22 Covers 9.9.21 Pistons 25.10.21 Rods 1.11.21 Connecting rods 2.12.21 Crank shaft 4.10.21 Thrust shaft 10.3.21 Tunnel shafts none Screw shaft 29.9.21 Propeller 8.12.21 Stern tube 15.4.21 Steam pipes tested 19.7.22 Engine and boiler seatings 30.8.22 Engines holding down bolts 30.8.22 Completion of pumping arrangements 30.8.22 Boilers fixed 30.8.22 Engines tried under steam 4.9.22 Completion of fitting sea connections 17.4.22 Stern tube 17.7.22 30.8.22 Screw shaft and propeller 14.8.22 Main boiler safety valves adjusted 4.9.22 Thickness of adjusting washers P=2/32 S=13/32 P=4/32 S=3/8 P=1/2 S=19/32 5588 6088 Material of Crank shaft Steel Identification Mark on Do. 7.10.21 Material of Thrust shaft steel Identification Mark on Do. 10.3.21 Material of Tunnel shafts none Identification Marks on Do. - Material of Screw shafts steel Identification Marks on Do. 7.10.21 Material of Steam Pipes steel Test pressure 540 lbs

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

no

If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. This vessel's machinery has been examined during construction, and the materials and workmanship are good, and in accordance with the approved plans & the requirements of the rules. On completion it was submitted to a steam trial with satisfactory results, when the safety valves were adjusted to the working pressure.

It is therefore eligible in my opinion to be classed, with the notation of + LMC. 9.22. Fitted for oil fuel 9.22. F.P. above 150°F.

It is submitted that this vessel is eligible for THE RECORD. + LMC 9. 22. FD. CL.

Fitted for oil fuel 9.22. F.P. above 150°F.

J.W.D. P.M.S. 25/9/22

Maurice Nitton

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 6 : 0 : When applied for, Special ... £ 101 : 18 : 20/9/22 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 29.9.22

FRI. SEP. 29 1922

Committee's Minute

Assigned

+ L.M.C. 9.22 F.D. C.L.

Fitted for oil fuel 9.22 F.P. above 150°F.

CERTIFICATE WRITER



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Newcastle

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