

REPORT ON MACHINERY.

No. 10303

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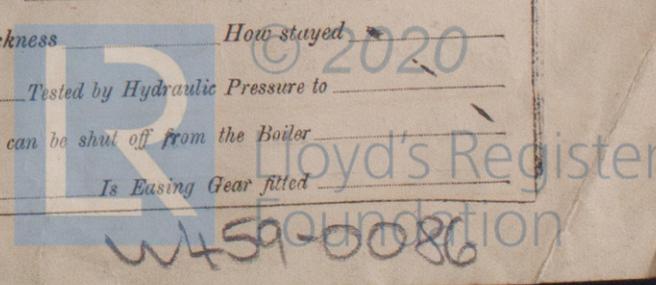
Date of writing Report 3 Jan 1917 When handed in at Local Office 19 Port of Rotterdam
 No. in Survey held at Bolnes Date, First Survey 10 Jan Last Survey 19 Dec 1916
 Reg. Book. on the Steel Screw Steamer "FROLAND" (Number of Voyages 169)
 Master O M Denstad Built at Henduk Idø Amlund By whom built Yonker & Stams When built 1916
 Engines made at Bolnes By whom made N V Maschinenfabrik "Bolnes" when made 1916
 Boilers made at Flushing By whom made Kon Mi de Schelde when made 1916
 Registered Horse Power _____ Owners Akkeserhabet & Christoffersen & Co Port belonging to Brevik
 Nom. Horse Power as per Section 28 144 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Vertical triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 17 1/2 x 29 1/8 x 46 1/16 Length of Stroke 36 1/16 Revs. per minute 110 Dia. of Screw shaft 10 1/2 Material of screw shaft Steel
 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 _____ If two
 liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 48"
 Dia. of Tunnel shaft 9 1/4 Dia. of Crank shaft journals 9 1/4 Dia. of Crank pin 9 1/8 Size of Crank webs 6 1/2 x 4 1/8 Dia. of thrust shaft under
 collars 9 1/32 Dia. of screw 12 9" Pitch of Screw 10" No. of Blades 4 State whether moveable No Total surface 54.7 sq ft
 No. of Feed pumps 2 Diameter of ditto 3 1/16" Stroke 18" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 5/8" Stroke 18" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 6 x 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 x 3" In boiler room 2 x 3" In Holds, &c. In forehold 2 x 3" and in afterhold
 No. of Bilge Injections 1 sizes 4 1/2" Connected to condenser or to circulating pump _____ Is a separate Donkey Suction fitted in Engine room & size 4 x 3"
 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
 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 Upper platform

BOILERS, &c.—(Letter for record _____) Manufacturers of Steel _____
 Please see report on boilers attached to this report
 Total Heating Surface of Boilers _____ Is Forced Draft fitted _____ No. and Description of Boilers _____
 Working Pressure _____ Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____
 Can each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of Safety Valves to
 each boiler _____ Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers _____ Length _____ Material of shell plates _____
 Thickness _____ Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams _____
 long. seams _____ Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____
 Per centages of strength of longitudinal joint _____ Working pressure of shell by rules _____ Size of manhole in shell _____
 Size of compensating ring _____ No. and Description of Furnaces in each boiler _____ Material _____ Outside diameter _____
 Length of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
 Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____
 Material of stays _____ Area at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____
 Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of stays _____
 Area at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
 Diameter of tubes _____ Pitch of tubes _____ Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____
 Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and
 thickness of girder at centre _____ Length as per rule _____ Distance apart _____ Number and pitch of stays in each _____
 Working pressure by rules _____ 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 _____

2m.1.18. T.



IS A DONKEY BOILER FITTED? No If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

2 Top end bolts and nuts, 2 bottom end bolts and nuts, 2 main bearing bolts and nuts, One set of coupling bolts, One set of feed pump valves, One set of bilge pump valves, one set of piston springs for each cylinder, a quantity of assorted bolts and nuts and iron of various sizes.

The foregoing is a correct description
 Naaml. Venn. MACHINEFABRIEK "BOLNES"
 voorgeen J. H. van CAPPELEN
 Directeur
 J. H. van Cappellen
 Manufacturer.

Dates of Survey while building: During progress of work in shops -- Jan 20 March 6 April 21-23 June 28 Aug 10-31 Sept 20 Oct 2
 During erection on board vessel --- Sept 21 Oct 13-24 Nov 9-14 Dec 28-29
 Total No. of visits 16
 Is the approved plan of main boiler forwarded herewith Yes
 also pumping arrangement and shafting Yes
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Dates of Examination of principal parts—Cylinders ^{21/23 28/31} 4/15 16/18 Slides 10-8-16 Covers 10-8-16 Pistons 10-8-16 Rods 30-8-16
 Connecting rods 21-4-16 Crank shaft ^{Made in Germany} Thrust shaft 21-4-16 Tunnel shafts 21-9-16 Screw shaft 21-8-16 Propeller 31-8-16
 Stern tube 21-8-16 Steam pipes tested 24-10-16 Engine and boiler seatings 21-9-16 Engines holding down bolts 13-10-16
 Completion of pumping arrangements 14-12-16 Boilers fixed 9-11-16 Engines tried under steam 29-12-16
 Completion of fitting sea connections 21-9-16 Stern tube 21-9-16 Screw shaft and propeller 21-9-16
 Main boiler safety valves adjusted 28-12-16 Thickness of adjusting washers Part boiler CV21 - 12 mill CV22 - 12 mill CV23 - 12 mill CV24 - 12 mill
 Material of Crank shaft SM Steel Identification Mark on Do. LLOYDS CX 10410 KH-2-16 Material of Thrust shaft SM Steel Identification Mark on Do. LLOYDS CX 10410 KH-2-16
 Material of Tunnel shafts SM Steel Identification Marks on Do. LLOYDS CX 10410 KH-2-16 Material of Screw shafts SM Steel Identification Marks on Do. LLOYDS CX 10410 KH-2-16
 Material of Steam Pipes Steel ✓ Test pressure 540 lbs. ✓
 Is an installation fitted for burning oil fuel No ✓ Is the flash point of the oil to be used over 150°F.
 Have the requirements of Section 49 of the Rules been complied with
 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.)

The machinery and boilers have been made in accordance with the Rules, approved plans and Letter Letters, material tested as required, workmanship good and the whole having been found in a good working order during a trial trip on the river, I am of opinion that the vessel is eligible to be recorded in the Society's Register book with **+ LMC 12-16**

It is submitted that this vessel is eligible for THE BROOD + LMC 12.16.

J.W.D. 19/1/17
 J.P. Schoo

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ...	£ 14.00	When applied for,	1917
Special ex bonus ...	£ 189.00	When received,	1917
Donkey Boiler Fee ...	£ :		
Travelling Expenses (if any) ...	£ 20.00		

Committee's Minute TUE. JAN. 23. 1917
 Assigned + LMC 12.16

MACHINERY CERTIFICATE WRITTEN.



Certificate (if required) to be sent to Surveyors Rotterdam

The Surveyors are requested not to write on or below the space for Committee's Minute.

If not, state whether, and when, one will be sent. To a Report also sent on the Hull of the ship.

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