

## REPORT ON MACHINERY.

No. 6850.6

Received at London Office

TUE. 18. JAN. 1916

Date of writing Report 13 Jan 1916 When handed in at Local Office 10 Port of Amsterdam

No. in Survey held at Amsterdam Date, First Survey 2 Dec 1914 Last Survey 31 Dec 1915

Re. Book. 111 on the steel twin screw motor vessel Vera (Number of Vents 57)

Master B. Kiekerh Built at Dordrecht By whom built N. V. Scheepswerk Dordrecht When built 1915

Engines made at Amsterdam By whom made D. Goedkoop & Kromhout when made 1915

Boilers made at Amsterdam By whom made Werkspoor when made 1915

Registered Horse Power 165 Owners Ned Ind Tankstoomboot Maats Port belonging to Gravenhage

Nom. Horse Power as per Section 28 165 Is Refrigerating Machinery fitted for cargo purposes — Is Electric Light fitted Yes

ENGINES, &c. — Description of Engines two four cyl. two stroke Cycle motors No. of Cylinders 8 No. of Cranks 4

Dia. of Cylinders 400 mm Length of Stroke 450 mm Revs. per minute 215 Dia. of Screw shaft 6.9 Material of screw shaft —

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner Is the after end of the liner made water tight —

in the propeller boss — 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 28 1/2

Dia. of Tunnel shaft as per rule 6 Dia. of Crank shaft journals as per rule 6.55 Dia. of Crank pin 6.68 Size of Crank webs 210 x 100 Dia. of thrust shaft under collars 160 mm Dia. of screw 200 mm Pitch of Screw 1600 No. of Blades 4 State whether moveable no Total surface 1.916 20.45 sq ft

No. of Feed pumps — Diameter of ditto — Stroke — Can one be overhauled while the other is at work —

No. of Bilge pumps four Diameter of ditto 105 mm Stroke 70 mm Can one be overhauled while the other is at work Yes

No. of Donkey Engines two steam Sizes of Pumps duplex No. and size of Suctions connected to both Bilge and Donkey pumps —

In Engine Room auxiliary motor pumps 130 x 45 mm In Holds, &c. —

Suctions in Motor Room 3 diam 2 1/4

No. of Bilge Injections one sizes 2 1/2 Connected — to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 2 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 Cocks & valves

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 — 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

Dates of examination of completion of fitting of Sea Connections See Rotterdam Report Screw shaft and Propeller N. 97906

Is the Screw Shaft Tunnel watertight — Is it fitted with a watertight door — worked from —

DONKEY.

BOILERS, &c. — (Letter for record S) Manufacturers of Steel Fried Krupp AG Essen

Total Heating Surface of Boilers 38.16 Is Forced Draft fitted — No. and Description of Boilers One single ended fitted for liquid

Working Pressure 100 lbs 7.03 kg Tested by hydraulic pressure to 200 lbs 14.06 kg Date of test 1 April 1915 No. of Certificate 207

Can each boiler be worked separately — Area of fire grate in each boiler 3.05 sq. m. No. and Description of Safety Valves to each boiler two direct spring Area of each valve 1964 mm Pressure to which they are adjusted 105 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork — Mean dia. of boilers 2200 mm Length 2500 mm Material of shell plates S.M.S.

Thickness 13 mm Range of tensile strength 48-50 kg Are the shell plates welded or flanged plain Descrip. of riveting: cir. seams double lap long. seams triple overlap

Diameter of rivet holes in long. seams 22 mm Pitch of rivets 92 mm Lap of plates or width of butt straps 156 mm

Per centages of strength of longitudinal joint 76% Working pressure of shell by rules 7.84 kg Size of manholes in shell 405 x 305 mm

Size of compensating ring 462 x 362 x 15 mm No. and Description of Furnaces in each boiler one plain Material S.M.S. Outside diameter 828 mm

Length of plain part top 1760 bottom 1860 Thickness of plates top 14 mm bottom 14 mm Description of longitudinal joint Welded No. of strengthening rings none

Working pressure of furnace by the rules 10.1 kg Combustion chamber plates: Material S.M.S. Thickness: Sides 14 mm Back 15 mm Top 14 mm Bottom 14 mm

Pitch of stays to ditto: Sides 190 mm Back 212 x 200 Top 200 If stays are fitted with nuts or riveted heads riveted heads Working pressure by rules 9.16 kg

Material of stays S.M.S. Diameter at smallest part 31.95 Area supported by each stay 44 cm Working pressure by rules 10.2 kg End plates in steam space: Material S.M.S. Thickness 18 + 13 mm Pitch of stays S.M.S. How are stays secured double nut Working pressure by rules 7.4 kg Material of stays S.M.S.

