

REPORT ON MACHINERY

No. 15748

Received at London Office

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of writing Report 10th April 1920 When handed in at Local Office 13/4/1920 Port of West Hartlepool & Bristol
 in Survey held at Hartlepool Date, First Survey 12th June 1919 Last Survey 29th March 1920
 Book. on the Steel Screw Steamer ARLETTE (Number of Visits 53) Tons { Gross 2732
 Net 1634.8

ter Built at Bristol By whom built Messrs C. Hill & Sons 138 When built 1920
 ines made at Hartlepool By whom made Messrs Richardson, Westgarth & Co. Ltd. (1920) when made 1920
 ers made at Hartlepool By whom made Messrs Richardson, Westgarth & Co. Ltd. when made 1920
 stered Horse Power Owners Ca. Aux. De. Navigation Port belonging to Nantes
 Horse Power as per Section 28 242 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

INES, &c.—Description of Engines Triple Expansion (Inverted Cycle) No. of Cylinders Three No. of Cranks Three
 of Cylinders 21-34-56 Length of Stroke 36 Revs. per minute 75 Dia. of Screw shaft 11.6 Material of Iron
 as per rule 11.6 as fitted 12.5 screw shaft
 e 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
 he 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
 en the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two
 s are fitted, is the shaft lapped or protected between the liners — Length of stern bush 4-2

of Tunnel shaft 10.23 Dia. of Crank shaft journals 10.74 Dia. of Crank pin 11.3 Size of Crank webs 7x1 1/2 Dia. of thrust shaft under
 as fitted 10.5 as fitted 10.8
 rs 10 1/8 Dia. of screw 14-6 Pitch of Screw 13-9 No. of Blades four State whether moveable No Total surface 66
 of Feed pumps Two Diameter of ditto 3 Stroke 21 Can one be overhauled while the other is at work Yes
 of Bilge pumps Two Diameter of ditto 3 1/2 Stroke 21 Can one be overhauled while the other is at work Yes
 of Donkey Engines Two Sizes of Pumps General Service 10x10 No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room Two of 3" each In Holds, &c. No 1 Two of 3" No 2 Two of 3" No 3 Two of 3"
4 Two of 3" Tunnel well 2 1/2"

of Bilge Injections One size 6 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2
 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 No
 all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
 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
 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
 t pipes are carried through the bunkers Fore Hold Suction How are they protected Wood casings

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
 s of examination of completion of fitting of Sea Connections 24/3/20 of Stern Tube 24.5.20 Screw shaft and Propeller 7.6.20
 e Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform
 LERS, &c.—(Letter for record S) Manufacturers of Steel Spencer Tons & Leeds Forge Co. Ltd.

Heating Surface of Boilers 4246 Is Forced Draft fitted No No. and Description of Boilers Two, Cyl. Horizontal 2.S.B.
 king Pressure 180 lbs Tested by hydraulic pressure to 360 Date of test 30/1/20 No. of Certificate 3560
 each boiler be worked separately Yes Area of fire grate in each boiler 55.62 No. and Description of Safety Valves to
 boiler Two, Direct spring Area of each valve 7.07 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 least distance between boilers or uptakes and bunkers 2.0 Mean dia. of boilers 15-3 Length 10-6 Material of shell plates steel

Forecastle 1 1/2 Range of tensile strength 28 1/2 to 32 1/2 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap & R.
 seams DBS-TR Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 8 3/8 Lap of plates or width of butt straps 1 1/2
 is to be given percentages of strength of longitudinal joint 84.9 Working pressure of shell by rules 182 Size of manhole in shell 13x16 1/2
 of compensating ring 1 1/4 x 1 1/2 No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 48 1/2
 th of plain part 19 Thickness of plates 19 Description of longitudinal joint Weld No. of strengthening rings —
 bottom 32 crown 14 bottom 32

king pressure of furnace by the rules 193 Combustion chamber plates: Material steel Thickness: Sides 19 Back 19 Top 19 Bottom 3
 of stays to ditto: Sides 1/2 x 8 3/4 Back 8 1/4 x 8 Top 1/2 x 8 3/4 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 186
 length. Water 1 1/2 Diameter at smallest part 5 1/2 Area supported by each stay 8 3/4 x 7 1/2 Working pressure by rules 180 End plates in steam space:
 Feet. 1 1/2 Thickness 1 1/2 Pitch of stays 5 1/2 How are stays secured DNW & ON Working pressure by rules 180 Material of stays steel
 9 meter at smallest part 3 1/4 Area supported by each stay 17 x 21 Working pressure by rules 211 Material of Front plates at bottom S
 thickness 31 Material of Lower back plate steel Thickness 32 Greatest pitch of stays 14 x 8 Working pressure of plate by rules 182
 of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates steel Thickness: Front 31 Back 25 Mean pitch of stays 11 1/4 x 8 3/8

