

Rpt. 4.

# REPORT ON MACHINERY.

No. 10622

Received at London Office

THU. 10 OCT. 1918

Date of writing Report 18 September 1918 When handed in at Local Office

Port of Rotterdam

No. in Survey held at Rotterdam

Date, First Survey 14. 1916

Last Survey 14-1918 1918

Reg. Book. on the Dutch Steel Steam Tug "Tylebroek"

(Number of Visits 19)

Tons Gross 5760.2 Net 3635.29

Master J. W. Boumans Built at Rotterdam

By whom built J. W. Schuyt, Weert, Netherl.

When built

Engines made at Rotterdam

By whom made

Do.

when made 1918.

Boilers made at Do.

By whom made

Do.

when made 1918

Registered Horse Power 2

Owners

Jav. China. Jap. Lin.

Port belonging to Amsterdam

Nom. Horse Power as per Section 28 544

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 18 1/2 x 44 x 44 Length of Stroke 48 Revs. per minute 45 Dia. of Screw shaft as per rule 15 5/8 as fitted 16 Material of screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube continuous liner 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 on length 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 5'6"

Dia. of Tunnel shaft as per rule 14 1/4 as fitted 14 1/4 Dia. of Crank shaft journals as per rule 14 5/8 as fitted 14 1/4 Dia. of Crank pin 15 Size of Crank webs 10 x 8 1/4 Dia. of thrust shaft under collars 14 3/4 Dia. of screw 14 1/4 Pitch of Screw 18 x 0 No. of Blades 4 State whether moveable Yes Total surface 96 sq'

No. of Feed pumps Two Diameter of ditto 3 3/4 Stroke 14 Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 4 Stroke 14 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 10 Sizes of Pumps 2, 10, 10, 10, 10, 10, 10, 10, 10, 10 No. and size of Suctions connected to both Bilge and Donkey pumps 1, 1, 1, 1, 1, 1, 1, 1, 1, 1

In Engine Room 1, 1, 1, 1, 1, 1, 1, 1, 1, 1 In Holds, &c. 1, 1, 1, 1, 1, 1, 1, 1, 1, 1

Suction tunnel 1, 1, 1, 1, 1, 1, 1, 1, 1, 1 No. of Bilge Injections 10 sizes 10 Connected to condenser, as to circulating pump Is a separate Donkey Suction fitted in Engine room & size 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 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 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 Ballast suction for each bunk. How are they protected wood casing.

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 2. 7)

Manufacturers of Steel Thiele, Philips, & Co., Rotterdam

Total Heating Surface of Boilers 4800 Is Forced Draft fitted Yes No. and Description of Boilers Three single ended marine boilers

Working Pressure 180 lbs. Tested by hydraulic pressure to 240 lbs. Date of test 30.4.18 No. of Certificate 655

Can each boiler be worked separately Yes Area of fire grate in each boiler 61 sq' No. and Description of Safety Valves to

each boiler Two spring loaded Area of each valve 9.62 sq' Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15 1/2" Length 11 1/4" Material of shell plates Steel

Thickness 1 1/2" Range of tensile strength 18-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams lap, butt, under

long. seams lap, butt Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 22 1/2"

Per centages of strength of longitudinal joint rivets 84.5% plate 85.2% Working pressure of shell by rules 226 lbs. Size of manhole in shell 12 x 16"

Size of compensating ring 4 No. and Description of Furnaces in each boiler 3 Butt furnaces Material Steel Outside diameter 4'-2"

Length of plain part top 4 bottom 4 Thickness of plates crown 5/8 Description of longitudinal joint Welded No. of strengthening rings 4

Working pressure of furnace by the rules 202 lbs. Combustion chamber plates: Material Steel Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 1"

Pitch of stays to ditto: Sides 8 1/4 x 7 1/4 Back 8 x 8 Top 8 1/4 x 8 1/2 If stays are fitted with nuts or riveted heads riveted Working pressure by rules 190 lbs.

Material of stays Steel Area at smallest part 1.485 sq' Area supported by each stay 4.15 Working pressure by rules 184 lbs. End plates in steam space:

Material Steel Thickness 1 3/16 Pitch of stays 14 1/2 x 10 How are stays secured secured by nuts Working pressure by rules 206 lbs. Material of stays Steel

Area at smallest part 4.84 sq' Area supported by each stay 3.90 sq' Working pressure by rules 210 lbs. Material of Front plates at bottom Steel

Thickness 1 1/16 Material of Lower back plate Steel Thickness 2 1/8 Greatest pitch of stays 13 5/8 x 8 Working pressure of plate by rules 329 lbs.

Diameter of tubes 2 3/4 Pitch of tubes 3 11/16 Material of tube plates Steel Thickness: Front 1 1/16 Back 1/4 Mean pitch of stays 4 3/8 x 11 1/16

Pitch across wide water spaces 14 1/2 Working pressures by rules 192 lbs. Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 2 x 10 x 9 Length as per rule 2-10 Distance apart 8 1/2 Number and pitch of stays in each 3 x 8 1/2"

Working pressure by rules 205 lbs. Steam dome: description of joint to shell None % of strength of joint

Diameter 4 Thickness of shell plates 4 Material 4 Description of longitudinal joint 4 Diam. of rivet holes 4

Pitch of rivets 4 Working pressure of shell by rules 4 Crown plates 4 Thickness 4 How stayed 4

SUPERHEATER. Type 4 Date of Approval of Plan 4 Tested by Hydraulic Pressure to 4

Date of Test 4 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler 4

Diameter of Safety Valve 4 Pressure to which each is adjusted 4 Is Easing Gear fitted 4

W223-0178



IS A DONKEY BOILER FITTED? No.

