

REPORT ON MACHINERY.

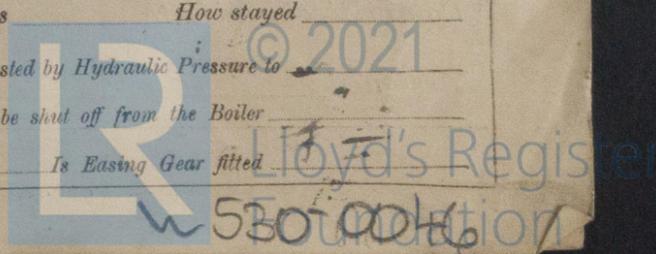
No. 4146 a

Received at London Office FRI. 10 NOV. 1916

Date of writing Report November 14 1916 When handed in at Local Office 1916 Port of Amsterdam
 No. in Survey held at Amsterdam Date, First Survey 15 June 1915 Last Survey 18 October 1916
 Reg. Book. 114 on the steel twin screw motor vessel Nlbe (Number of Vents 48)
 Master J. Schaap Built at Dordrecht By whom built N.V. Scheepswaerf Dordrecht When built 1916
 Engines made at Amsterdam By whom made D. Goedkoop Jr. Kromhout Motor when made 1916
 Boilers made at Amman By whom made Cochrane Co. Ltd when made 1916
 Registered Horse Power 108 Owners Ned. Indische Tank Stoomvaart Port belonging to Gravenhage
 Nom. Horse Power as per Section 28 108 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines two 4 cyl. Cyl. two stroke cycle single No. of Cylinders 8 No. of Cranks 4
 Dia. of Cylinders 3 5/8 in Length of Stroke 13 1/4 Revs. per minute 300 Dia. of Screw shaft 1 1/2 Material of SM iron
 the screw shaft fitted with a continuous liner the whole length of the stern tube one liner in way of bracket bush Is the after end of the liner made water tight
 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 Yes If two
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 8 5/8 in
 Dia. of Tunnel shaft 1 1/2 Dia. of Crank shaft journals 1 1/2 Dia. of Crank pin 1 1/2 Size of Crank webs 1 1/2 x 40 Dia. of thrust shaft 1 1/2
 Pitch of Screw 1150 Pitch of Screw 45 No. of Blades three State whether moveable No Total surface 0.516 sq ft
 No. of Bilge pumps two Diameter of ditto 80 Stroke 6 5/8 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines two steam Sizes of Pumps duple No. and size of Suctions connected to both Bilge and Donkey pumps
 In Holds, &c. as per approved plan
 No. of Bilge Injections one sizes 2 1/2 Connected to condensers or to circulating pump Is a separate Donkey Suction fitted in Engine room & size 2 1/4 Yes
 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 Yes How are they protected Yes
 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 Yes

BOILERS, &c.—(Letter for record) Manufacturers of Steel
 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
 Rivet seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps
 Percentages 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 2021
 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 Yes



IS A DONKEY BOILER FITTED?

Yes, fixed in motor space. If so, is a report now forwarded? See Glasgow port No: 35255 herewith attached

SPARE GEAR. State the articles supplied: - As per appended list.

The foregoing is a correct description.

[Signature]
Manufacturer.

Dates of Survey while building: During progress of work in shops - 5-22 June, 7 July, 12 Aug, 7-16 Sept, 26 Oct, 2 Nov, 3-16, 20-23 December 1915. During erection on board vessel - 13-21 Jan, 17-21, 24-28 Feb, 23-28 March, 4 April, 4-5, 18, 24-31 May, 14-22 June, 17-19 July, 24-28 July, 7-15, 19-28, 30 Aug, 4-15, 22 Sept, 3, 10, 13, 16, 18 October 1916. Total No. of visits: 48 visits. The approved plans of main boiler forwarded herewith Yes.

Dates of Examination of principal parts - Cylinders 17, 23, 5-18 Slides 31, 18 Covers 31, 18 Pistons 23, 18, 22, 10 Rods 17 Connecting rods 18 Crank shaft 20, 31, 28, 26 Thrust shaft 23, 4, 28 Tunnel shafts 13, 4, 28 Screw shaft 21, 23, 28, 13 Propeller 17, 28 Stern tube 28 Steam pipes tested 28 Engine and boiler seatings Engines holding down bolts 30, 15 Completion of pumping arrangements 3 Oct Boilers fixed Engines tried under steam 18 Oct Completion of fitting sea connections Stern tube Screw shaft and propeller

Donkey boiler safety valves adjusted to 100 lbs per sq inch. Thickness of adjusting washers 1/4 and 3/8. Material of Crank shaft 5 Mann Identification Mark on Do. LLOYDS No. 4494 KH 8.15 Material of Thrust shaft 5 Mann Identification Mark on Do. LLOYDS No. 4494 KH 8.15 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts 5 Mann Identification Marks on Do. LLOYDS No. 4494 KH 8.15 Material of Steam Pipes Test pressure

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 consists of two 4 cyl two stroke cycle reversible single acting Kromhout motors. One auxiliary motor connected up with a Heavell air compressor and two ballast pumps. The auxiliary motor connected up to a dynamo. Shafting of both motors are fitted in line and provided with coupling flanges so that both motors are capable to do all the auxiliary work. Two starting air reservoirs and one ditto air bottle. One donkey boiler fitted with fuel arrangement, three steam donkey pumps, winch condenser & filters. The whole of the machinery has been constructed and fitted in accordance with the Society rules & approved plans herewith returned to London Office and the material used in the construction of good quality and tested as required. All cylinders, water jackets, silencers, fuel tanks, air reservoirs & air bottle, piping arrangements etc tested under hydraulic pressure with satisfactory results. Safety valves of donkey boiler & air vessels adjusted to the respective pressures. Main and auxiliary motors tested during six hours trial, the working most satisfactory and reversing almost instantly. Main & auxiliary bilge, ballast and cooling pumps drawing from all compartments. Sections fully complied with. We are of opinion that this vessel is eligible to be recorded in the Register.

The amount of Entry Fee ... \$ 24- : When applied for, Special ... \$ 181.90 : 19. Donkey Boiler Fee ... \$ 24.50 : When received, Travelling Expenses (if any) ... \$ 2.50 : 19.

LMC-10-1916
[Signature] Burgdorffer
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 14 NOV. 1916

Assigned + LMB 1016 oil engines.

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

MACHINERY CERTIFICATE
WHITTEN