Diameter at smallest part 53 Area supported by each stay 180 cm Working pressure by rules 8 kg Material of Front plates at bottom S.M.S.

Thickness 18 mm Material of Lower back plate S.M.S. Thickness 18 mm Greatest pitch of stays 212 x 185 Working pressure of plate by rules 7.4 kg

Diameter of tubes 2 1/4 Pitch of tubes 95 x 98 Material of tube plates S.M.S. Thickness: Front 18 mm Back 18 mm Mean pitch of stays 285 x 294

Pitch across wide water spaces 320 Working pressures by rules 9.2 and 7.9 kg Girders to Chamber tops: Material S.M.S. Depth and thickness of girder at centre 140 x 26 Length as per rule 570 Distance apart 200 Number and pitch of stays in each 2 x 200

Working pressure by rules 8.8 kg Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler worked separately —

Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes — Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —

If stiffened with rings — Distance between rings — Working pressure by rules — End plates: Thickness — How stayed —

Working 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:— *As per appended list.*

The foregoing is a correct description,

*Donkey*

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 2.3.6.27 Nov 5.24 Dec 1914, Jan 4.8.20 Feb 6.24 March 19 April 1.6.6  
During erection on board vessel -- 9.13. May 6.18. June 8.15.18.22 July 6.7.16.29.31.  
August 12.13.14.16.21.25.30 Sept 4.7.13.16.23.30 Oct 5.12.15.19.24.26 Nov 1.22. Dec 5.7.10.13.16.23.28.29 and 31-1915.  
Total No. of visits 59 visits  
Is the approved plan of main boiler forwarded herewith *Yes.*

Dates of Examination of principal parts—Cylinders 19.9.13 18.19.13 Slides 3.4.5.7 Covers 8.15.14.21.2 Rods ditto  
Connecting rods ditto Crank shaft 20.6.24.7.10 Thrust shaft 6.10.12.16 Tunnel shafts 2.4.5.7  
Stern tube 8.15.22 7.16.22 pipes tested 12.13.4.15.16 Engine and boiler seatings Engines holding down bolts 14.22  
Completion of pumping arrangements 2.22 Nov Boilers fixed 18 May Engines tried under steam 24.1.22 29.31  
Main boiler safety valves adjusted 22 Nov Thickness of adjusting washers 19 both

Material of Crank shaft SMANN/wood Identification Mark on Do. 4280 4281 Material of Thrust shaft SMANN/wood Identification Mark on Do. N: 10081-5  
Material of Tunnel shafts SMANN/wood Identification Marks on Do. 4283-84 Material of Screw shafts SMANN/wood Identification Marks on Do. 10054-5-6  
Material of Steam Pipes Copper Test pressure 200 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 consisting of two 4 cyl two stroke cycle reversible  
Kromhout Motors, one auxiliary motor with Keavel air compressor of 10 BHP.  
And also capable to drive the dynamo, two starting air vessels, one  
steam boiler and complete arrangement for burning liquid fuel  
two steam donkey pumps & winch condenser, has been fitted in  
an efficient manner, material of good quality and duly tested as  
required. All cylinders, waterjackets, silencers, fuel tanks, compressed  
air vessels and piping arrangement tested under hydraulic pressure  
as per rule with satisfactory results. Safety valves of motor & steam boiler  
adjusted to their respective pressures.

Motors attended during two open sea trials found in a good and  
safe working condition & reversing of motors efficient. Main motors,  
auxiliary motor & donkey pumps drawing from all compartments.  
Requirements for the Survey of internal combustion engine & burning liquid fuel  
fully carried out. We are of opinion that this vessel is eligible to be recorded

The amount of Entry Fee ... 24. -  
Special ... 297. -  
Donkey Boiler Fee ... 25.20  
Travelling Expenses (if any) 30.70

When applied for,

January 1916.

When received,

January 1916.

Committee's Minute FRI. 21 JAN 1916

Assigned

+ L. P. 6 12.13  
oil engines.

MACHINERY CERTIFICATE  
WRITTEN

in the Society's Register Book LMC 12.1915

J. H. S. Loe. Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.