*If so, is a report now forwarded? L*

**-SPARE GEAR.** State the articles supplied:— 2 top end bolts and nuts, 2 bottom end bolts and nuts, 2 main bearing bolts, 1 set of conpin bolts, 1 set of feed and bilge pump valves, 1 set of piston springs, a quantity of assorted bolts and nuts, iron of various size, crankshaft, propeller shaft, propeller bars and full set of blades, 1 H.D. crank pin bolts, 1 piston rod, 2 gudgeon, link blocks, 1 set of main bearing brasses, 1 set of top and bottom end brasses, 8 thrust pins, 1 eccentric Sheave and rod, 4 half pump link brasses, 1 air pump rod, 1 air pump top valve seat, 1 feed, 1 bilge pump plunger, 100 sandstone teeth and ferrules.

*The foregoing is a correct description,*  
Maatschappij voor Scheeps- en Werktuigbouw

„EYENOORD”

„EYENOORD“  
Phyllis Gulvorf

*Manufacturer.*

Dates of Survey while building	{	During progress of work in shops - -	14/10.	18/10.	9/11.	30/11.	20/11.	22/11.	24/11.	4/12.	10/12.	14/12.	3/1.	4/1.	14/1.	20/1.	24/1.	17/1.	24/1.	4/2.	24/2.	30/2.	
		During erection on board vessel - - -	1/15.	22/15.	7/16.	14/16.	28/16.	4/17.	10/17.	24/17.	12/18.												
		Total No. of visits	29.																				

Is the approved plan of main boiler forwarded herewith

Is the approved plan of main boiler forwarded herewith *Yes*  
*Also shafting and pump, arrangement*  
 " " " donkey " " "

**Dates of Examination of principal parts**—Cylinders  $\frac{28}{6}$  -  $\frac{4}{6}-17$ . Slides  $\frac{4}{10}$  -  $\frac{16}{5-18}$ . Covers  $\frac{4}{1-16}$   $\frac{11}{3-17}$ . Pistons  $\frac{4}{1-16}$   $\frac{11}{3-17}$ . Rods  $\frac{4}{1-16}$   $\frac{11}{3-17}$ . Connecting rods  $\frac{13}{9-10}$ . Crank shaft  $\frac{16}{6}$  -  $\frac{14}{8-17}$ . Thrust shaft  $\frac{5}{8}$  -  $\frac{12}{6-17}$ . Tunnel shafts  $\frac{5}{8}$  -  $\frac{12}{9-17}$ . Screw shaft  $\frac{5}{8}$  -  $\frac{12}{9-17}$ . Propellers  $\frac{29}{3-17}$ . Stern tube  $\frac{29}{3-17}$ . Steam pipes tested  $\frac{22}{5-18}$ . Engine and boiler seatings  $\frac{22}{11-17}$ . Engines holding down bolts  $\frac{2}{1-18}$ . Completion of pumping arrangements  $\frac{30}{10}$  -  $\frac{4}{4-18}$ . Boilers fixed  $\frac{6}{5}$ . Engines tried under steam  $\frac{19}{9}$ . Completion of fitting sea connections  $\frac{4}{6-17}$ . Stern tube  $\frac{4}{6-17}$ . Screw shaft and propeller  $\frac{14}{8-17}$ . Main boiler safety valves adjusted  $\frac{13}{9-18}$ . Thickness of adjusting washers  $\frac{23}{10-17}$ .

Material of Crank shaft	Steel	Identification Mark on Do.	410 Tr. 83.14	Material of Thrust shaft	Steel	Identification Mark on Do.	410 Tr. 83.14
Material of Tunnel shafts	Steel	Identification Marks on Do.	410 Tr. 83.14	Material of Screw shafts	Steel	Identification Marks on Do.	410 Tr. 83.14
Material of Steam Pipes	Steel			Test pressure	600 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 no If so, state name of vessel 4

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

The machinery has been made in accordance with the Rules and approved plans. and Secretary's letter, material tested as required and workmanship good. The machinery worked satisfactory under steam. I am of opinion that the vessel is eligible to be recorded in the Register Book. + L.M.C. 9.18.

It is submitted that  
this vessel is eligible for  
**THE RECORD.** + LMC 9.18 F.D.  
FITTED FOR OIL FUEL 9.18 F.P. ABOVE 150° F

The amount of Entry Fee	... £ 36.—	:	} When applied for, ..... 19....
Special	... £ 566.40	:	
Donkey Boiler Fee	... £	:	
Travelling Expenses (if any)	£ 49.—	:	When received 19... 19

When applied for,

..... 19 .....

When received

1917

Committee's Minute WED. 20 NOV 1978

*Assigned*

Thurs 9.18  
Add for oil fuel 9.18 F.P. above 150° F

*Engineer Surveyor to Lloyd's Register of Shipping.*

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Lloyd's Register  
Foundation