Rule for across wide water spaces 14 1/8 Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and
 ness of girder at centre 8 x 1 3/4 Length as per rule 30 1/2 Distance apart 8 3/4 Number and pitch of stays in each Three 7 1/2
 king pressure by rules 181 Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler worked
 ately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet
— Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —
 No. of Visits 53 offered with rings — Distance between rings — Working pressure by rules — End plates: Thickness — How stayed —
 king pressure of end plates — Area of safety valves to superheater — Are they fitted with easing gear —

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:— 2 Top end 2 bottom end, 2 main bearing bolts + nuts, bolts + nuts. spare Piston rings + bolts. sets of valves all pumps + auxiliaries. 1 main + 1 chuck valve. Iron, bolts + nuts assorted.

The foregoing is a correct description,

For RICHARDSONS, WESTGARTH & CO., LIMITED

S. H. H. H.

ASSISTANT GENERAL MANAGER

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1919. June 12. July 28. Aug. 11. 15. 21. 22. 29. Sep. 8. 24. 30. Oct. 2. 3. 6. 11. 14. 15. 17. 28. 31. Nov. 27. 29. Dec. 16. 1920. Jan. 7. 9. 13. 16. 19. 21. 23. 28. 30. Feb. 2. 5. 9. 11. 16. 20. 23. 24. 25. 26. Mar. 1. 4. 5. 17. 18. 25. 29.
During erection on board vessel -- March 24. April 12. 22. 4 May 7-11-17. 31 June 7-10. 11-17. 25
Total No. of visits 53.

Is the approved plan of main boiler forwarded herewith

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Dates of Examination of principal parts—Cylinders 14/10/19 to 21/10/19 Slides 25/3/20 Covers 25/3/20 Pistons 27/4/19 Rods 15/11/19
Connecting rods 22/1/19 to 23/1/19 Crank shaft 12/1/19 to 23/1/19 Thrust shaft 30/4/19 to 20/5/19 Tunnel shafts 9/2/20 to 24/2/20 Screw shaft 9/2/20 Propeller
Stern tube 16/1/20 to 25/1/20 Steam pipes tested 11th May Engine and boiler seatings 24th March Engines holding down bolts
Completion of pumping arrangements June 7th Boilers fixed 12th May Engines tried under steam 17th + 25th
Main boiler safety valves adjusted 11th June Thickness of adjusting washers Port Blk. P. 3/8" S. 1/2" Star Blk. P.

Material of Crank shaft steel Identification Mark on Do. (6151/23/4/20) Material of Thrust shaft steel Identification Mark on Do.
Material of Tunnel shafts iron Identification Marks on Do. (6151/1/3/20) Material of Screw shafts iron Identification Marks on Do.
Material of Steam Pipes Copper + steel Test pressure 360 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 Yes If so, state name of vessel Mar Wonder 1/8 Annick

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

The Engines + Boilers of this Vessel have been constructed under special supervision. Material + workmanship are sound + good, the Boilers have been tested by pressure in accordance with the Rules. All the Machinery has now been fitted to the Builders at Bristol and will be eligible for the Notation LMC 18 with date when installed on board.

To complete the survey — propeller + steam pipes to be supplied + stern tube to be cut. Brs of stern frame, the whole of the Machinery to secure on board + try working conditions + the safety valves to be adjusted.

These engines + Boilers have been fitted in above vessel. Spare gear fitted. Valves adjusted under steam to above pressure. Machinery tried under steam with oil fuel. Installation fitted in accordance with Rules + approved plans. Double tanks (except under engine + boiler fitted for carrying oil fuel). This vessel machinery is for record F.L.M.C. 6.20 Fitted for carrying + burning oil fuel F.P. above 150°F. Coal or ore

The amount of Entry Fee ... £ 3 : : : When applied for, 13/4/1920
Special ... £ 21 : 8/ : :
Donkey Boiler Fee ... £ 10 : 14/ : :
Travelling Expenses (if any) £ : : : 26/4/1920
FRI. JUL. 21/7/20

Committee's Minute

Assigned + LMC 6.20

Fitted for oil fuel 6.20 F.P. above 150°F. whilst carrying coal + ore cargoes

CERTIFICATE WRITTEN
Lloyd's Register Foundation

S/S. "Arlette."

WT52-0058 ²/₁₂

It is submitted that
this vessel is eligible for
THE RECORD. T.L.M.C. 6-20.

FITTED FOR OIL FUEL 6-20. F.P. ABOVE 150° F.
WHILST CARRYING COAL & ORE CARGOES

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Lloyd's Register
Foundation

J.M.

J.W.D.

30/6/20